

INTRODUCTION TO THE SEGREGATED COST METHOD

The Segregated Cost Method is designed to enable the assessor to give separate consideration to all of the major construction assemblies or systems (components) of a building to arrive at a reliable replacement cost in a reasonably short time.

The costs of many parts of a building, such as floor, ceiling and lighting, change directly as the floor area of the building increases. Other building costs vary with relation to parameters other than floor area; however, most costs can be related to floor area, wall area, roof area or sometimes an individual count of unit installations. To facilitate the application of these individualized costs, they are grouped so that all costs related to floor area can be added together and applied to the total floor area. All wall area costs can be added together and applied to the wall area and all roof costs applied to the ground floor or roofed area.

A breakdown of the components whose costs correspond to the major areas follows:

FLOOR AREA		
Site Preparation	Floor Cover	Sprinklers
Foundation	Ceiling	Electrical
Frame	Interior Construction	Heating, Cooling and
Floor Structure	Plumbing	Ventilating
OUTSIDE WALL		
Wall Cover	Wall Ornamentation	Storefronts
ROOF		
Roof Structure	Roof Trusses	Roof Cover

A separate section is included for buildings in each of six major cost-related groups, classified by type of occupancy. The only additional data required are Architects' Fees, Appendix C and County Multipliers, Appendix D. By separating the costs into major occupancy groups, many of the factors which cause variations in costs are automatically considered, thus eliminating the necessity for detailed consideration of each component. For each component of the building, a range of costs representing a typical spread between low and high costs for that component within the occupancy group is given. The costs in this range are subdivided into four groups whose midpoints are generally defined as follows:

COST RANGE RATING			
1	2	3	4
Low	Average	Good	Excellent

The component costs of most buildings will fall within Columns 2 and 3. Columns 1 and 4, while representing the low and high ranges in normally encountered construction costs, do not represent the highest or lowest costs that may be encountered. (A more detailed discussion of the rating numbers follows).

While it is true that a number of factors influence the cost of each component, buildings are fairly consistent in their quality throughout. Therefore, after the overall quality and cost level of the building are established in relation to the group and class (i.e., an average Class A Hospital would not receive the same rating as an average Class C Office building, or a 400,000-square-foot Warehouse the same rating as a 4,000-square-foot facility, etc.) and the general rating is selected, that column is often appropriate for many of the Segregated Cost components. Exceptions may be those components such as insulation, wall sheathing, heating and cooling and foundations, which can be directly affected by climate. For typical buildings, the procedure is:

1. Select the section best describing the occupancy of the building as it was designed.
2. Generally classify the building as to cost level by overall quality and complexity or size for that occupancy as: low cost, average, above average or high cost.
3. Systematically describe each of the major components in order, considering whether that component is consistent with the general cost level of the building as a whole and with the occupancy in that section and its commonality and enter the appropriate cost.
4. Total the unit costs belonging to each of the major area groups: total floor area, exterior wall area, wall ornamentation and roof area and multiply each total by its area.
5. The sum of these amounts, modified by the multipliers for the number of stories, architects' fees, current cost and locality, plus any lump-sum additions for miscellaneous items, will be the total replacement or reproduction cost.

Example: One-story industrial building:

1. The building is occupied as an industrial, so Section SEG 4 is selected.
2. The general quality and design are average.

COST RATING RANGE

	1	2	3	4
	Low Cost	Average Cost	Above Avg. Cost	High Cost
3.	\$	Foundation unit cost		
	+	Frame unit cost		
	+	Floor unit cost		
	+	Electrical unit cost		
<hr/>				
4.	\$	Total of floor area x Floor area = \$ Floor area cost unit costs* (5000 sq. ft.)		
	\$	Wall unit cost x Wall area = \$ Wall cost (3600 sq. ft.)		
	\$	Roof structure unit cost		
	\$	Roof cover unit cost		
<hr/>				
5.	\$	Total of roof unit X Ground floor area = \$ Roof Cost (5000 sq. ft.)		
<hr/>				
Floor Area Cost + Wall Cost + Roof Cost = Total Preliminary Cost				

6. The total preliminary cost, including wall ornamentation, modified by the multipliers for the number of stories, where applicable, architects' fees, current cost and locality, plus lump-sum costs for miscellaneous items, will give the total replacement cost.

*Most buildings will have more components under Floor Area Unit Costs, but the example above demonstrates the simplicity of the procedure.

ACCURATE SELECTION OF COSTS depends upon first determining the occupancy and thus selecting the proper section. If the classification of a building falls between two types, then its cost will also be between two costs. If construction of two types is similar, then the costs will be relatively similar and a choice of one over the other will not greatly affect your final answer.

In the event of mixed occupancies such as apartments over stores, the area in each occupancy should be priced from its respective Segregated Cost Section. Occasionally a small portion of a building's space will comprise a different occupancy; instead of dividing the building into sections, it may be desirable to price separately only the one or two construction components that may differ and to weigh in these costs with the unit costs of the main occupancy.

Some structures, such as grandstands and bleachers, and prefabricated metal buildings, lend themselves to special pricing procedures and should be priced from Sections UIP 11 through 14.

BASEMENTS, MEZZANINES, PORCHES AND ATTICS are priced by their segregated construction components, such as floors, ceilings, etc., from the appropriate tables used for the main part of the building. Stepped balcony structures are listed separately. If basements have interior construction similar to the floors above, the regular interior construction tables may be used, usually with a lower rating. If there are only a few partitions, it would be best to price them from Section UIP 2 on the basis of square footage of partition area.

SIZE AND SHAPE MULTIPLIERS are not used in the Segregated Cost Method since the exterior walls, which contribute the most to the variation in cost due to size and shape, are measured and priced separately. The main addition in cost due to additional height is taken care of by additional exterior wall area. There are, however, other building components which are affected to some degree by height. The frame, interior construction and some other costs are priced for standard heights, with a suggestion to change the given cost by a certain percentage for deviation from the standard. All other costs which might vary slightly with increased height are not reduced to any specific height, but are averages for the typical height of that occupancy and group. If, in the assessor's judgment, costs would be abnormal due to a height that is significantly greater or less than normal for a building of that occupancy, the assessor should choose an appropriately higher or lower rating for this component, or modify the basic cost up or down, according to their judgment. Modifiers are also given for high rise buildings to correct foundation and frame costs for deviation caused by the number of stories.

The cost data in this manual are averages of actual costs, but it is necessary to select the proper cost and to recognize when the given cost must be modified up or down or a new cost developed.

There may be economies of scale not recognized by the cost schedules when pricing very large buildings. The user is cautioned that large buildings frequently include cost items easily overlooked, such as special plumbing and electrical, power wiring, air lines, craneways, etc. Large buildings are frequently built to house a particular operation and include real property costs required by that operation which should not be overlooked.

COST SEGREGATIONS

EXCAVATION AND SITE PREPARATION includes bulk excavation, clearing and site grading, but does not include demolition or trenching for the foundation or footings. Fill is soil brought to the building site to change the topography, i.e., dock height floors, or to alter the structural strength of the on-site soil. The costs apply only to the area under the structure, but when needed, can be applied to the entire building site.

FOUNDATION includes all concrete, treated wood or masonry piers, footings or pads which support posts or columns, and continuous footings or foundation walls. Basement walls are not a part of the foundation. Also included in the foundation cost are costs for trenching, excavating and backfill for the footings. Certain occupancy sections include buildings such as stores and industrials, which vary widely in the ratio of perimeter to floor area (in square feet). In these cases, alternate sets of tables are provided: Table I is for buildings in which the foundation can be closely related to floor area, such as a fully framed multistory, or occupancies such as apartments, houses, hospitals, etc., with a high proportion of interior construction. Table II is for buildings where the foundation can be more closely related to the perimeter, such as shell-type structures: stores, markets, warehouses, auditoriums, etc. Table III is for use with Table II to obtain the cost of column footings where needed. Pilings or special foundations should be priced from Section UIP 1. When basement walls replace part of the foundation, a lower cost classification may be considered.

FRAME includes posts, columns, beams, girders, sills, underpinning and bracing. The amount of frame may range from that of a fully framed Class A building to that of a building with bearing walls with slab floor and roof joists spanning from wall to wall. In the latter case there would be no frame members. Some buildings with bearing walls have partial frames. In these cases, a percentage of the cost should be used. For example, in a building with bearing exterior walls and one row of posts down the center supporting the girders for the roof or floor above, 2/3 of the vertical and horizontal supports would be eliminated. Assuming the horizontal and vertical members to be approximately the same weight (which is not always the case), the frame percentage would be $(1/3 \times 1/2) + (1/3 \times 1/2) + 1/3$ or 33% of the full-frame cost. This percentage would change under different conditions, so the assessor must consider the actual frame members and estimate the percentage of frame cost to use when part of the load is supported by frame members and part by bearing walls.

Guides to the development of these percentages are listed in Section UIP 1. Pilasters and bond beams, although performing some of the functions of a frame, should be priced with the exterior walls as "bearing walls". The easiest guide to when a column is a pilaster is when the column and its supported structure built before the wall (framed structure), or was the wall erected first (as in some tilt-up), or at the same time (masonry with pilasters). Another criteria is whether or not the supported structure would stand safely without the wall. In between these types are the partially framed structures.

In wood frame buildings such as Class D residences, the "framing" for walls, roof and floor is provided for under the costs given for each heading. The only members to be priced under "Frame" would be the girders and posts supporting a raised floor structure, whose cost is given as "Bearing Walls, wood or steel floor supports only". If this building has a concrete slab floor, normally there would be no frame cost. In buildings that have a large number of frame members of uniform size and spacing, which are visible and easy to count and measure, the frame cost may be priced quite rapidly and accurately from Section UIP 1.

FLOOR STRUCTURE costs, including costs for mezzanine and balcony structure, allow for the joists and subfloor or decking. Stepped balcony structures are listed separately. Finished wood flooring should be priced with floor cover, even if there is no subfloor. In this case, the structure cost would be taken from "Wood joists and bridging only". The costs for concrete floors on ground include allowance for reinforcing. Vapor barriers and insulation are listed separately as additives.

FLOOR COVER costs are given for softwood and hardwood as well as for resilient floor coverings and other types.

CEILING costs do not include the supporting structure, since in many cases the ceiling is attached to the structure of the floor or roof above. Ceiling joists are priced with the roof structure. In buildings where ceiling joists are required, but are not a part of a roof or floor structure, the indicated additional cost allowance for ceiling structure or suspended ceilings must be made. Insulation is an additive.

INTERIOR CONSTRUCTION costs cover basic costs of such items as partitions, doors, stairs, closets, cabinetwork, etc. In occupancies such as apartments and offices, the cost is uniformly related to area, and can be determined quite accurately on the basis of square footage of floor area. In other occupancies, such as stores, industrials and sheds, which have a large total area with very little partitioning, a more accurate answer may be obtained by measuring the amount of partitioning and pricing on the basis of square footage of partition area from Table II of the Interior Construction tables or from Sections UIP 2 or UIP 5, adding for other interior items. Interior construction requires more judgment than most other items, since it covers more types of construction problems. Special building construction other than those indicated should be either separately priced or noted in the valuation as not being included.

PLUMBING costs include the complete plumbing installation, rough and finished and associated structural allowances. Supply and waste lines are included to the property line of a normal building lot. Industrial piping between equipment used in the manufacturing process is not included. If sewer or water lines to the property line on large lots are to be included, price from Sections UIP 3 or UIP 12. Additions must be made to the base plumbing cost for a well and septic system when present.

Costs can be figured accurately on the basis of square foot of floor area for occupancies where there is an even distribution of plumbing fixtures, as in offices, hotels and apartments and other housing. In the case of industrial buildings, where there may be two toilets and two lavatories in a 1,000 or 10,000 square-foot building, the fixtures often should be priced individually rather than on square foot of floor area.

SPRINKLER costs include all the costs for the system and supply lines, but not tanks, towers or high-pressure pumps. The areas are based on the total area of sprinkler system installation on a single main connection.

HEATING, COOLING AND VENTILATING costs include the basic heating units: boilers, pumps, oil or gas burners, cooling towers, piping and ducts, registers, operating motors and fans. In the case of ground water heat pumps, the cost of the ground loop heat source does not include the well. In selecting the cost classification the climate must also be considered. The availability of fuel common to the region will also have a bearing on the cost rating chosen.

ELECTRICAL AND LIGHTING costs allow for the service distribution, fixtures and receptacles for the lighting, and convenience outlets, but do not include the cost of power wiring for industrial equipment. Built in kitchen or bathroom electrical appliances are not included.

EXTERIOR WALL costs allow for the complete exterior wall including sashes and doors, interior and exterior finishes where applicable, and interior and exterior wall covering where applicable. The exception is that major exterior ornamentation is added as a separate item. Insulation, sheathing, infiltration wrap, etc. are listed as additives.

The costs are grouped into five major categories according to basic wall structure: concrete or masonry bearing or non-bearing walls, non-bearing curtain, pre-engineered and single wall construction and bearing wood or steel stud walls. Basement walls are listed separately. The cost difference between bearing and nonbearing "concrete or masonry walls" has generally been found to be insignificant. Therefore, only one set of costs is generally listed for "concrete or masonry walls".

Pilasters and bond beams, although performing some of the functions of frame members, are priced with the exterior bearing wall. If curtain wall costs are used, there must be a frame cost.

Where the cost tables show a thickness dimension for a wall, that dimension is for the total wall. Therefore, Brick, block back-up, 12", is a wall consisting of an 8" concrete block plus a 4" brick.

The exterior wall costs are multiplied by the total area of the exterior wall, rather than by the floor area.

EXTERIOR BALCONY AND STAIR costs allow for the complete structure, including any supports.

WALL ORNAMENTATION costs are for any special exterior wall treatments generally found around entrances and front elevations. Costs are for the major ornamental veneer facing only and are not a complete wall cost. Consideration may have to be given to the wall behind the ornamental facing since it may not take the same cost rating as the balance of the surrounding wall.

ROOF costs are divided into three parts: roof structure, roof cover, and trusses and girders.

Roof structure includes joists, rafters, purlins and sheathing or deck, together with necessary bracing and ties. Trusses may be substituted for rafters (joists).

Roof cover includes the roofing and necessary roof flashing, gravel stops, gutters, skylights, etc., with an additive cost for roof insulation.

Trusses and girders include necessary ties, gussets and bed plates. Light trusses are not included. When frame costs are used; girders are usually included as the horizontal members of the frame, and it would be extremely rare to use a truss or girder cost. In certain cases, a low frame cost (Rating 1) could be used to account for just the vertical portions and then the appropriate truss or space frame cost could be priced separately.

MISCELLANEOUS costs include items which are not included in the building segregations (i.e., fireplaces, built-in appliances, etc.) and should be added when found in certain occupancies. In addition to these costs, other miscellaneous items are included in Sections UIP 1 through UIP 15.

COST RATING NUMBERS

Following are some of the items affecting the cost range for each of the major segregated components. The costs listed are neither the highest nor the lowest which are found, but represent typical or normal costs within each rating class. Definitions of some individual segregated components can be found in the Glossary.

EXCAVATION costs vary according to type of soil, accessibility of the site, and length of the haul for disposal. If the excavation is soil which is easy to dig with standard equipment, if the site is such that there is ample room for the equipment to operate and if the dirt can be wasted on the site, Rating 1 should be used. If there are aspects that make the digging more difficult, such as harder soil or longer hauls for disposal, Rating 2 or 3 should be used. If there are difficult conditions, such as very hard soil or rock, or perhaps sandy soil which requires much shoring, Rating 4 costs should be used. The cost range for fill depends on the problems involved in compacting. For long hauls, the additional cost for a radius of over 2 miles must be added.

Site preparation or grading is the work of preparing a level site and may include weed clearing, stump pulling and incidental grading, where cost variations depend on the terrain and vegetation.

FOUNDATION costs are affected mainly by the load supported. The dead load, which is the weight of the building itself, is affected by the type of frame and exterior walls. The live load depends on the weight imposed by the occupancy. If the building site is not level but slopes enough so that stepped footings are required, more concrete would be needed for the foundation. An average department store will normally have a heavier foundation than an average retail store, etc.

FRAME costs are influenced by loads, which in turn determine the size and spacing of frame members. Where the frame members are visible, the frame cost can be determined from Section UIP 1 and may be used as a guide to future cost selection. Poor soil and heavy wind possibilities in some areas may increase design loads. In single story buildings where the frame supports only a light roof, Rating 1 might often be chosen, even in average buildings.

Added weight of frame to support multistory buildings is taken care of by the use of the multistory modifier.

FLOOR STRUCTURE costs are also primarily affected by the load requirements. In many buildings the size and spacing of the joists and beams, and the thickness of the slab or sheathing can be observed. Usually the floor structure would be commensurate with the general occupancy, and with the cost level of the building. Vapor barrier costs vary primarily by the thickness of the fill.

FLOOR COVER costs vary by quality, color, grade, material composition and thickness of the cover. Resilient and ceramic tile floor covers are sometimes patterned rather than plain, solid colored throughout rather than embossed, in which case their cost per square foot is increased. Frequently, resilient floor covering has a matching coved base, which adds to the square foot cost, particularly if the building is divided into small rooms. The type of underlayment is also a cost consideration.

CEILING cost variations are influenced by thickness, quality and in the case of ornamented ceilings, the type of ornamentation, the intricacy of the design and the finish. Acoustical ceiling costs vary with the material, method of attachment, type of suspension and supporting structure.

INTERIOR CONSTRUCTION cost variations depend on the amount of the interior partitioning and its quality, the number of interior doors, the quality of the hardware and the amount and quality of the cabinetwork and other built-in features. The painting and the quality and amount of wallpaper, wood paneling, etc., have a considerable effect on the interior construction cost. The quality of the interior partitions, of the cabinetwork and of decorating is usually commensurate with the general quality of the building. In occupancies that might have a wide variation in room size, some consideration should be given to the amount of partitioning.

PLUMBING costs should be based mainly on the quality of fixtures if cost per fixture is used. If the cost per square foot is used, the number of fixtures and quality of fixtures in relationship to the occupancy must be considered. Industrial buildings, milk processing plants, etc., often have a great deal of plumbing costs in drains, grease traps and long pipe runs, all of which should be considered. If desired, Unit-in-Place costs may be used for greater detail. The costs of coated steel, fiberglass and cast iron fixtures ascend in that order.

SPRINKLER rating numbers from 1 to 4 represent all types from exposed wet to concealed dry sprinkler systems. Most wet types will fit in Ratings 1 and 3 and dry systems in Ratings 2 and 4. There is an overlap in the costs of the various systems. The following is a general guide:

- Column 1 Rate: Wet pipe, without ceiling
- Column 2 Rate: Dry pipe, without ceiling
- Column 3 Rate: Wet pipe, with ceiling
- Column 4 Rate: Dry pipe, with ceiling

HEATING, COOLING AND VENTILATING costs are primarily dependent on the climate and the building insulation which affect the capacity of the central unit. The complexity and number of outlets also affect the cost. Air conditioning costs, in addition, are dependent somewhat on prevailing humidity for atmospheric conditions. The major costs in heating and cooling are the number of controlled areas and the type of wall and insulation, as well as the personnel density and the amount of traffic in and out of the building. In selecting a proper cost for basement heating, it is important to remember that a minimal number of outlets could be incidental to the overall cost of the system. The heating costs in this manual have been adjusted to Michigan's climate. Therefore, column 2 costs are those typical of Michigan's average heating requirements.

ELECTRICAL AND LIGHTING facilities are rated according to the quality of the fixtures, number of outlets and type of wiring.

EXTERIOR WALL costs often represent a considerable percentage of the total building cost. The choice of the rating column to use depends mainly on the type and quality of the interior and exterior facing and finish, and on the amount and quality of the openings. Generally, the more openings there are, the more costly the wall.

ROOF cost variations are affected by the size and spacing of the structural members, the thickness and quality of the sheathing, and the thickness, quality and shingle exposure of the cover. The type and number of ancillary items, e.g., gutters, skylights and miscellaneous roof protrusions should be considered. Since the roof is priced on the basis of ground floor area, the steepness, the amount of overhang and the shape and complexity of the roof are also cost considerations. Very large overhangs may be computed separately.

INSULATION costs, listed as Segregated component additives, vary by quality and thickness of the material, and are primarily dependent on the climate. Michigan's climate has been recognized in the cost schedules in this manual.

EXAMPLE

The following example, filled-in field form, and discussion demonstrate a reproduction cost estimate of a good-quality, Class B office and apartment building. The building consists of a full basement, offices on the main floor and four floors of apartments above, with two standard apartment house elevators and built-in appliances in all apartments.

Figure 6 shows the filled-in field form used to arrive at the reproduction cost of the subject building. The information necessary to identify the building and generally classify it is entered on the first five lines. This building is a good Class B five-story office and apartment building with a full basement. Since the building has mixed occupancy, its area is broken down into sections. Section I is basement, Section II is office area, and Section III is apartments. The office portion is priced from Section SEG 5, and the apartments from Section SEG 1. There is no separate section to price basements, so the basement portion could actually be priced from Section SEG 5 or Section SEG 1, whichever appears more suitable; however Section SEG 5 is used in this example.

The basement excavation is 13 feet deep. The soil is average. Part of the soil could be disposed of on the site with only a short haul required for the rest, so Rating 2 is used. The \$.46 for excavation under Column 2, SEG 5, PAGE 1, is multiplied by the 13-foot depth to get \$5.98 for the cost per square foot of basement area. This amount is entered opposite "Excavation, Site Preparation" under Section I.

The foundation, as indicated in Figure 5, is reinforced concrete. Unless there is some unusual load requirement, Column 2 foundation rates are appropriate. Actually, the same foundation supports the office and apartments. Other portions of the building are also similar in both occupancies. The suggested procedure, however, is generally to price, from the same occupancy page, all of the components to be entered in the corresponding column under "Unit Costs." Thus the \$3.76 from SEG 5, PAGE 1, Rating 2 for Class B, is modified for number of stories (deduct .8% x 4 floors) and story height (add 2%), and the resulting answer, \$3.71, is entered under Section I. It is then modified for the first floor story height and the number of stories, and the resulting answer, \$3.64, is entered under Section II. From SEG 1, PAGE 1, the cost of \$3.56, Rating 2, Class B, is modified for the number of stories and the average story height, leaving the answer, \$3.52 entered in Section III.

The frame is Class B, reinforced concrete. In the example, Rating 3 is used for all sections of the building, each modified by the average story height modifier for the occupancy and by the multistory modifier. Thus the base for both Sections I and II is \$21.30 from SEG 5, PAGE 1 and after modification the Section I entry is \$23.69 and Section II, \$23.00. The base for Section III from SEG 1, PAGE 1 is \$18.35 and the entry is \$20.03. The floor structure is concrete slab on ground for the basement and is waterproofed. Rating 3 was used from SEG 5, PAGE 1 and \$5.88 for slab plus \$ 1.44 for vapor barrier or a total of \$7.32 entered for Section I.

For the upper floors, the concrete elevated slab floors from SEG 5, PAGE 1 and SEG 1, PAGE 2 with Rating 2 were used, giving \$14.80 and \$14.20 for Sections II and III respectively. The floor covering is vinyl composition tile throughout the first floor and 25% vinyl composition and 75% carpet on the upper floors. The basement floor was treated with hardener and sealer, Rating 3, at \$1.63 (SEG 5, PAGE 2). From Rating 3, SEG 5, PAGE 2 we get \$3.61 for Section II and from Rating 3, SEG 1, PAGE 2, 25% of \$3.48 plus 75% of \$6.26 or \$5.57 for Section III.

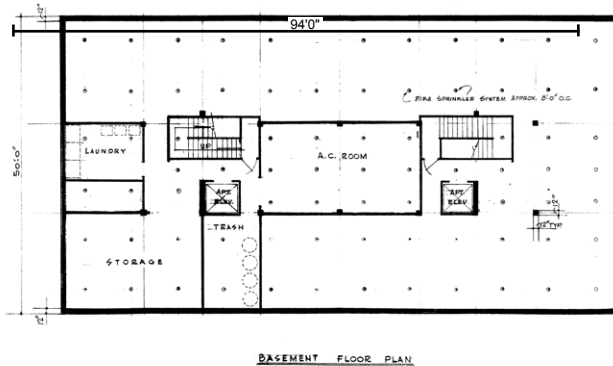


FIGURE 1

The basement ceiling was unfinished. The first floor ceiling was fiberglass acoustic tile on a suspended T-bar frame which was priced from SEG 5, PAGE 2, Rating 2, \$2.54 plus \$1.89 equals \$4.43 for Section II. The apartments had a standard plaster ceiling on metal lath, with metal furring on suspended runners, which we priced from SEG 1, PAGE 3, Rating 2, at \$4.10 + \$.57 + \$1.85 + \$1.70 or \$8.22 for Section III.

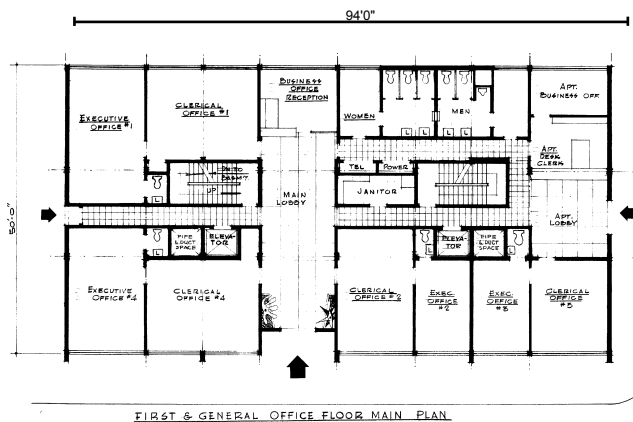


FIGURE 2

Since the basement was only partially partitioned, the interior costs were computed from Section UIP 2 of the manual and a reference made in Section I of the form. The first floor partitions were masonry, and from Rating 3 of SEG 5, PAGE 3, we selected the cost of \$49.25 and entered it under Section II. The apartments had 50% frame and 50% masonry partitions, so from SEG 1, PAGE 4 we selected 50% of \$22.45 (Rating 2 for average apartment size of four rooms) plus 50% of \$25.25 for a total of \$23.85 which, when modified for story height, gives the cost to enter in Section III of \$24.80 (\$23.85 x 1.04 Height Adjustment).

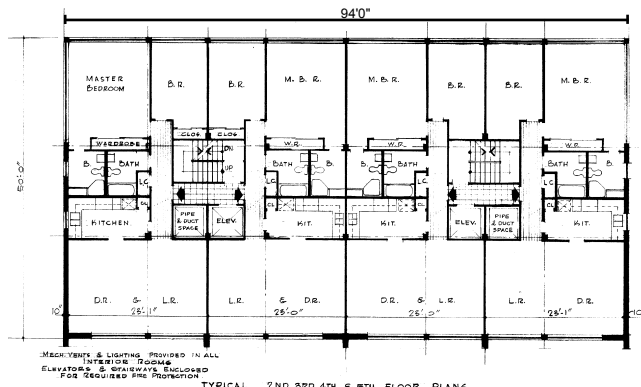


FIGURE 3

The square foot figures for plumbing were used in this example. The office area has more fixtures than the average, although of average quality; a rating between 2 and 3 is used, giving a cost of \$6.97 from SEG 5, PAGE 4 for Section II. The cost for a four-room, two-bath apartment, Rating 3, gives a cost of \$11.60 from SEG 1, PAGE 4 for Section III. The basement had automatic washers and dryers and the central hot water heater. The washers and dryers were not considered part of the building for this example, and the rough plumbing and hot water system are considered to be taken care of in the square foot costs of the upper stories. There was an exposed wet type sprinkler system in the basement, for which the cost from SEG 5, PAGE 3, was \$3.34.

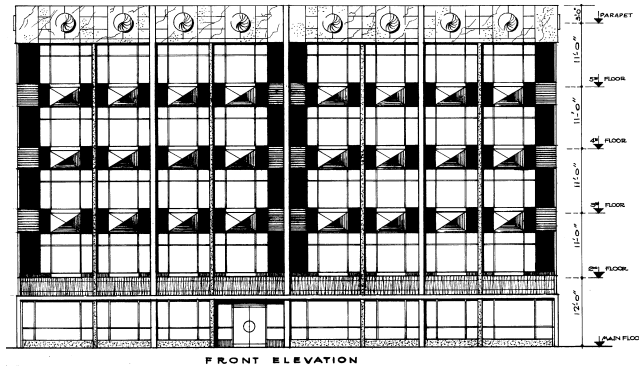


FIGURE 4

There is a combined hot and chilled water heating and air conditioning unit. Assuming that there is an average number of zone controls, Rating 2 is used for these costs. No heating was figured for the basement, although there may be an outlet or two. These costs are modified for story height.

The electrical wiring is in rigid conduit and there is an above average number of outlets and good quality fixtures on the finished floors so \$4.76 (Rating 3 for the unfinished basement areas) and \$27.50 from SEG 5, PAGE 4 and \$12.89 from SEG 1, PAGE 5 are entered.

The exterior walls are porcelainized metal, prefabricated, curtain walls which are taken from Rating 3, "Metal and Glass panels (ordinary)." The granite trim at the top of the front and two sides of the building is listed as wall ornamentation and taken from Rating 2, SEG 1, PAGE 7. Strictly speaking, the wall behind the granite facing would not take the same cost as the balance of the wall, but this extra refinement is omitted for the example. The basement wall is reinforced concrete and is waterproofed. From SEG 5, PAGE 6, Rating 2, the cost is \$20.95 plus \$ 1.31, or \$22.26. The roof is a two-way flat slab system. In SEG 1, PAGE 8, Rating 2 gives \$12.85 after the general heading "Concrete joists, slab." The roof covering is a good-quality built-up roof with good insulation, so under Rating 3, we find \$2.93 plus \$2.12 equals \$5.05.

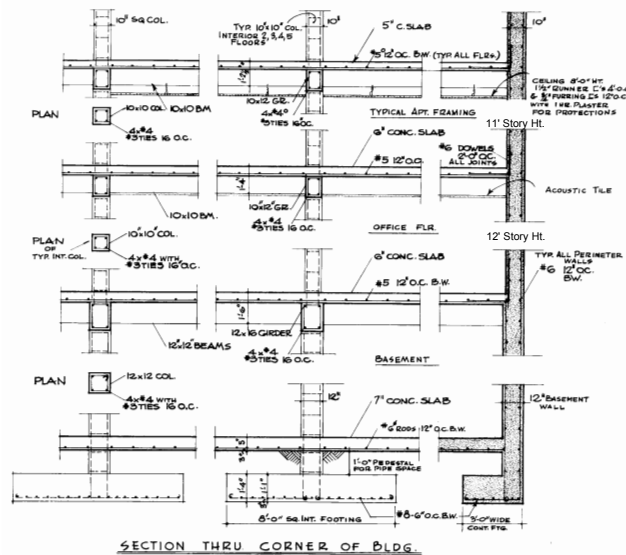


FIGURE 5

LUMP SUM ADDITIONS – The basement partitions were computed from Section UIP 2, PAGE 1 for unfinished 6" clay tile, and the steps for the basement from Rating 2, concrete stairs, under Exterior, Basement and Tower Stairs, SEG 5, PAGE 6, 22 risers in 13', are \$270.00. Other stairs are included in the interior costs of the upper floors. Any costs taken from other sections should also be modified by the County Multiplier and by the architects' fee. The elevators were priced from Section UIP 7, and the built-in appliances, Rating 2, from SEG 1, PAGE 9 to complete the pricing.

COMPLETION OF THE FORM – The figures in each column on Lines 1 through 11 are added and the totals of \$50.43, \$156.10 and \$118.08 are placed on Lines 12 and 17, for the floor area unit costs of the basement, office, and apartments, respectively. Similarly the costs on Line 40 are transferred to Lines 18 and 19, and the Roof Costs, Lines 13 through 15, are totaled on Line 16 and transferred to Line 20. The floor areas are computed on the back of the form and placed in the boxes under Final Calculations on Line 17. The perimeter is 288 linear feet, which, when multiplied by the respective wall heights, gives the wall areas for Line 18. Since the minimum parapet was negligible in this case, it was not considered. The actual ornamented area of 1,164 square feet is placed on Line 19. On Line 20 the roofed area, 4,700 square feet is entered. After multiplication of these areas by their respective total unit costs, the products in column are added, and the subtotal for each section is entered on Line 21. Where required for multistory buildings, the number of stories multiplier for all the aboveground sections of the building is entered on Line 22. In the example there are five stories above ground. Adding .25% for each story over three results in a number of stories multiplier of 1.005 ($1 + .005$), which is entered on Line 22 for Sections II and III. No number of stories multiplier is entered on Line 22 for Section I, since this portion of the building is not above ground. The products of the multiplication of the section subtotals on Line 21 and the number of stories multipliers on Line 22 are entered on Line 23 for each section.

The Architects' Fee Multiplier of 1.07 is from the Average Architect Fees table. Both SEG 1 and SEG 5 require 1.07. A more detailed fee is available from Table IV. This multiplier (1.07) and the County Multiplier (.97) are entered on Lines 25 and 26 and combined to give the final multiplier (1.038) for Sections I, II and III on Line 27. Line 24 is now multiplied by Line 27 and the total entered on Line 28. The total lump sum costs are brought forward from the reverse side of the form and entered on Line 29 and added to Line 28 to give the reproduction new cost, which goes on Line 30.

Michigan Department of Treasury
L-4105 (Rev. 10-91)

This form is issued under the authority
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STC SEGREGATED COST COMPUTATION SHEET (S.F. COSTS)

OWNER		TENANT		PROPERTY ADDRESS			
TYPE		YEAR BUILT	YEAR REMODELED	PERCENT CONDITION		SECTION	
COUNTY		UNIT	EXAMINED BY			DATE	
NO. OF STORIES 1/1/4	HEIGHT PER STORY 13/12/11'	QUALITY Good/Good/Good		AGE 11 years		CLASS B/B/B	

FLOOR AREA COSTS

	AREA		4,700 sq. ft.		4,700 sq. ft.		18,800 sq. ft.	
	FLOOR/USE		1/Bsmt.		1/Office		4/Apt.	
	NO.	SECTION I	NO.	SECTION II	NO.	SECTION III	NO.	SECTION IV
1. Excavation, Site Preparation <i>Bsmt.: 13' deep @ \$.46/cu. ft.</i>	2	5.98						
2. Foundation <i>Class B bsmt.: \$3.76 x .968 x 1.02/office: \$3.76 x .968/apt.: \$3.56 x .968 x 1.02</i>	2	3.71	2	3.64	2	3.52		
3. Frame <i>Class B bsmt.: \$21.30 x 1.03 x 1.08/office: \$21.30 x 1.08/apt.: \$18.35 x 1.03 x 1.06</i>	3	23.69	3	23.00	3	20.03		
4. Floor Structure <i>Bsmt.: conc. slab w/vapor barrier/upper floors: elevated slab</i>	3	7.32	2	14.80	2	14.20		
5. Floor Cover <i>Bsmt.: conc. hardener & sealer/office: VCT/apt.: 75% carpet, 25% VCT</i>	3	1.63	3	3.61	3	5.57		
6. Ceiling <i>Bsmt.: unfin./office: fbgl. acoust. w/T-bar susp./apt.: furn. lath/plaster</i>	-	-	2	4.43	2	8.22		
7. Interior Construction <i>Bsmt.: see lump sum/office: 100% masonry/apt.: 50% frame, 50% mason.</i>		L.S.	3	49.25	2	24.80		
8. Plumbing <i>Bsmt.: none/office: many avg. fixt./apt: 4 rooms, 2 baths</i>		-	2/3	6.97	3	11.60		
9. Sprinklers <i>Bsmt.: only: wet system, exposed, unfinished ceiling</i>	1	3.34		-		-		
10. Heating, Cooling, Ventilating <i>Bsmt.: none/office & apt.: hot & chilled water</i>		-	2	22.90	2	17.25		
11. Electrical <i>Bsmt.: unfin. rigid conduit/office & apt.: above avg. fixtures & circuits</i>	3	4.76	3	27.50	3	12.89		
12. Total floor area unit costs; move to line 17		\$50.43		\$156.10		\$118.08		

ROOF COSTS

13. Roof Structure <i>Concrete slab</i>	2	\$12.85
14. Roof Cover and Insulation <i>3-ply built-up/good roof insulation</i>	3	5.05
15. Trusses		
16. Total roof unit costs; move total to line 20		\$17.90

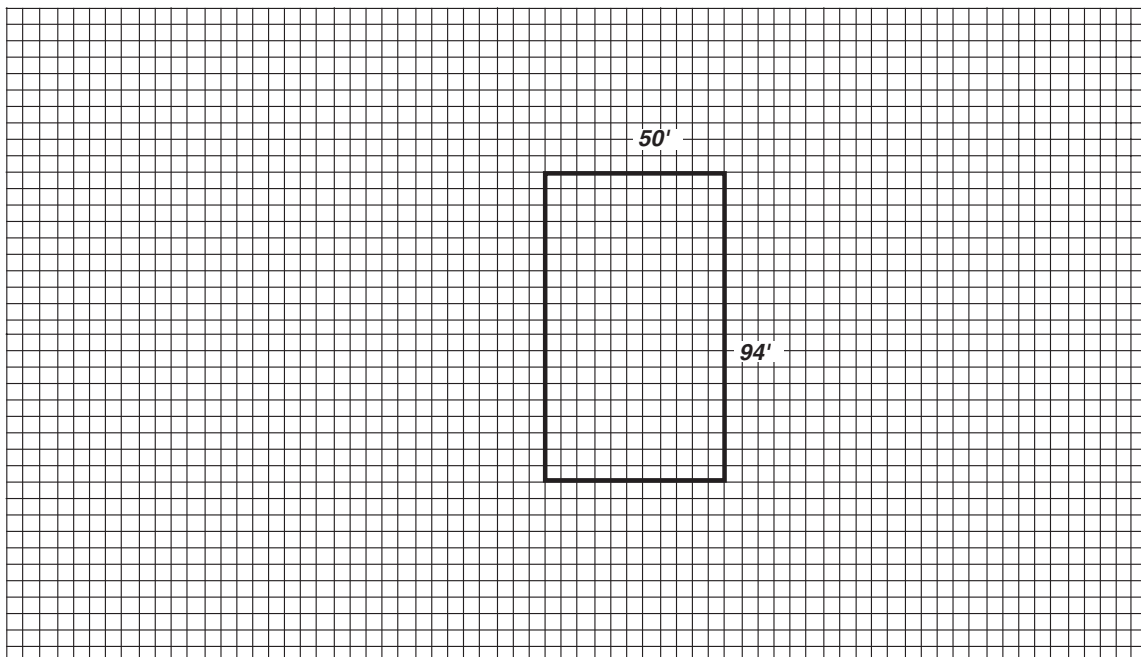
FINAL CALCULATIONS

from line	SECTION I	SECTION II	SECTION III	SECTION IV
	Unit Cost X Area = Total Cost	Unit Cost X Area = Total Cost	Unit Cost X Area = Total Cost	Unit Cost X Area = Total Cost
17. Floor Area Costs	12	\$50.43 x 4,700 = \$237,021	\$156.10 x 4,700 = \$733,670	\$118.08 x 18,800 = \$2,219,904
18. Exterior Walls	40	\$22.26 x 3,744 = \$83,341	\$51.00 x 3,456 = \$176,256	\$48.00 x 12,672 = \$ 608,256
19. Wall Ornamentation	40			\$55.00 x 1,164 = \$ 64,020
20. Roof	16			\$17.90 x 4,700 = \$ 84,130
21. Section Sub Totals		\$320,362	\$909,926	\$2,976,310
22. Number of Stories Multiplier	X	1.00	X 1.005	X 1.005
23. Section Totals		\$320,362	\$914,476	\$2,991,192

24. Total of all Sections	\$4,226,030
25. Architect's Fees	1.07
26. County Multiplier	.97
27. Composite Multiplier (Multiply Line 25 by Line 26)	1.038
28. Line 24 X Line 27	\$4,386,619
29. Lump Sums (Total from Line 39)	\$383,029
30. Reproduction/Replacement Cost (Add Line 28 to Line 29)	\$4,769,648
31. Depreciation Multiplier (Assessor's Manual)	%
32. Functional Obsolescence (Percent Good)	%
33. Economic Obsolescence (Percent Good)	%
34. Depreciated Cost (Multiply Line 30 X 31 X 32 X 33)	
35. Economic Condition Factor (E.C.F.)	
36. True Cash Value (Multiply Line 34 X 35)	
37. Reproduction/Replacement Cost Divided by Floor Area	
38. True Cash Value Divided by Floor Area	

COMPUTATION AND NOTES

FIGURE 6



LUMP SUM ADDITIONS: For items not priced on front, add as lump sums: Elevators, Refrigeration, Stained Glass, also miscellaneous costs from the segregated cost pages. (Apply architect's fees and appropriate county multipliers before transferring total to line 29.)

Item	Cost Per Square Foot	MULTIPLIERS				Area	Total Cost
		Section	County	Arch. Fee	Composite		
Bsmt. interior, 6" tile	\$12.45	UIP 2	.97	1.07	1.038	2,100 sq. ft.	\$ 27,139
Bsmt. stairs, 7" risers	② \$270.01/riser	SEG 5	.97	1.07	1.038	22 ea.	6,166
Elevators: 200 fpm, 2500#							
2 selective/collective	\$117,000	UIP 7	.97	1.07	1.038	2 ea.	242,892
6 stops per elevator	\$6,350	UIP 7	.97	1.07	1.038	12 ea.	79,096
Built-ins: Range/oven	② 915	SEG 1	.97	1.07	1.038	16 ea.	15,196
Dishwasher	② 565	SEG 1	.97	1.07	1.038	16 ea.	9,384
Disposal	② 190	SEG 1	.97	1.07	1.038	16 ea.	3,156
							\$ 383,029

39. TOTAL LUMP SUM COSTS - Move Total to Line 29

WALL COSTS

Column Rating			SQ. FT.	RATE	COST	
2	BASEMENT WALLS	Unfin./reinforced concrete, 288' x 13'	L.F. X Ht.	3,744	\$22.26	\$ 83,341
3	EXTERIOR WALLS	Metal & glass panels, office, 288' x 12'	L.F. X Ht.	3,456	51.00	176,256
3	Exterior walls: metal & glass panels, apt. 288' x 11' x 4 floors			12,672	48.00	608,256
2	WALL ORNAMENTATION	Granite facing, 194' x 6'	L.F. X Ht.	1,164	\$55.00	\$ 64,030

40. WALL COSTS - Move COSTS to Line 18 or 19

FIGURE 7

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APARTMENTS, HOTELS AND CLUBS

SECTION SEG 1 (SEGREGATED COST METHOD)

Apartments, hotels, clubs and other similar multi-unit residential buildings differ in various ways from typical light residential-type construction and therefore are handled in a separate section. If, however, an occupancy of this group is of typical light construction, it should be priced from Section SEG 2. For instance, a duplex or four family flat with comparatively light foundations and frame, residential heating and no elevators would be priced from Section SEG 2.

Selection of Section SEG 1 or SEG 2 for debatable buildings will not greatly affect the final answer if the proper segregation and quality are chosen within each section. In general, most buildings over three stories in height, will be priced from this section.

Garages for apartments and hotels, as usually found in large metropolitan apartment buildings or hotels, should be priced from this section. Garages that are typical of those found in residences or garden apartments should be priced from Section SEG 2, while all Class A or B construction is priced from this section.

For mixed occupancies, such as city clubs, hotels, country clubs, etc., the entire area, i.e., halls, gymnasiums, residents' rooms, kitchens, etc., should be priced within one occupancy. A definite portion of an office building occupied as apartments, or a hotel over a store, should be priced from this section. The store portion of the building should be priced from Section SEG 3.

The costs given below are average costs of various components including contractors' profit and overhead but not architects' fees. They cover the basic construction of the building, including most items usually found in the general contract, but do not include furnishing and fixtures specific to a definite tenant, example bars, kitchen equipment, counters or seating, which are not considered built-in and permanently attached under the general contract. Prices of such items may be found in Section UIP 12.

Swimming pools, jacuzzis, sports courts, built-in appliances, elevators and sprinklers are not included in any of the interior costs in this section.

Frame costs should be adjusted for partial bearing walls as described in Section UIP 1, using a cost proportional to the load which is carried by the frame.

SEGREGATED COSTS

(For explanation of the rating numbers, see Introduction to SEG Method.)

EXCAVATION AND SITE PREPARATION

	1	2	3	4
Excavation (per cu. ft.)	\$.32	\$.43	\$.58	\$.78
Fill (per cu. ft. of compacted earth)	.34	.43	.53	.67
Site preparation (per sq. ft. of site)	.26	.34	.44	.57

FOUNDATION – Apply to total floor area including basements, but excluding mezzanines.

Class A	\$2.60	\$3.44	\$4.54	\$6.00
Class B	2.73	3.56	4.65	6.06
Class C, bearing wall	2.32	3.07	4.07	5.39
Non-bearing wall	2.21	2.94	3.90	5.18
Class D, masonry veneer	2.03	2.71	3.63	4.85
Siding or stucco	1.82	2.41	3.20	4.25
Pole frame construction	1.71	2.25	2.97	3.92
Class S	1.78	2.40	3.22	4.34
Classes C, D and S light perimeter foundation for open shell type structures . . . . .	.73	.96	1.25	1.64
Add for perimeter insulation, ground floor area only . . . . .	.11	.18	.28	.44
Earth-sheltered structures . . . . .	.13	.25	.44	.71
Add for seismic base isolators	4.46	6.40	9.19	13.20
damping devices	1.88	2.51	3.34	4.46

FOUNDATION ADJUSTMENTS – Apply to base cost used.

- Add 2% for each foot over 10' average story height.
- Deduct 2% for each foot under 10' average story height.
- Deduct .8% for each story over one, above ground, for multistory buildings.
- Add for pilings from Section UIP 1.
- For one story buildings with light perimeter grade beam foundations or foundations and footings poured monolithically with floor slabs, use 60% of the costs above, for that floor only.
- If foundations are brick or stone instead of concrete, increase costs by 20%. For concrete block, reduce costs by 8%.

FRAME – Apply to total floor area including framed basements, but excluding mezzanines.

	1	2	3	4
Bearing walls, wood or steel floor supports only	\$ 1.47	\$ 1.71	\$ 1.99	\$ 2.31
Masonry supports only	2.03	2.38	2.78	3.26
Steel, fireproofed, Class A	14.20	17.25	20.90	25.40
Composite concrete steel, Class B	12.95	15.35	18.15	21.50
Concrete, reinforced, Class B	12.70	15.25	18.35	22.05
Precast, post-tensioned	12.15	14.35	17.00	20.10
Steel, Classes C and D	5.11	6.36	7.93	9.87
Class S	4.72	5.90	7.36	9.20
Light pre-engineered frame	3.07	3.79	4.68	5.78
Light tubular/pipe frame	1.85	2.41	3.13	4.07
Add for fireproofing . . . . .	.82	1.23	1.84	2.76
Steel columns, wood beams	3.24	4.24	5.55	7.27
Wood, A-frame construction	4.19	5.01	6.00	7.18
Laminated bents and arches	4.72	5.64	6.73	8.04
Light arch-rib construction	3.05	3.67	4.43	5.33
Mill-type (heavy timber) construction	4.94	5.91	7.08	8.48
Heavy timber/log construction, architectural	10.09	12.52	15.53	19.27
Post and beam construction	3.47	4.14	4.94	5.90
Light pole type construction	2.01	2.51	3.14	3.92
Add for seismic/wind bracing, Classes A and B	2.98	4.22	5.98	8.47
Open Class C/D/S frames . . . . .	.82	1.03	1.30	1.63
Damping devices	1.21	1.62	2.16	2.88

FRAME ADJUSTMENTS – Apply to base cost used.

- Add 3% for each foot of average story height over 10' base height.
- Deduct 3% for each foot under 10' base height.
- For multistory buildings add 2% for each story over two above ground, applied against the total floor area. For partially framed structures, see Section UIP 1.

APARTMENTS, HOTELS AND CLUBS

SECTION SEG 1 (SEGREGATED COST METHOD)

FLOOR STRUCTURE – Apply to area of described floor, loft or mezzanine.

	1	2	3	4
Asphalt on ground, including base	\$ 2.74	\$ 3.48	\$ 4.42	\$ 5.62
Concrete: on ground				
Exclusive of vapor barrier . .	3.82	4.60	5.55	6.69
Lift slab	11.20	12.55	14.05	15.75
Elevated flat slab and joists	12.60	14.20	15.95	17.95
Pan or waffle slab and joists	11.60	13.00	14.50	16.25
Precast joists and deck	11.10	12.40	13.85	15.50
Precast joists, wood sheathing	8.40	9.46	10.65	11.99
Cored plank on bearing walls	9.60	10.78	12.10	13.59
Steel joists: flat slab	13.75	15.70	17.95	20.55
Corrugated deck and concrete	11.25	13.30	15.75	18.65
Cellular deck and concrete . .	-----	15.60	18.65	22.30
Precast deck	12.05	13.60	15.40	17.40
Wood sheathing	6.80	8.55	10.76	13.54
Light-gauge truss joists . .	5.84	7.47	9.56	12.23
Wood joists and sheathing . . .	5.52	7.06	9.04	11.57
Joists and bridging only . . .	4.19	5.54	7.34	9.71

For treated wood, increase costs by 10% to 20%.

FLOOR EXTRAS – Add to floor structure costs.

Vapor barrier	\$.71	\$.98	\$1.34	\$1.84
Each inch of sheathing over 1", add	1.29	1.44	1.62	1.81
Foamed concrete surfacing, 1½" – 2"	1.06	1.27	1.52	1.82
Floor insulation, add . . . . .	.75	.96	1.23	1.58

FLOOR COVER – Apply to area of floor described.

	1	2	3	4
Access (computer) floor, on stanchions	\$19.15	\$22.50	\$26.50	\$31.15
Asphalt tile	2.23	2.62	3.07	3.60
Bamboo, laminated plank	10.57	12.64	15.11	18.06
Block, wood, treated	7.00	8.33	9.91	11.79
Brick, common, in mortar	8.80	10.45	12.41	14.74
Brick pavers, in concrete	10.34	12.29	14.61	17.37
Carpet and pad	2.51	4.01	6.26	9.61
Custom carpet and pad	9.37	15.38	24.36	37.77
Indoor/outdoor	2.23	2.86	3.66	4.68
Color, concrete	1.06	1.31	1.63	2.02
Cork	5.88	6.80	7.86	9.09
Diat, magnesite, etc.	7.54	8.73	10.11	11.71
Flagstone, random local stone, in concrete	13.95	16.40	19.25	22.60
Hardener and sealer, concrete .	.80	1.08	1.47	1.99
*Hardwood	8.71	11.40	14.92	19.53
Sports-gym floors on resilient sleepers	9.61	11.73	14.33	17.49
Leather	36.50	42.25	49.25	57.00
Linoleum	3.66	4.40	5.28	6.34
Marble or granite	24.55	34.20	47.60	66.30
Cast tile	15.15	17.75	20.75	24.30
Melamine laminated tile or sheet deluxe	3.20	4.33	5.86	7.94
Plastic tile, interlocking	7.60	8.89	10.40	12.17
Rubber fabric tile	7.26	8.06	8.95	9.94
Rubber tile or sheet	9.94	11.58	13.49	15.72
Seamless plastic, epoxy, urethane, neoprene, 1/32" – 1/16" thin coat	4.40	5.92	7.95	10.69
1/8" – 3/8"	4.11	5.01	6.10	7.43
Add for colored chips or glitter	6.34	7.88	9.79	12.17
Slate, grouted	1.72	2.10	2.57	3.15
Softwood	15.40	18.35	21.85	26.00
Stone plank	6.89	8.19	9.73	11.56
Synthetic sports surfacing	14.80	18.00	21.85	26.55
Terrazzo (exclusive of base slab) tile	7.71	9.52	11.76	14.52
Tile, ceramic or quarry	10.90	13.45	16.65	20.55
Custom tile or mosaics	20.00	23.10	26.75	30.90
*Wood over concrete, hardwood parquet block, prefinished, in mastic	10.74	13.67	17.41	22.17
Softwood	24.55	29.80	36.20	44.00
Vinyl composition tile or sheet	9.91	12.83	16.62	21.52
Vinyl sheet	9.37	13.00	18.04	25.03
Vinyl tile	7.80	9.24	10.95	12.98
*Add for custom wood floors . .	2.23	2.79	3.48	4.35
For pictorial artwork, add	3.37	4.66	6.44	8.91
For pool decking, see Section UIP 13.	3.60	5.26	7.68	11.21
	6.55	13.60	24.13	39.86
	10.85	14.90	20.40	28.00

APARTMENTS, HOTELS AND CLUBS

SECTION SEG 1 (SEGREGATED COST METHOD)

CEILING – Apply to area of described ceiling. To convert costs to floor area for high pitched ceilings, use the roof slope multipliers found on Page 8.

	1	2	3	4
Acoustical ceilings, tile or panels:				
metal panels, incl. pads				
and suspension system	\$ 7.38	\$ 9.06	\$11.13	\$13.66
Mineral fiber, fiberglass,				
panels only	1.58	2.25	3.20	4.55
Organic fiber, wood or cane,				
panels only	2.00	2.31	2.67	3.09
Embossed metal	6.00	8.03	10.76	14.40
Fiber sports court panel with				
suspension system	5.83	7.03	8.48	10.23
Gypsum board, taped and painted	2.07	2.30	2.55	2.83
spray on texture	2.00	2.17	2.35	2.55
Mirror faced panels	20.00	22.00	24.15	26.55
Paint or stain,				
bottom of roof or floor . . . . .	.64	.84	1.11	1.47
Plaster on lath: acoustical	4.21	4.72	5.28	5.92
Spray on, thin coat with				
texture, on lath or drywall	3.04	3.35	3.69	4.06
Standard, add 20% for Keene's	3.65	4.10	4.60	5.17
Add for metal lath . . . . .	.48	.57	.69	.82
Plaster on masonry soffit:				
Acoustical	3.59	4.01	4.49	5.02
Spray on, thincoat with texture	2.41	2.64	2.89	3.17
Standard, add 24% for Keene's	3.04	3.42	3.85	4.33
Plaster panels, decorative	13.95	15.35	16.90	18.60
Plastic panels, with suspension				
system, but excluding lighting	6.74	8.06	9.65	11.54
Plywood (softwood) or				
hardboard panels	3.30	3.79	4.36	5.01
Hardwood	4.78	5.75	6.92	8.32
coffered or vaulted panel				
with molding	10.20	13.88	18.88	25.68
Custom woods, site-built	26.50	31.00	36.30	42.45
Polylaminated panels (FRP)	3.20	3.54	3.93	4.35
Insulated panel	4.80	5.36	5.98	6.68
Wood boards or T&G softwood	3.19	3.71	4.31	5.01
hardwood	5.35	6.24	7.28	8.49
Carved, decorative	9.16	13.43	19.69	28.87

CEILING EXTRAS – Add to ceiling costs. For special ornamentation, see Section UIP 2.

	1	2	3	4
Ceramic tile, add	\$13.10	\$16.80	\$21.55	\$27.60
Custom tile, decorative	27.50	33.50	40.75	49.75
Custom papers, stenciling,				
staff, add	12.55	17.35	24.00	33.15
Border or coving, only	3.15	4.11	5.35	6.98
Extensive decor, leather, custom				
plaster, terra cotta, add	38.75	48.50	60.75	76.25
Wood furring . . . . .	.97	1.20	1.49	1.85
Metal furring	1.46	1.85	2.34	2.96
If ceiling structure is required				
which is not part of the roof				
or floor structure, add	1.53	1.91	2.40	3.00
Suspended ceiling, metal				
(suspension system) add	1.33	1.70	2.17	2.78
Fiberglass, FRP	2.09	2.54	3.09	3.76
Hardwood, decorative	3.76	5.26	7.36	10.30
for seismic support, add . . . . .	.25	.31	.40	.50
Ceiling insulation, add . . . . .	.71	1.01	1.43	2.02
Vinyl faced, exposed	1.01	1.17	1.35	1.56
Add for underdeck supporting				
bands . . . . .	.32	.38	.44	.52
Rigid board, faced	1.38	1.82	2.41	3.19

For ceiling domes, see stained glass, Page 7.

APARTMENTS, HOTELS AND CLUBS

SECTION SEG 1 (SEGREGATED COST METHOD)

INTERIOR CONSTRUCTION – Apply to total floor area.

Add or deduct 4% for each foot of variation from 10' average story height.

FRAME INTERIOR PARTITIONS

	1	2	3	4
Apartments, 1 room average . . .	\$21.95	\$25.95	\$30.65	\$36.25
2 rooms	20.95	24.75	29.25	34.60
3 rooms	19.90	23.55	27.90	33.05
4 rooms	18.95	22.45	26.60	31.55
5 rooms and over	18.00	21.35	25.35	30.10
Luxury	37.50	47.25	59.75	75.25
City clubs	28.00	32.50	37.75	44.00
Clubhouses	16.40	21.25	27.50	35.65
Senior centers	27.50	37.75	51.75	70.75
Country clubs	27.25	33.25	40.50	49.25
Dormitories	27.75	33.50	40.50	49.00
Fraternity houses	22.30	25.50	29.15	33.35
Group care homes, lower qualities	24.45	30.10	37.05	45.65
Higher qualities	30.75	40.50	53.25	70.25
Health clubs	22.10	26.35	31.45	37.55
Homes for the elderly	30.00	36.25	43.75	53.00
Hotels, full service	31.75	36.25	41.25	47.00
Limited service	25.05	28.05	31.45	35.20
Mortuaries	21.55	26.85	33.45	41.65
Recreational (pool) enclosures	3.25	8.31	15.86	27.14
Rectories	20.70	24.40	28.80	34.00
Rooming houses	19.60	22.25	25.20	28.60
Row houses	19.30	22.55	26.30	30.70

MASONRY INTERIOR PARTITIONS

Apartments, 1 room	\$24.75	\$29.00	\$33.95	\$39.75
2 rooms	23.60	27.70	32.50	38.10
3 rooms	22.50	26.45	31.05	36.45
4 rooms	21.45	25.25	29.65	34.90
5 rooms and over	20.45	24.10	28.35	33.40
Luxury	41.25	51.50	64.50	80.50
City clubs	31.25	36.00	41.50	47.75
Clubhouses	18.60	23.85	30.50	39.10
Senior centers	30.50	41.25	56.00	76.00
Country clubs	30.25	36.50	44.00	53.25
Dormitories	30.75	36.75	44.25	53.00
Fraternity houses	25.00	28.40	32.25	36.65
Group care homes, lower qualities	27.25	33.25	40.50	49.50
Higher qualities	33.75	44.00	57.50	75.25
Health clubs	24.80	29.35	34.75	41.15
Homes for the elderly	33.25	39.75	47.75	57.25
Hotels, full service	35.00	39.75	45.00	51.00
Limited service	28.00	31.25	34.75	38.75
Mortuaries	24.20	29.85	36.85	45.45
Recreational (pool) enclosures	4.02	9.55	17.82	30.17
Rectories	23.35	27.30	31.90	37.30
Rooming houses	22.10	24.95	28.15	31.75
Row houses	21.85	25.35	29.35	34.05

MEZZANINES – Apply to open mezzanine area. (Cost of miscellaneous items such as rails, stairs, etc.)

Mezzanine	\$2.97	\$3.50	\$4.12	\$4.86
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PLUMBING – Apply Table I to total floor area. Use Table II or Section UIP 3 for more detailed costs.

TABLE I – Typical cost ranges

	1	2	3	4
Apartments, 1 room, 1 bath avg	\$ 6.71	\$ 8.90	\$11.80	\$15.65
2 rooms, 1 bath	6.23	8.19	10.76	14.15
3 rooms, 1 bath	5.72	7.49	9.80	12.82
4 rooms, 1 bath	5.28	6.86	8.91	11.58
5 rooms, 1 bath	4.87	6.29	8.12	10.49
3 rooms, 1½ baths	6.68	8.68	11.29	14.68
4 rooms, 1½ baths	6.19	7.95	10.21	13.12
5 rooms, 1½ baths	5.67	7.29	9.38	12.06
4 rooms, 2 baths	7.02	9.03	11.60	14.92
5 rooms, 2 baths	6.45	8.25	10.56	13.51
6 rooms, 2 baths	5.88	7.50	9.57	12.21
5 rooms, 2½ baths	7.20	9.19	11.72	14.95
6 rooms, 2½ baths	5.28	7.24	9.92	13.60
Luxury	10.37	12.94	16.14	20.14
City clubs	9.84	12.10	14.88	18.30
Clubhouses	4.05	6.54	10.25	15.80
Senior centers	6.46	9.60	14.26	21.19
Country clubs	8.27	11.39	15.70	21.63
Dormitories	7.46	11.01	16.26	24.01
Fraternity houses	6.34	8.40	11.12	14.72
Group care homes	7.38	10.28	14.33	19.96
Health clubs	4.96	8.17	12.97	20.14
Homes for the elderly	7.80	10.24	13.45	17.67
Hotels, full-service	10.46	12.98	16.11	19.99
Limited service, individual baths	8.27	10.34	12.92	16.15
Common baths	6.07	7.05	-----	-----
Mortuaries	4.16	5.43	7.10	9.27
Recreational (pool) enclosures	1.14	4.71	10.05	18.02
Rectories	5.38	7.55	10.58	14.84
Rooming houses	5.25	6.86	8.96	11.70
Common baths	5.38	7.55	-----	-----
Row houses	5.43	7.10	9.29	12.16

TABLE II. ALTERNATE METHOD – Apply to total number of fixtures. Do not use Table I.

Residential occupancies	\$ 825	\$1,165	\$1,640	\$2,315
Hotels	1,200	1,640	2,240	3,060
Miscellaneous occupancies	1,090	1,720	2,660	4,060
Cost per tap or drain without fixture	525	670	855	1,095
residential drains and hydrants	145	210	295	425

SPRINKLERS – Apply to sprinklered area. Costs include all piping and connections to main for light hazard occupancies but do not include tanks. For double sprinkler systems with heads both above and below a ceiling, use sprinklered area and 1.6 times the listed cost. Small, intricate installations can cost twice the averages shown.

1,500 square feet	\$3.68	\$4.77	\$6.19	\$8.03
3,000	3.30	4.25	5.48	7.07
5,000	3.05	3.91	5.01	6.43
10,000	2.75	3.49	4.44	5.64
15,000	2.59	3.27	4.13	5.22
20,000	2.48	3.12	3.92	4.93
30,000	2.30	2.90	3.65	4.59
40,000	2.23	2.79	3.48	4.35
50,000	2.16	2.69	3.35	4.18
75,000	2.01	2.50	3.11	3.86
100,000	1.93	2.39	2.96	3.67
125,000	1.87	2.30	2.84	3.50
150,000	1.81	2.23	2.75	3.39
200,000	1.72	2.12	2.61	3.21
300,000	1.64	2.01	2.45	3.00
400,000	1.56	1.90	2.33	2.84
500,000	1.50	1.83	2.23	2.72

APARTMENTS, HOTELS AND CLUBS

SECTION SEG 1 (SEGREGATED COST METHOD)

HEATING, COOLING, AND VENTILATION – Apply to total floor area.

Add or deduct 3% for each foot of variation in average story height from 10' base. Costs are given for gas fired heating systems. Modify costs as follows:

Oil fired + 7% Coal, stoker + 7% Coal, hand fired - 2%

	1	2	3	4
Heating Only				
Electric, cable or baseboard . . .	\$ 2.86	\$ 3.81	\$ 5.06	\$ 6.74
Radiant panels	2.63	3.38	4.35	5.60
Electric wall heaters (inc. FWA)	1.32	1.62	2.00	2.46
Forced air	3.15	4.58	6.67	9.71
Hot water, baseboard or radiators	5.15	7.07	9.70	13.32
Radiant floor	4.91	7.04	10.09	14.46
Radiant heat, gas, suspended	1.48	1.98	2.65	3.55
Space heaters, gas, with fan . .	1.15	1.59	2.19	3.03
Steam radiator, with boiler . . .	4.86	6.61	8.99	12.23
Without boiler	4.00	5.57	7.76	10.81
Wall or floor furnace	1.47	1.83	2.28	2.84
Heating and Cooling				
Zoned A.C., hot and chilled water	12.70	16.75	22.05	29.10
Warm and cooled air	7.43	10.27	14.19	19.60
Package heating and cooling,				
short ducts	5.43	7.46	10.24	14.06
Heat pump system	5.88	8.26	11.60	16.29
Add for ground loop heat source	1.72	2.16	2.73	3.43
Individual thru wall heat pumps	2.57	3.57	4.97	6.91
Cooling Only				
Evaporative coolers	2.63	3.15	3.77	4.51
Refrigerated air conditioning				
only, zoned system	5.26	6.58	8.23	10.29
Package unit, short ducts . .	3.71	4.55	5.59	6.86
Ventilation only,				
with ducts and blowers . . . .	.97	1.24	1.59	2.04

ELECTRICAL AND LIGHTING – Apply to total floor area.

Few Outlets:				
Nonmetallic	\$ 3.96	\$ 4.75	\$ 5.70	\$ 6.83
Armored cable (BX)	4.64	5.55	6.65	7.96
Flexible conduit	5.44	6.51	7.78	9.31
Rigid conduit	6.39	7.63	9.11	10.87
Average Number of Outlets:				
Nonmetallic	6.06	7.51	9.30	11.52
Armored cable (BX)	7.07	8.74	10.81	13.37
Flexible conduit	8.27	10.21	12.59	15.54
Rigid conduit	9.70	11.93	14.66	18.03
Many Outlets:				
Nonmetallic	9.30	11.88	15.17	19.38
Armored cable (BX)	10.80	13.75	17.55	22.40
Flexible conduit	12.60	16.00	20.35	25.90
Rigid conduit	14.70	18.65	23.60	29.95
Unfinished Areas:				
Nonmetallic	1.63	1.97	2.39	2.89
Armored cable (BX)	1.95	2.35	2.84	3.42
Flexible conduit	2.30	2.78	3.35	4.05
Rigid conduit	2.76	3.31	3.98	4.78

Typical Costs for Some Occupancies

	1	2	3	4
Apartments, Classes A and B . .	\$ 6.50	\$ 9.15	\$12.89	\$18.16
Classes C, D and S	4.30	6.31	9.27	13.62
Luxury	10.81	15.55	22.37	32.18
City clubs	7.92	10.64	14.29	19.20
Clubhouses	5.90	9.52	14.93	23.01
Senior centers	10.39	15.49	23.10	34.44
Country clubs	9.32	13.51	19.58	28.39
Dormitories, Classes A and B . .	10.56	15.50	22.74	33.38
Classes C, D and S	6.58	11.18	18.06	28.33
Fraternity houses	6.07	8.04	10.66	14.13
Group care homes	6.02	8.86	13.03	19.18
Health clubs	6.68	9.68	14.02	20.31
Homes for the elderly,				
Classes A and B	8.12	11.10	15.16	20.72
Classes C, D and S	6.22	8.83	12.55	17.82
Hotels, full service,				
Classes A and B	9.85	13.33	18.05	24.43
Classes C and D	8.52	11.11	14.49	18.90
limited-service	6.70	8.88	11.77	15.60
Mortuaries	7.55	9.86	12.87	16.80
Recreational (pool) enclosures	3.21	4.30	5.77	7.74
Rectories	4.53	7.22	11.25	17.26
Rooming houses	4.29	6.29	9.23	13.53
Row houses	4.38	6.45	9.50	13.98

EXTERIOR WALL – Apply to total wall area.

Concrete or Masonry Walls

Adobe or hollow clay block, 6"	\$21.95	\$24.35	\$26.95	\$29.90
8"	23.65	26.30	29.25	32.55
12"	26.85	29.80	33.15	36.80
14"	29.75	33.00	36.75	40.75
Adobe block, grouted or cavity,				
22" – 24"	34.25	38.25	42.50	47.25
30" – 32"	37.00	41.00	45.75	50.75
Block, concrete, 6"	19.15	21.20	23.50	26.05
8"	20.65	22.85	25.30	28.00
12"	23.50	26.00	28.70	31.75
16"	26.45	29.20	32.25	35.60
for each add 4" of block, add	2.90	3.18	3.48	3.81
Block, grouted or cavity,				
10" – 12"	22.20	24.55	27.15	30.00
*Add for ornamented face block	1.42	2.13	3.19	4.78
Brick, block backup, 8"	24.80	27.50	30.50	33.85
12"	27.75	30.75	34.00	37.75
16"	30.50	33.75	37.50	41.50
Brick, common, 8"	27.75	30.75	34.00	37.75
12"	33.50	37.00	41.00	45.25
16"	39.00	43.25	47.75	52.75
for each add 4" of brick, add	5.63	6.21	6.86	7.57
Brick, grouted or cavity,				
Reinforced, 9" – 10"	30.50	33.75	37.25	41.00
Block backup, 9" – 10"	27.50	30.50	33.75	37.25
Block backup, 12" – 14"	30.50	33.75	37.25	41.00
Brick, 6" SCR modular	21.10	23.55	26.25	29.30
8"	23.40	25.95	28.85	32.00
*Add for face brick	3.13	3.42	3.75	4.10
Concrete, reinforced, formed, 4"	21.60	24.00	26.60	29.55
6"	23.10	25.65	28.45	31.60
8"	24.80	27.45	30.45	33.70
12"	28.00	31.00	34.25	38.00
For each add 4" of				
concrete, add	3.25	3.56	3.90	4.27

***NOTE:** The additional cost for face block or brick is the difference between the cost of face block or brick and standard block or common brick in place as part of a wall. For the cost of ornamented face or synthetic masonry veneer, see Wall Ornamentation.

APARTMENTS, HOTELS AND CLUBS

SECTION SEG 1 (SEGREGATED COST METHOD)

EXTERIOR WALL (continued)

Concrete or Masonry Walls (continued)

	1	2	3	4
Precast panels, 2"	\$17.85	\$19.80	\$22.00	\$24.45
4"	19.00	21.05	23.35	25.90
6"	20.80	23.05	25.50	28.25
8"	23.05	25.40	28.00	30.90
12"	26.90	29.55	32.45	35.60
Tilt-up panels, 4"	17.90	20.00	22.35	24.95
6"	19.20	21.50	24.05	26.90
8"	20.70	23.15	25.90	29.00
10"	22.35	25.05	28.05	31.40
12"	24.05	26.95	30.20	33.80
Add for insulated sandwich . .	1.65	2.04	2.53	3.13
Add for brick or tile inserts . .	6.32	7.69	9.35	11.38
Glass block, white or aqua	48.50	51.50	54.50	57.75
Colors or reflective	65.00	68.00	72.00	76.00
Local stone, block backup,				
Ashlar veneer, 12"	44.50	50.00	56.50	63.50
Rubble or rustic, 12" veneer,	35.75	40.75	46.25	52.75
For each 4" variation in thickness	2.90	3.18	3.48	3.81
Local fieldstone, in mortar, 12" . .	29.25	33.75	39.00	45.00
For each 4" variation				
In thickness	2.56	3.01	3.53	4.15
Local stone, rough cut, solid, 12"	47.25	57.50	69.75	84.75
Granite	50.00	63.00	79.25	99.75
Limestone	53.25	64.25	77.75	93.75
For each 6" variation in thickness	21.35	25.15	29.70	35.00
Rammed earth, soil cement, 24"	23.65	27.10	31.05	35.55
Pneumatic build-up,				
Formed one side	37.00	41.50	46.25	51.75
For each 6" variation in thickness	1.31	1.55	1.83	2.16
Tile, structural clay, 6"	20.50	22.90	25.55	28.55
10"	24.00	26.75	29.75	33.15

Concrete or Masonry Wall Extras

Add for stay-in-place forming . .	\$ 1.20	\$ 1.56	\$ 2.02	\$ 2.62
Add for glazed block/tile, each side	6.32	7.06	7.89	8.82
Add for pilasters	1.21	1.47	1.78	2.15
Add for bond beams	1.27	1.53	1.83	2.20
Add for seismic reinforcement . .	.53	.86	1.34	2.07
Add for synth. plaster on rigid				
insulation (EIFS)	5.06	6.15	7.48	9.10
Deluxe, textured or aggregate	8.31	9.86	11.70	13.88
Add for thin masonry on rigid insul.	12.40	13.90	15.60	17.50
Add for clay tile backup				
in lieu of block	2.22	2.62	3.09	3.65
Add for earth-sheltered waterproof	.95	1.47	2.26	3.43
Add for insulation . . . . .	.78	1.12	1.59	2.28
Earth-sheltered structures . .	1.36	1.96	2.82	4.07

Curtain Walls

Brick or tile panels	\$26.30	\$ 31.00	\$ 36.60	\$ 43.15
Concrete and glass panels, precast	31.75	36.50	42.00	48.25
Glass fiber reinforced, molded	26.90	32.80	40.05	48.85
Metal and glass panels (ordinary)	34.50	40.75	48.00	56.50
Stainless steel or bronze and glass	50.25	58.00	66.75	77.00
Stone panels, local stone	45.25	49.75	55.00	60.50
Granite	49.50	56.00	63.50	72.00
Limestone or slate	46.50	51.25	56.25	62.00
Marble	47.00	53.50	60.75	69.00
Composite or aggregate panels	32.25	39.75	49.00	60.25
Structural glazed atrium (incl. sup)	79.00	105.00	139.00	184.00
Steel studs and stucco	18.35	21.50	25.20	29.55
Synthetic plaster on rigid				
insulation (EIFS)	21.05	25.00	29.75	35.35
Deluxe, textured or aggregate	24.10	28.55	33.85	40.15
Wood or aggregate board siding	19.00	23.20	28.35	34.60
Add for insulation, insul. areas only	1.03	1.50	2.17	3.15

EXTERIOR WALL (continued)

Pre-Engineered Walls

	1	2	3	4
Sandwich panels, alum. or steel,				
both sides	\$20.50	\$23.60	\$27.15	\$31.25
Cement fiber or shotcrete,				
Two sides	15.45	18.60	22.40	26.95
Fiberglass panels, two sides . .	20.15	23.85	28.20	33.35
Glass exterior, metal interior . .	23.05	26.55	30.60	35.25
Add for stainless steel or				
textured (Galbestos)	3.20	3.82	4.55	5.43
Add for poly laminated (FRP)				
interior . . . . .	.75	.98	1.27	1.65
Deduct for gypsum or				
hardboard interior	1.43	1.55	1.69	1.83

Single-Wall Construction

Aluminum or steel, on steel frame	\$ 7.85	\$ 9.49	\$11.46	\$13.85
On wood frame	7.33	8.90	10.79	13.10
Add for porcelain enamel finish	2.83	3.33	3.92	4.62
Add for stainless steel or				
textured (Galbestos)	3.17	3.76	4.47	5.30
Cement fiber (Transite),				
On steel frame	8.88	10.75	13.02	15.77
Sheet siding, on wood frame	8.12	9.90	12.08	14.73
siding or shingles,				
on wood frame	8.68	10.52	12.74	15.44
Fiberglass light panels,				
On steel frame	5.99	6.78	7.67	8.68
Sandwich panels	7.17	7.83	8.56	9.35
Heavy, (FRP), over 8 oz.	9.10	10.64	12.43	14.53
light panels on wood frame	5.22	5.93	6.73	7.64
sandwich panels	6.40	6.99	7.64	8.34
Heavy, (FRP), over 8 oz.	8.40	9.84	11.53	13.50
Glass panels	22.90	29.15	37.05	47.15
Projected greenhouse	49.00	54.50	60.75	67.50
Log, up to 10" diameter	19.25	24.95	32.40	42.00
Deluxe, hand hewn or oversized	28.25	35.00	43.00	53.25
Plywood, boards or siding,				
On steel frame	7.92	9.44	11.26	13.43
On wood frame	7.39	8.85	10.59	12.68
Stucco, on baled straw	15.80	19.00	22.85	27.45
Stucco, on wood frame	8.06	9.32	10.78	12.47
Synthetic plaster on rigid insulation				
(EIFS), on steel frame	11.25	13.30	15.75	18.65
Wood shingles, on wood frame	8.67	10.07	11.70	13.59
Add for exterior sheathing,				
per layer	1.18	1.36	1.56	1.80
Add for interior sheathing or liner,				
finished	2.07	2.42	2.82	3.30
Poly laminated panel (FRP)	2.80	3.32	3.94	4.68
Add for stud wall backing . . . .	.76	.91	1.10	1.32
Add for insulation . . . . .	.67	.82	1.01	1.24
Vinyl faced, exposed . . . . .	.89	1.01	1.16	1.32
Rigid board, faced	1.24	1.60	2.07	2.68
Add for air infiltration wrap . . .	.21	.26	.33	.42

Wood or Steel Stud Walls

Aluminum or steel siding, horiz	\$15.20	\$17.60	\$20.40	\$23.65
Sheet panels	13.75	16.05	18.75	21.90
Asphalt siding	13.25	15.25	17.60	20.30
Cement fiber siding or shingles,				
Horizontal	14.65	17.05	19.90	23.15
Sheet, embossed	13.90	15.95	18.35	21.10
Hardboard siding or shingles,				
Horizontal	14.50	16.60	19.05	21.85
Sheet, embossed	13.80	15.80	18.10	20.75
Plywood, textured	13.90	15.95	18.30	21.00
Deluxe, redwood, cedar, etc.	15.60	17.90	20.55	23.60

APARTMENTS, HOTELS AND CLUBS

SECTION SEG 1 (SEGREGATED COST METHOD)

EXTERIOR WALL (continued)

Wood or Steel Stud Walls (continued)

	1	2	3	4
Shingles or shakes, wood	\$15.75	\$18.25	\$21.15	\$24.55
Stucco	15.10	17.50	20.25	23.45
Synthetic plaster on rigid insulation (EIFS)	17.70	20.60	23.95	27.85
Deluxe, textured or aggregate	20.90	24.30	28.30	32.90
Vinyl siding	15.10	17.45	20.20	23.35
Wood siding	15.05	17.30	19.90	22.85
Deluxe, redwood, cedar, etc.	16.50	19.15	22.25	25.80
Log, veneer siding	16.45	20.30	25.10	31.00
Deluxe, half round, full corners	25.65	28.75	32.20	36.05
Veneer, face block or concrete				
Brick	18.90	21.65	24.85	28.50
Common brick	19.20	22.10	25.45	29.30
Face brick	21.90	25.10	28.75	32.95
Mortarless brick	22.00	25.05	28.50	32.40
Stone, ashlar veneer	33.50	38.75	44.50	51.50
Rubble or rustic	26.85	31.15	36.15	41.95
Synthetic veneer or panel . .	19.35	23.35	28.10	33.90
Thin veneer on rigid insulation	23.05	26.45	30.40	34.90
Add for sheathing . . . . .	.92	1.11	1.34	1.62
Add for seismic/wind bracing .	.52	.63	.76	.92
Add for insulation . . . . .	.64	.78	.96	1.18
Add for air infiltration wrap . .	.19	.25	.34	.45
Add for air space wrap . . . . .	.66	.75	.86	.98
Add for double stud walls	1.36	1.64	1.99	2.40
Add for wood stressskin sand. pan.	4.44	5.18	6.05	7.06

BASEMENT WALLS – Apply to basement wall area.

Concrete block, reinforced, 6"	\$10.20	\$11.51	\$12.98	\$14.64
8"	11.35	12.85	14.55	16.50
12"	14.10	15.90	17.90	20.15
for each additional 4" of block, add	2.84	3.10	3.39	3.70
Concrete, reinforced, 6"	12.35	13.90	15.70	17.70
8"	13.95	15.70	17.65	19.85
12"	17.05	19.05	21.35	23.85
16"	20.10	22.40	25.00	27.85
For each additional 4" of concrete, add	3.14	3.43	3.75	4.10
Masonry, brick, 8"	17.45	19.55	21.90	24.50
Stone, 12"	24.20	27.90	32.10	37.00
For each 4" variation in thickness	5.58	6.13	6.74	7.41
Wood, treated	9.80	12.12	15.00	18.56
Add for stay-in-place forming . . . .	.54	.82	1.25	1.88
Add for waterproofing . . . . .	.95	1.19	1.50	1.88
Earth sheltered structures	1.42	2.09	3.08	4.53
Add for insulation . . . . .	.66	.99	1.49	2.23
Earth sheltered structures	1.35	1.97	2.87	4.19

For specific earth-sheltered waterproofing, see Section UIP 1.

STAINED GLASS – Apply to art glass for window, dome or skylight area. These costs vary greatly and the following typical cost ranges should be used with caution. See Section UIP 6 for detail. For residential straight seams or simple bevel, deduct 50% from Low Cost. For ceiling domes, use low cost range for plastic, average for stock glass and high cost for custom stained glass.

Low cost, plain, min. work or detailed bevel etched	\$ 69	\$ 94	\$129	\$ 176
Average, simple figures and scenes	210	285	390	530
High cost, highly detailed work (incl. domes)	455	640	905	1,275

WALL ORNAMENTATION – Apply to ornamented area.

	1	2	3	4
Brick, split face, Roman or Norm.	\$ 10.41	\$ 12.01	\$ 13.86	\$ 16.00
Face, standard size	11.25	13.10	15.25	17.75
Mortarless brick	11.95	13.70	15.75	18.10
Select common	10.11	11.71	13.57	15.72
Used	11.10	12.80	14.70	16.95
Simulated veneer or panel, 1/4" - 3/8"	8.91	10.83	13.16	16.00
Thin veneer on rigid insulation	12.10	13.60	15.25	17.10
Add for pictorial carved artwork	145.00	165.00	190.00	215.00
Cement fiber siding	2.91	3.53	4.29	5.20
Concrete, ornamental cast stone	22.95	27.45	32.85	39.30
Concrete block, imitation flagstone	9.21	10.76	12.57	14.69
Solar screened	9.89	11.60	13.60	15.94
Ornamented face, slump, fluted, Split or ground	9.94	11.47	13.23	15.26
Glazed one side, add	6.23	6.94	7.74	8.63
Cut stone, carved	98.00	142.00	206.00	299.00
Glass block, white or aqua	38.25	42.00	46.25	51.00
Solars or solar reflective	52.50	57.50	62.75	68.75
Granite, ashlar or panel	47.50	55.00	63.75	74.00
Limestone, ashlar or panel	35.25	41.25	48.25	56.25
Local stone, ashlar veneer or panel	30.50	35.75	42.00	49.50
Rubble or rustic	22.55	26.90	32.10	38.30
Imitation precast stone	10.23	13.24	17.13	22.17
Marble, panels	39.00	45.75	53.50	62.75
Metal panels, screens, louvers . .	17.60	22.45	28.65	36.60
Preformed wall panels	2.91	5.20	8.62	13.72
Add for curved panels . . . . .	.97	1.33	1.83	2.51
Ornamental doorways	57.00	118.00	210.00	347.00
Slate, panels	33.50	38.75	44.75	51.75
Stucco	3.78	4.23	4.74	5.31
On masonry	2.91	3.37	3.90	4.51
Add for synthetic on rigid insulation (EIFS)	2.23	2.88	3.72	4.80
*Built-up (EIFS) panel relief	4.86	6.31	8.19	10.63
Terra cotta	26.35	31.30	37.25	44.25
Tile, ceramic	13.50	15.40	17.55	20.00
*Mosaics	19.10	23.20	28.20	34.30
Hand painted tiles	100.00	139.00	194.00	270.00
Vinyl siding	3.08	3.69	4.43	5.31
Vitrolite (structural glass)	21.75	25.40	29.60	34.55
Wood, plywood	2.45	3.11	3.95	5.01
Shingles	3.47	4.12	4.89	5.81
Siding	3.07	3.82	4.76	5.92
Ornamented molding or trim	9.06	12.80	18.09	25.57
Add for treated wood . . . . .	.48	.58	.71	.86
*Note - For pictorial artwork, add	10.90	15.15	21.00	29.15

EXTERIOR AND BASEMENT STAIRS – Per riser. For fire escapes, see Section UIP 5.

Concrete	\$180	\$250	\$345	\$475
Steel pans or prefab.				
concrete on steel	200	270	370	500
Steel or aluminum grating	225	300	405	540
Wood	69	109	170	260

EXTERIOR BALCONIES – Apply to balcony area.

Concrete	\$22.15	\$28.35	\$36.25	\$46.35
Steel	20.45	27.25	36.35	48.45
Wood	19.05	25.10	33.05	43.55
Add for ornate finishes, balustrades	18.90	23.20	28.45	34.90

APARTMENTS, HOTELS AND CLUBS

SECTION SEG 1 (SEGREGATED COST METHOD)

ROOF STRUCTURE – Apply to roof area.

	1	2	3	4
Concrete joists, slab	\$11.35	\$12.85	\$14.55	\$ 16.50
Lift slab	10.34	11.60	13.01	14.60
Pan or waffle slab and joists	10.53	11.83	13.30	14.94
Precast joists and deck	9.92	11.19	12.62	14.24
Precast joists, wood deck	7.98	8.93	10.00	11.20
Cored plank on bearing walls thin shell	16.80	20.15	24.20	29.00
Concrete dome, cast-in-place Thin shell	36.50	40.50	45.25	50.25
Fabric roof, air supported	39.00	42.25	46.00	50.00
Tension supported	43.00	48.25	54.00	60.50
Add for thermal liner	3.71	4.54	5.56	6.81
Steel joists, concrete slab	13.05	14.90	16.95	19.35
Gypsum on formboard	6.93	8.63	10.75	13.39
Precast deck	11.35	12.85	14.55	16.45
Steel deck	7.46	9.51	12.12	15.44
Light-gauge truss joist	6.14	7.88	10.11	12.98
Steel deck, gypsum or concrete	9.51	11.84	14.73	18.33
Wood or composition deck	6.08	7.76	9.90	12.63
Light-gauge truss joists	5.25	6.74	8.66	11.12
Open steel system for corr. metal	2.99	4.37	6.39	9.34
Light purlin supports only	1.37	1.79	2.34	3.05
Steel space frame and Sheathing (three dimensional) Architectural (excl. of glazing)	21.15	27.35	35.35	45.70
Metal dome and cover	29.25	33.50	38.50	44.25
Glazed or translucent panels	65.00	79.00	97.00	118.00
Wood joists, wood or comp. deck exp. rafters, 2" T&G sheathing	4.69	6.06	7.83	10.12
prefab. panels (excl. of girders) stressskin sandwich panels (exclusive of purlins)	1.81	2.22	2.72	3.34
Add for snow roof, furred sheathing layer	6.58	8.39	10.71	13.66
Open wood system for corr. metal light purlin supports only for Metal, wood or fiberglass	1.87	2.05	2.25	2.47
Wood dome and deck	1.64	2.89	4.77	7.57
Add for seismic/hurricane truss ties	19.65	23.90	29.05	35.30
Add for complex roof, turrets, ornate trim . . . . .	.36	.43	.52	.62
For treated wood, increase costs by 10% to 20%.	70%	55%	45%	35%

ROOF COVER – Apply to roof area.

Aluminum or steel, corrugated, crimped or tile panels, preformed, light, to 26 gauge	\$ 2.01	\$ 2.56	\$ 3.26	\$ 4.15
heavy, under 26 gauge	4.15	4.74	5.42	6.20
Formed seam, flat or standing batten seam	5.28	6.50	8.00	9.84
Sandwich panels, pre-engineered	6.08	7.47	9.17	11.26
Shingles	8.36	10.50	13.18	16.54
Aggregate finish	4.04	4.85	5.83	7.00
Thatch	5.28	6.33	7.59	9.10
Add for interior metal liner	17.05	18.65	20.40	22.35
Plastic	1.87	2.14	2.44	2.79
Add for porcelain enamel finish	1.72	1.95	2.21	2.51
Add for stainless steel or Textured (Galbestos)	2.80	3.31	3.92	4.63
Asphalt, corrugated	3.15	3.75	4.46	5.31
Atrium skylight, frame and glazing	1.65	1.87	2.12	2.40
Built up composition	32.25	43.00	57.50	77.00
Cement fiber shingles	1.88	2.35	2.93	3.66
Corrugated or sheet (Transite)	4.11	5.04	6.19	7.60
Composition, roll, mineral surface	3.78	5.35	7.56	10.69
Composition shingles, light, to 235#	1.04	1.22	1.43	1.68
Heavy over 235# or laminated	1.72	1.92	2.15	2.41
Copper, flat or standing seam	2.23	2.80	3.51	4.40
Batten seam	10.90	12.75	14.90	17.45
Shingles	11.75	13.75	16.05	18.75
	10.74	11.64	12.61	13.66

ROOF COVER – Apply to roof area.

	1	2	3	4
Elastomeric or modified bitumen, Single ply	\$ 3.03	\$ 4.01	\$ 5.31	\$ 7.03
Reinforced sheet or spray, fluid coat	5.48	6.36	7.39	8.58
Fiberglass, corrugated or sheet, light	2.06	2.34	2.66	3.03
Sandwich panels	3.20	3.69	4.26	4.91
Heavy, FRP, over 8 oz.	3.71	4.68	5.89	7.43
Slate	7.54	8.99	10.73	12.80
Red	14.35	17.25	20.75	24.95
Composite reinforced fiber	4.86	6.05	7.53	9.37
Terne, flat or standing seam	10.69	12.41	14.42	16.74
Batten seam	11.45	13.35	15.50	18.05
Tile, clay	6.91	8.73	11.03	13.94
Concrete	5.18	5.97	6.87	7.91
Plastic or rubber	4.58	5.21	5.93	6.74
Add for custom coloring or glazing	1.25	1.55	1.93	2.40
Wood, shakes	3.76	4.29	4.89	5.58
Shingles	3.37	3.91	4.53	5.26
Fiber shingles	2.23	2.63	3.10	3.66
Add for fire-resistant finish . . . . .	.50	.60	.72	.87
Add for roof insulation . . . . .	.93	1.41	2.12	3.18
Earth sheltered structures	1.55	2.34	3.51	5.27
Add for earth sheltered waterproof	1.36	1.98	2.89	4.21

NOTE: For underroof insulation supporting structures, see Ceiling Extras on Page 3. For earthen roof cover, see Fill costs on Page 1. See Section UIP 13 for top dressing, sod and/or sprinklers. For specific earth sheltered waterproofing, see Section UIP 1.

ROOF MODIFIERS – Use the following multipliers for sloping roofs to convert the unit costs to costs per square foot of horizontal roofed area.

Rise	Run	Multiplier	Rise	Run	Multiplier
6'	12'	1.12	12'	12'	1.42
8'	12'	1.20	18'	12'	1.80

TRUSSES AND GIRDERS – Apply to area supported.

Steel trusses or longspan girders	\$2.59	\$3.24	\$4.06	\$5.08
Timber trusses	2.91	3.65	4.59	5.76
Glued, laminated trusses or girders	2.64	3.27	4.05	5.01

CANOPIES OR MARQUEES – Apply to horizontal area. For light false mansard structures, deduct 50%. For greater detail, see Section UIP 4 or 6. Patio covers, see Section UIP 13.

Wood frame	\$24.25	\$29.90	\$36.90	\$45.55
Steel frame	29.25	36.75	46.00	57.75

DORMERS – See Section UIP 4, Roofs; for solar rooms and green-houses, see Section UIP 11.

ARCHITECTURAL COLUMNS – See Section UIP 6.

ELEVATORS – Apply to total area served, or use detailed costs from Section UIP 7.

	1	2	3	4
Apartments, Classes A and B	\$3.06	\$4.01	\$5.26	\$6.89
Class C	2.23	2.76	3.41	4.21
Classes D and S	2.05	2.51	3.07	3.76
Luxury Apartments, Classes A and B	----	6.95	7.97	----
Class C	----	4.17	4.70	5.35
Classes D	----	3.69	4.17	4.70
City clubs, Classes A and B	----	3.99	5.14	----
Class C	----	2.60	3.30	----
Dormitories, Classes A and B	2.90	3.83	5.05	6.67
Classes C, D and S	----	2.54	3.23	4.13
Homes for the Elderly, Classes A and B	2.82	3.76	4.95	----
Classes C, D and S	1.92	2.44	3.14	----
Hotels, Classes A and B, full-service	3.36	4.58	6.23	8.49
Limited service	3.14	3.72	4.40	5.21
Classes C and D, full service	2.29	3.00	3.93	5.14
Limited service	1.30	1.76	2.37	3.21

APARTMENTS, HOTELS AND CLUBS

SECTION SEG 1 (SEGREGATED COST METHOD)

BUILT-IN CONSTRUCTION – Apply to each item.

	1	2	3	4
Appliance allowance (if not itemized),				
Owner occupied	\$1,430	\$2,600	\$4,340	\$6,940
Rental, including elderly or				
Senior citizen	915	1,215	1,610	2,140
Upscale	1,030	1,720	2,750	4,290
Single unit (self-contained) kitchen	3,250	4,100	5,200	6,575
Garbage disposal	135	190	265	370
Deluxe, heavy duty	400	500	620	775
Range and oven combination	680	915	1,230	1,655
Residential, commercial quality	3,725	4,700	5,900	7,425
Custom, double wide	8,500	11,150	14,600	19,100
Microwave or refrigerated				
Combination	1,780	2,110	2,490	2,950
Range top	360	575	895	1,375
Component top, per component	480	680	960	1,355
Steamer	635	995	1,530	2,335
Induction top	955	1,315	1,815	2,505
Custom tops	2,510	3,590	5,150	7,370
Ovens	640	975	1,475	2,225
Custom double wall ovens	2,120	3,920	6,610	10,620
Microwave combination	1,700	2,130	2,660	3,330
Warming ovens	700	825	975	1,155
Oven, microwave	160	365	670	1,130
Exhaust fan and hood	165	300	500	800
Countertop down draft	850	1,045	1,290	1,585
Custom, stainless steel or copper	2,120	3,580	5,770	9,030
Cookware racks	210	465	840	1,405
Dishwasher	370	565	850	1,280
Deluxe, built-in	1,340	1,680	2,110	2,650
Individual drawers, built-in, each	1,060	1,340	1,680	2,120
Trash compactor	530	640	775	940
Radio-intercom, base system	435	565	730	950
Add per satellite	95	115	138	167
Audio/video entry system	2,875	3,975	5,525	7,650
Each extra monitor station	810	965	1,155	1,380
Refrigerator or freezer	555	1,070	1,845	2,995
Deluxe, built-in, each	2,950	4,200	5,950	8,450
Individual drawers, built-in, each	3,250	4,120	5,230	6,630
Mixer/blender				
(food center, processor)	265	450	725	1,135
Deluxe, built-in	1,170	1,630	2,280	3,190
Can opener, built-in	64	87	117	159
Coffee maker, built-in	210	320	485	735
Toaster, built-in	135	170	220	280
Towel/food wrap dispenser, built-in	200	235	270	315
Wok or deep fryer, built-in	635	775	940	1,145
Deluxe	1,380	1,850	2,480	3,330
Kitchen hot-food heat lamps, each	375	430	495	565
Motorized pantries, 1' to 3'	4,675	5,600	6,700	8,000
Wine captains, undercounter	1,005	1,160	1,340	1,550
Standing units	2,450	2,860	3,340	3,900
Ice machines, residential	605	730	880	1,065
Deluxe, to 50# per day	1,060	1,360	1,740	2,230
Bathroom heater, electric	120	175	255	375
Mirror defog heaters	64	91	130	186
Hair dryer	80	119	178	265
Heated towel rack	425	965	1,775	2,980
Exhaust fan	120	165	225	310
Bathroom scale, built-in	205	230	260	295
Vacuum cleaner system, three inlets	1,700	1,890	2,100	2,340
Add for extra inlets	190	225	270	320
Ironing center	615	740	885	1,065
Clothes washer, single-family	595	755	950	1,205
deluxe	1,340	1,500	1,670	1,870
Add for pedestals	180	210	240	280
Dryer	525	645	795	980
Deluxe	890	1,060	1,250	1,490
Drying center	1,340	1,450	1,570	1,700
Combination unit	1,150	1,500	1,950	2,530

BUILT-INS (continued)

	1	2	3	4
Water softener	\$1,390	\$1,830	\$2,410	\$3,170
Complete filtration system	3,500	4,650	6,200	8,250
Closet carousels	3,475	4,175	5,025	6,050
Safe, built-in, small wall or floor	445	680	1,035	1,560
Deluxe	1,580	2,710	4,390	6,900
Residential security systems (wireless)	880	1,615	2,715	4,355
Hard wired	2,450	3,440	4,820	6,760
Home automation systems	2,775	3,525	4,475	5,675
Custom (including security system)	10,550	14,650	20,300	28,150
Trash compactor, apartment or motel	5,175	12,500	23,450	39,800
House phone, located at entrance	555	650	765	895
Add per door release	180	190	210	230
Intercom, master station,				
20-30 station	1,090	1,420	1,850	2,410
Add per intercom outlet or				
Remote station	125	145	170	195
Add per door release	170	190	210	230
Television security, closed circuit				
One camera and one monitor,				
Base system	1,650	3,600	6,520	10,870
Each extra camera	635	1,620	3,090	5,290
Each extra monitor	265	415	635	970
Video tape recorder	2,530	3,750	5,570	8,260
Home entertainment, audio-video systems:				
Built-in and/or				
including cabinets	12,400	26,100	46,700	77,300
Complete home (including				
security and automation system)	30,200	52,400	85,500	135,000
Home theater, (screening room) wall and sound treatments, stage,				
screen, seating, audio and projection equipment:				
Prefab. package units, complete	34,000	47,000	64,900	89,700
Custom-built theater and decor	226,000	271,000	324,000	388,000
Built-in aquarium				
(excl. fish and plants, etc.)	4,900	9,000	15,150	24,300
Bowling alley, reconditioned, with				
Automatic pinsetter,				
(new, add 30%)	23,800	29,600	36,900	46,000
Golf course simulator, complete station,				
including projection equipment	5,300	15,400	30,500	53,100
Racquetball court, prefab., comp.	39,500	45,100	51,400	58,700
Add for spectator viewing,				
Window/wall	11,400	22,100	38,100	61,900
Shooting range, indoor,				
per station, complete	12,700	14,500	16,600	18,900
Soda fountain, complete unit,				
per linear foot	1,440	1,640	1,860	2,110
Wine vaults, modular room,				
15 to 75 sq. ft.	2,775	4,525	7,125	11,000
Sauna rooms, 15 to 100 sq. ft.	3,075	4,900	7,600	11,650
*Chandeliers, high-value	8,550	13,700	21,400	32,900
Add for winch,				
200- to 300-lb. capacity	1,500	1,700	1,920	2,170
For lobby, room and kitchen equipment, telephone systems, see				
Section UIP 12.				
For complete kitchen units, see Section UIP 2. Commercial				
washer/dryers, see Section UIP 12.				
*NOTE: See next page.				

APARTMENTS, HOTELS AND CLUBS

SECTION SEG 1 (SEGREGATED COST METHOD)

FIREPLACES – Cost per fireplace. For each additional opening using the same chimney, add 30% to 50% (custom, 20% to 40%). Buildings with basements, add 40% (custom, 25%) to extend the foundation to the basement level. “Steel, with flue” is the prefabricated hanging or free-standing-type fireplace or stove.

	1	2	3	4
One story	\$2,490	\$ 3,670	\$ 5,420	\$ 8,000
Add per additional story				
of chimney flue	665	890	1,190	1,595
Steel, with flue	1,320	1,870	2,640	3,740
Pellet stoves	2,600	3,225	4,000	4,975
Add per additional story of chimney stack	295	440	660	990
Direct vent	1,530	2,150	3,025	4,250
Custom or oversized, one story masonry heaters, soapstone, etc.	9,250	12,100	15,750	20,600
Add per additional story of chimney flue	1,730	1,985	2,275	2,610
Steel, direct vent	3,825	4,900	6,275	8,025
Add for Heatilator type	370	495	660	885
Add for raised hearth	225	350	535	810
Add for log lighter	255	290	335	380

*** Mantels, special designs or antique reproductions, add:**

Cast stone (bonded limestone)	\$4,300	\$ 6,200	\$ 8,900	\$12,825
Custom marble, granite or onyx	7,900	12,450	19,250	29,450
Ornate wood, carved	4,300	4,850	5,450	6,150
Precast plaster	2,220	2,990	4,020	5,410

***NOTE:** Fixtures classified by age or beauty as having antique or historical value, or designed by name artists, must be valued as art objects by fine arts specialists; costs can easily run seven to ten times the listed costs for chandeliers and two to four times for mantels.

NUMBER OF STORIES MULTIPLIER

To allow for the cost of hoisting materials, increased labor costs and miscellaneous costs due to high rise construction, multiply the total Segregated Costs of aboveground portions of the building by 100% plus .25% (1/4%) for each story over three.

Example: Twenty-three-story building: Multiplier = 1.050

ATRIUM H.V.A.C.

To price the heating and cooling of large atrium areas, simply refine the appropriate square foot system cost to be applied to the ground floor area by 100% plus 3% for each foot over the 10-foot average story height adjustment found on Page 3.

Example: Seven-story building, atrium height of 74': Multiplier=2.92

COMPLETION OF BUILDING VALUATION

Contractors' overhead and profit, sales taxes, permit fees and insurance during construction are included in the costs above.

Interest on interim construction financing is also included, but not financing costs, real estate taxes or brokers' commissions.

Architects' fees are not included and should be added from Appendix C.

Depreciation suggestions are given in Appendix A.

County multipliers which bring the basic costs up to date for each locality are found in Appendix D.

MULTIPLES AND MOTELS

SECTION SEG 2 (SEGREGATED COST METHOD)

This section should be used to estimate costs of multi-unit residential buildings of similar construction: row houses, duplexes, flats, garden apartments and motels, where most components are similar in character. The factors given are averages for one, two and three story buildings. For most residential buildings over three stories high, Section SEG 1 should be used; however, three story light residential construction may be priced from this section. The assessor will frequently encounter three story multiple residences where the bottom floor is partially below ground level and partially above. This type of building should be priced as a two story plus basement.

Motels of one, two or three stories will normally be priced from this section. For more than three stories, Section SEG 1 will normally be used. All Class A and B residential structures should be priced from Section SEG 1. Foundation costs for an 800 square foot row house and those for a 4,800 square foot row house will vary widely in the ratio of perimeter to square footage of floor area. The amount of

foundation required for a level location compared to that of a site with a steep slope or one requiring stepped footings can vary widely also. For these cases, an alternate set of tables is provided to accurately measure the differences due to size and shape, as well as climate and/or topography. Basement walls are not a part of the foundation, but of the basement, which is computed separately. When basement walls replace part of the foundation, a lower cost rank should be considered, always including the cost for a foundation.

Frame members in multi-unit residential structures usually consist only of the posts and girders supporting the floor structure of the first floor. Costs for "Bearing wall, wood or steel floor supports only" will usually be used. In many new motels and apartments, however, part or all of the building will be framed. The general rule is that when the frame is a separate distinct component, it should be priced as such. When the framing is integral to the wall, the cost of pilasters and bond beams, if applicable, should be added to the wall cost without additional frame cost except for floor supports.

SEGREGATED COSTS

(For explanation of the rating numbers, see Introduction to SEG Method.)

EXCAVATION AND SITE PREPARATION

	1	2	3	4
Excavation (per cubic foot)	\$.33	\$.44	\$.58	\$.77
Fill (per cu. ft. of compacted earth) . .	.34	.43	.55	.70
Site preparation (per sq. ft. of site) . .	.25	.33	.44	.59

FOUNDATION – Table I gives complete average costs per square foot of floor area. If a more detailed estimate is desired, use Tables II and III. For hillside construction and/or pilings, see Section UIP 1.

TABLE I – Apply to total floor area excluding basements.

Concrete Foundations for:

Class C, bearing wall	\$2.12	\$3.27	\$4.98	\$7.54
Nonbearing wall	2.04	3.14	4.79	7.25
Class D, masonry veneer	1.89	2.94	4.50	6.84
Siding or stucco	1.65	2.57	3.96	6.02
Pole-frame construction	1.58	2.41	3.65	5.50
Class S	1.68	2.66	4.13	6.33
Classes C, D and S light perimeter foundation for large, open-shell-type structures . . . . .	.72	1.03	1.47	2.09
Add for perimeter insulation, ground floor area only . . . . .	.12	.23	.38	.62
Earth sheltered structures . . . . .	.14	.31	.56	.93

For two and three story buildings, use 60% for each of the upper stories. Where footings are poured monolithically with a slab floor, use 70% of the normal cost for that story only.

If foundations are brick or stone instead of concrete, increase costs by 20%.

For concrete block, reduce costs by 8%.

Add for pilings from Section UIP 1.

Wood Foundations for:

Class D, treated, masonry veneer . . .	\$1.92	\$2.68	\$3.75	\$5.24
Siding or stucco	1.92	2.68	3.75	5.24
Piers with concrete footings . . . . .	.40	.78	1.52	----
Wood blocks or sills43	.69	1.05	----

For two story buildings, use 40% of the cost for the second story.

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FOUNDATIONS (Continued)

TABLE II. ALTERNATE METHOD – Apply to linear feet of bearing walls if Table I is not used. See discussion above.

	1	2	3	4
Class C	\$24.40	\$37.35	\$56.65	\$85.55
Class D, masonry veneer, conc.	21.50	33.40	51.20	77.75
Treated wood	21.85	30.50	42.55	59.40
Class D, siding or stucco, conc.	18.60	29.20	45.05	68.70
Treated wood	17.45	23.95	32.85	45.10
Class S	18.85	30.05	46.75	71.75
Classes C, D and S, reinforced light-grade beam	15.85	24.50	37.45	56.75
Wood, treated, sills	2.53	3.71	5.43	7.96
Add for perimeter insulation . . . . .	.97	2.19	4.02	6.74
Earth sheltered structures	1.38	3.16	5.83	9.81
Add for perimeter radon control matting	2.95	3.51	4.18	4.97
Add for perimeter raised floor skirting	8.61	10.13	11.93	14.04

TABLE III. CONCRETE COLUMN FOOTINGS – Apply to total number of columns if Table I is not used.

Concrete columns	\$51.50	\$89.75	\$146.75	\$232.00
Steel columns	46.50	83.25	138.25	220.25
Light pre-engineered frame	38.50	50.50	66.25	86.75
Light tubular/pipe frame	28.75	40.25	56.75	79.50
Wood columns	42.25	67.75	105.75	162.50
Light pole frame	28.75	40.25	56.75	79.50
Piers, precast footing	12.70	19.75	30.25	45.95
Formed in place	44.75	51.75	59.75	69.00

FRAME – Apply to total floor area excluding basements.

Bearing walls, wood or steel floor supports only	\$1.29	\$ 1.49	\$ 1.73	\$ 2.00
Masonry supports only	1.85	2.15	2.51	2.92
Steel, Classes C and D	4.77	5.87	7.21	8.87
Class S	4.50	5.56	6.88	8.51
Light pre-engineered frame	2.90	3.56	4.37	5.36
Light tubular/pipe frame	1.75	2.25	2.90	3.73
Add for fireproofing . . . . .	.84	1.21	1.73	2.49
Steel columns, wood beams	3.13	4.08	5.32	6.94
Wood, A-frame construction	3.88	4.63	5.52	6.59
Laminated bents and arches	4.37	5.20	6.18	7.35
Light arch-rib construction	2.77	3.34	4.02	4.85
Mill-type (heavy timber) construction	4.57	5.45	6.50	7.75
Heavy timber/log construction, Architectural	9.20	11.41	14.14	17.53
Post and beam construction	3.19	3.81	4.55	5.43
Light pole-type construction	1.61	2.10	2.73	3.56

Add for seismic bracing for open

Class CDS frames85	1.08	1.38	1.76
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Add 2% for each foot of average story height over 9' base height.

Deduct 2% for each foot of average story height under 9' base height.

MULTIPLES AND MOTELS

SECTION SEG 2 (SEGREGATED COST METHOD)

FLOOR STRUCTURE – Apply to area of described floor.

	1	2	3	4
Asphalt on ground, including base	\$ 2.23	\$ 2.79	\$ 3.48	\$ 4.35
Concrete, on ground (excluding vapor barrier)	3.61	4.23	4.96	5.81
Plain (unreinforced)	3.20	3.66	4.18	4.78
Lift slab	10.69	11.72	12.84	14.08
Elevated flat slab and joists	11.95	13.30	14.85	16.55
Pan or waffle slab and joists	11.10	12.25	13.50	14.85
Precast joists and deck	10.65	11.73	12.91	14.22
Precast joists, wood sheathing	7.72	8.64	9.66	10.81
Cored plank on bearing walls	9.17	10.11	11.14	12.28
Steel joists, flat slab	12.85	14.60	16.55	18.80
Corrugated deck and concrete	10.66	12.44	14.53	16.96
cellular deck and concrete	-----	14.20	16.80	19.85
Precast deck	11.55	12.80	14.15	15.65
Wood sheathing	6.45	8.04	10.01	12.47
Light-gauge truss joists	5.60	7.06	8.91	11.23
Wood, joists and sheathing	5.31	6.70	8.47	10.69
Joists and bridging only	4.00	5.22	6.81	8.88

For treated wood, increase costs by 10% to 20%.

FLOOR EXTRAS – Add to floor structure costs.

Vapor barrier	\$.71	\$.97	\$ 1.32	\$ 1.81
Each inch of sheathing over 1", add	1.26	1.39	1.53	1.69
Foamed concrete surfacing, 1½" – 2"	1.08	1.28	1.51	1.78
Floor insulation, add	.97	1.18	1.43	1.74

FLOOR COVER – Apply to area of described floor.

Access (computer) floor, on stanchions	\$18.80	\$22.20	\$26.20	\$30.90
Asphalt tile	2.14	2.53	2.98	3.52
Bamboo, laminated plank	10.23	12.32	14.83	17.86
Block, wood, treated	6.46	7.70	9.18	10.95
Brick, common, in mortar	8.49	10.15	12.13	14.50
Brick pavers, in concrete	10.05	12.01	14.36	17.16
Carpet and pad	2.03	3.60	5.94	9.43
Custom carpet and pad	8.84	14.76	23.60	36.80
Indoor/outdoor	2.16	2.78	3.58	4.60
Color, concrete	1.02	1.27	1.59	1.98
Cork	5.60	6.55	7.66	8.96
Diato, magnesite, etc.	7.34	8.54	9.94	11.56
Flagstone, random local stone, in concrete	13.55	16.15	19.20	22.85
Hardener and sealer, concrete	.76	1.04	1.41	1.93
*Hardwood	7.92	10.45	13.78	18.17
Sports gym floors on resilient sleepers	9.24	11.39	14.05	17.33
Leather	36.50	42.75	50.00	58.50
Linoleum	3.52	4.26	5.16	6.24
Marble or granite	25.15	34.60	47.65	65.55
Cast tile	14.70	17.35	20.45	24.15
Melamine laminated tile or sheet	3.01	4.14	5.71	7.86
Deluxe	7.46	8.79	10.35	12.19
Plastic tile, interlocking	7.23	8.01	8.87	9.82
Rubber fabric tile	9.54	11.24	13.24	15.60
Rubber tile or sheet	4.34	5.86	7.92	10.69
Seamless plastic, epoxy, urethane, neoprene, 1/32"-1/16" thincoat . 1/8"- 3/8"	3.92	4.84	5.98	7.39
Add for colored chips or glitter	1.68	2.05	2.51	3.06
Slate, grouted	15.05	17.90	21.35	25.40
Softwood	6.29	7.55	9.06	10.88
Stone plank	14.15	17.35	21.30	26.15
Synthetic sports surfacing	7.46	9.27	11.52	14.32
Terrazzo (exclusive of base slab)	10.69	13.30	16.54	20.57
Tile	19.60	22.60	26.05	30.05
Tile, ceramic or quarry	10.52	13.41	17.09	21.78
Custom tile	24.85	29.85	35.85	43.05

FLOOR COVER (Continued)

	1	2	3	4
*Wood over concrete, hardwood	\$9.20	\$11.90	\$15.39	\$19.91
Parquet block, prefinished, in mastic	9.12	12.72	17.73	24.72
Softwood	7.16	8.57	10.26	12.29
Vinyl composition tile or sheet	2.14	2.71	3.43	4.34
Vinyl sheet	3.29	4.55	6.30	8.72
Vinyl tile	3.52	5.16	7.57	11.10
*Add for custom wood floors	6.41	13.08	23.06	37.95
For pictorial artwork, add	9.94	14.19	20.24	28.89

CEILING – Apply to area of ceiling described. To convert costs to floor area for high-pitched ceilings, use the roof slope multipliers found on Page 7.

Acoustical ceilings, tile or panels:				
Metal panels, incl. pads and suspension system	\$ 6.76	\$ 8.36	\$ 10.33	\$ 12.77
mineral fiber, fiberglass, panels only	1.45	2.05	2.91	4.12
organic fiber, wood or cane, panels only	1.90	2.21	2.58	3.00
Embossed metal	5.32	7.29	9.99	13.69
Fiber sports court panel with suspension system	5.32	6.53	8.01	9.82
Fiberboard panels	1.54	1.75	1.99	2.27
Gypsum board, taped and painted	1.93	2.16	2.41	2.70
Spray on texture	1.85	2.04	2.26	2.49
Mirror faced panels	18.80	20.95	23.35	26.00
Paint or stain, bottom of roof or floor	.59	0.79	1.05	1.40
Plaster on lath: acoustical	4.02	4.53	5.10	5.75
Spray on, thincoat w/ texture on lath or drywall	2.89	3.18	3.51	3.86
Standard, add 24% for Keene's add for metal lath	3.48	3.93	4.44	5.01
Plaster on masonry soffit: acoustical	.49	0.56	0.64	.73
Spray on, thincoat with texture	3.44	3.87	4.34	4.88
Standard, add 24% for Keene's	2.31	2.52	2.75	3.00
Plaster panels, decorative	2.89	3.27	3.70	4.19
Plaster panels, with suspension system, but excluding lighting	12.65	13.95	15.45	17.05
Plywood (softwood) or hardboard panels	6.24	7.56	9.16	11.10
Hardwood	2.91	3.36	3.88	4.48
Coffered or vaulted panels with molding	4.25	5.15	6.24	7.57
Custom woods, site-built	9.37	12.80	17.48	23.87
Poly laminated panels (FRP)	24.15	28.35	33.25	39.00
Insulated panel	3.01	3.37	3.77	4.22
Wood, boards or T&G, softwood	4.57	5.07	5.62	6.24
Hardwood	2.86	3.39	4.02	4.77
Carved, decorative	4.65	5.53	6.56	7.80
	8.21	12.06	17.72	26.03

CEILING EXTRAS – Add to ceiling costs. For special ornamentation, see Section UIP 2.

Ceramic tile, add	\$12.90	\$16.45	\$20.90	\$26.65
Custom tile, decorative	26.60	32.25	39.05	47.35
Custom papers, stenciling, staff, add border or coving, only	12.85	17.30	23.35	31.45
Extensive decor, leather, cust. plaster, terra cotta, add	3.06	3.93	5.05	6.48
Wood furring	38.00	47.25	58.50	72.50
Metal furring	.88	1.09	1.34	1.65
If ceiling structure is required which is not part of the roof or floor structure, add	1.40	1.77	2.24	2.83
	1.46	1.83	2.30	2.88

MULTIPLES AND MOTELS

SECTION SEG 2 (SEGREGATED COST METHOD)

CEILING EXTRAS (Continued)	1	2	3	4
Suspended ceiling, metal (suspension system), add	\$1.26	\$1.62	\$2.07	\$2.66
Fberglass, FRP	1.96	2.40	2.94	3.60
Hardwood, decorative	3.44	4.57	6.06	8.04
For seismic supports, add	.24	.31	.40	.52
Ceiling insulation, add	.70	1.07	1.62	2.45
Vinyl faced, exposed	1.01	1.17	1.37	1.59
Add for underdeck supporting bands	.31	.38	.45	.55
Rigid board, faced	1.38	1.83	2.43	3.23

For ceiling domes, see stained glass, Page 6.

INTERIOR CONSTRUCTION – Apply to total floor area. Costs do not include fireplaces or built-in appliances. Add or deduct 5% for each foot of variation from 8' average story height (9' for Multiples and Motels, 10' for Lodges).

Frame Interior Partitions

Bath houses	\$ 9.83	\$ 12.77	\$16.58	\$21.54
Bed and breakfast inns	20.80	24.15	28.05	32.60
Guest cottages (cabins)	11.85	15.20	19.50	25.05
Guest houses	14.60	18.35	23.05	29.00
Lodges	21.00	28.55	38.85	52.80
Motels	20.45	25.55	32.00	40.00
Guest rooms only	20.60	25.05	30.40	36.95
Office apartment	22.20	24.85	27.75	31.05
Extended stay	19.10	21.70	24.60	27.95
Multiple residences	21.25	26.90	34.00	43.00
Senior citizen	22.30	26.65	31.85	38.10
Assisted living	29.75	32.75	36.00	39.50
Retirement community complex	41.25	46.50	52.50	59.25
Row/town houses (including party walls)	19.45	23.35	28.00	33.60
Senior citizen	19.90	23.50	27.80	32.85

Masonry Interior Partitions

Bath houses	\$ 10.74	\$ 13.80	\$17.72	\$22.76
Bed and breakfast inns	22.00	25.50	29.50	34.20
Guest cottages (cabins)	12.75	16.25	20.75	26.45
Guest houses	15.65	19.55	24.35	30.40
Lodges	22.20	30.00	40.55	54.80
Motels	21.65	26.95	33.50	41.70
Guest rooms only	21.80	26.40	31.95	38.70
Office apartment	23.45	26.15	29.20	32.60
Extended stay	20.20	22.90	25.95	29.40
Multiple residences	22.45	28.25	35.55	44.75
Senior citizen	23.55	28.05	33.40	39.80
Assisted living	31.00	34.00	37.50	41.25
Retirement community complex	43.00	48.50	54.50	61.25
Row/town houses (including party walls)	20.65	24.65	29.45	35.20
Senior citizen	21.05	24.80	29.25	34.50

MEZZANINES – Apply to open mezzanine area.

Cost of miscellaneous items such as rails, stairs, etc.	\$3.06	\$3.62	\$4.29	\$5.08
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PLUMBING – Apply to total floor area.

	1	2	3	4
Bath houses	\$ 7.35	\$ 9.34	\$11.86	\$15.07
Guest cottages (cabins)	8.31	10.31	12.78	15.85
Lodges, individual baths	6.20	8.49	11.64	15.94
Common baths	4.02	5.41	-----	-----
Motels	7.58	10.03	13.28	17.57
Guest rooms only	8.22	10.12	12.45	15.32
Office-apartment	2.63	5.00	8.54	13.82
Extended stay	8.39	9.71	11.25	13.02
Multiple residences	5.35	7.33	10.04	13.76
Senior citizen	6.29	7.72	9.47	11.62
Assisted living	8.10	10.19	12.81	16.11
Retirement community complex	8.68	11.10	14.20	18.17
Row/town houses	4.58	6.87	10.30	15.41
Senior citizen	4.75	6.75	9.61	13.66

Cost per fixture – Basement plumbing only. See Section UIP 3 for individual fixture costs.

	1	2	3	4
Motels	\$800	\$995	\$1,235	\$1,530
Residential occupancies	745	940	1,190	1,500
Drains and hydrants	135	200	295	440

SPRINKLERS – Apply to sprinklered area. Costs include all piping and meters to main but do not include tanks and pumps. Simple residential installations will cost \$2.70 to \$4.20 per square foot. For double sprinkler systems with heads both above and below a ceiling, use sprinklered area and 1.6 times the listed cost.

1,500 square feet	\$3.36	\$4.33	\$5.58	\$7.20
3,000	3.03	3.87	4.95	6.32
5,000	2.82	3.58	4.53	5.75
10,000	2.52	3.18	4.01	5.06
15,000	2.38	2.98	3.74	4.69
20,000	2.28	2.85	3.56	4.44
40,000	2.07	2.56	3.16	3.91
50,000	1.97	2.44	3.03	3.76
100,000	1.78	2.19	2.69	3.30
150,000	1.70	2.07	2.51	3.05
200,000	1.61	1.96	2.38	2.89

ELECTRICAL AND LIGHTING – Apply to total floor area.

Few Outlets:

Nonmetallic	\$2.85	\$3.34	\$3.92	\$4.60
Armored cable (BX)	3.36	3.95	4.63	5.44
Flexible conduit	4.04	4.71	5.50	6.42
Rigid conduit	4.81	5.60	6.51	7.58

Average Number of Outlets:

Nonmetallic	\$4.32	\$5.14	\$ 6.11	\$ 7.27
Armored cable (BX)	5.12	6.09	7.23	8.60
Flexible conduit	6.07	7.21	8.56	10.16
Rigid conduit	7.20	8.54	10.12	12.00

Many Outlets:

Nonmetallic	\$ 6.57	\$ 7.92	\$ 9.54	\$11.50
Armored cable (BX)	7.73	9.33	11.25	13.58
Flexible conduit	9.09	11.00	13.30	16.09
Rigid conduit	10.75	13.00	15.71	19.00

Unfinished Areas:

Nonmetallic	\$1.35	\$1.72	\$2.20	\$2.81
Armored cable (BX)	1.70	2.12	2.65	3.31
Flexible conduit	2.10	2.58	3.18	3.91
Rigid conduit	2.61	3.15	3.81	4.61

Typical costs for some occupancies: See Page 8 for Chandeliers.

	1	2	3	4
Bath houses	\$ 4.40	\$ 6.59	\$ 9.87	\$14.76
Guest cottages (cabins)	4.96	7.49	11.28	16.93

MULTIPLES AND MOTELS

SECTION SEG 2 (SEGREGATED COST METHOD)

Typical costs for some occupancies (Continued)

Lodges	3.82	8.26	14.89	24.80
Motels	5.46	8.02	11.79	17.32
Guest rooms only	5.75	8.35	12.13	17.61
Office apartment	3.15	5.02	7.82	11.99
Extended stay	6.61	8.22	10.23	12.73
Multiple residences	4.06	5.73	8.09	11.41
Senior citizen	5.90	7.76	10.20	13.41
Assisted living	6.55	8.86	11.99	16.22
Retirement community complex	6.80	9.47	13.18	18.34
Row/town houses	3.23	4.89	7.38	11.09
Senior citizen	3.94	5.48	7.63	10.61

HEATING, COOLING AND VENTILATION – Apply to total floor area. Add or deduct 3% for each foot of variation in average story height from 8' base. For high-vaulted ceilings, use wall height plus 1/2 the height from eaves to ridge to determine effective height.

Costs are given for gas fired heating systems. Add or deduct as follows for other fuels:

Oil fired +7% Coal, stoker +7% Coal, hand fired -2%

Heating Only	1	2	3	4
Electric, cable or baseboard	\$2.26	\$2.94	\$3.82	\$ 4.97
Radiant panels	2.14	2.67	3.33	4.15
Electric wall heaters	1.16	1.42	1.74	2.14
Forced air	2.47	3.28	4.35	5.77
Hot water, baseboard or convectors	4.34	5.69	7.45	9.76
Radiant floor	4.21	5.73	7.80	10.62
Radiant heat, gas, suspended	1.21	1.66	2.27	3.11
Space heaters, gas, with fan	.93	1.34	1.93	2.77
Steam radiator, with boiler	3.92	5.00	6.38	8.14
Without boiler	3.11	4.08	5.36	7.04
Wall or floor furnace	1.33	1.60	1.92	2.31
Add for wood-burning furnace (exterior, add 55%)	.98	1.23	1.55	1.95

Heating and Cooling	1	2	3	4
Zoned A.C., hot and chilled water warm and cooled air	\$10.00	\$12.33	\$15.21	\$18.76
Package heating and cooling, short ducts	4.07	5.52	7.48	10.14
Heat pump system	4.49	6.09	8.26	11.20
Add for ground loop heat source	1.35	1.77	2.33	3.06
Individual thru wall heat pumps	2.14	3.03	4.29	6.07

Cooling Only	1	2	3	4
Evaporative coolers	\$2.19	\$2.60	\$3.10	\$3.68
Refrigerated air conditioning only, zoned system	4.21	5.41	6.96	8.94
Package unit, short ducts	3.00	3.76	4.72	5.92
Ventilation only, with ducts & blowers	.78	.97	1.22	1.52
simple exhaust fan and air inlets only	.46	.58	.74	.93
Add for air to air heat exchange system utilizing heating ducts	.98	1.21	1.50	1.85

EXTERIOR WALL – Apply to total wall area.

Concrete or Masonry Walls

	1	2	3	4
Adobe or hollow clay block, 6"	\$21.50	\$23.75	\$26.30	\$29.05
8"	23.15	25.70	28.50	31.60
12"	26.30	29.15	32.30	35.80
14"	29.25	32.25	35.75	39.50
Adobe block, grouted or cavity,				
22"- 24"	33.50	37.25	41.25	45.75
30"- 32"	36.25	40.25	44.50	49.25

EXTERIOR WALL – Apply to total wall area.

Concrete or Masonry Walls

	1	2	3	4
Block, concrete, 6"	\$18.75	\$20.75	\$22.95	\$25.35
8"	20.15	22.30	24.65	27.25
12"	23.00	25.40	28.05	31.00
16"	25.80	28.50	31.45	34.75
For each additional 4" of block, add	2.89	3.15	3.44	3.75
Block, grouted or cavity, 10"-12"	21.80	24.05	26.50	29.20
*Add for ornamented face block	1.44	2.15	3.20	4.78
Brick, block back-up, 8"	24.35	26.90	29.70	32.80
12"	27.20	30.00	33.10	36.55
16"	30.00	33.00	36.50	40.25
Brick common, 8"	27.20	30.05	33.20	36.65
12"	32.75	36.25	40.00	44.00
16"	38.50	42.50	46.75	51.50
For each additional 4" of brick, add	5.53	6.10	6.74	7.44
Brick, grouted or cavity, reinforced,				
9"-10"	29.75	32.75	36.00	39.75
Block backup, 9"-10"	26.95	29.75	32.80	36.20
Block backup, 12"-14"	29.75	32.75	36.00	39.75
Brick, 6" SCR modular	20.65	23.00	25.55	28.45
8"	22.95	25.40	28.10	31.10
*Add for face brick	3.05	3.35	3.67	4.03
Concrete, reinforced, formed, 4"	21.10	23.35	25.85	28.65
6"	22.60	25.00	27.70	30.65
8"	24.40	26.95	29.75	32.85
12"	27.75	30.50	33.50	37.00
For each additional 4" of concrete, add	3.22	3.54	3.89	4.27
Precast panels, 2"	17.50	19.40	21.45	23.75
4"	18.55	20.55	22.70	25.15
6"	20.40	22.55	24.90	27.50
8"	22.60	24.90	27.40	30.15
12"	26.45	28.95	31.75	34.75
Tilt-up panels, 4"	17.55	19.55	21.75	24.20
6"	18.80	20.95	23.40	26.10
8"	20.20	22.55	25.20	28.15
10"	21.85	24.40	27.25	30.45
Add for insulated sandwich	1.61	1.99	2.46	3.05
Add for brick or tile inserts	5.99	7.39	9.11	11.24
Glass block, white or aqua	46.25	49.75	53.50	57.50
colors or reflective	62.00	66.00	70.00	75.00
Local stone, block backup, ashlar veneer,				
12"	43.00	48.50	54.50	61.25
Rubble or rustic, veneer, 12"	34.75	39.50	45.00	51.00
For each 4" variation in thickness	2.89	3.15	3.44	3.75
Local fieldstone, in mortar, 12"	28.50	33.00	38.00	43.75
For each 4" variation in thickness	2.59	3.00	3.48	4.03
Local stone, rough cut, solid, 12"	46.00	56.25	68.75	84.00
Granite	49.00	62.00	78.25	98.75
Limestone	52.50	63.75	77.25	93.50
For each 6" variation in thickness	21.35	25.20	29.80	35.20

***NOTE:** The additional cost for face block or brick is the difference between the cost of face block or brick and standard block or common brick in place as part of a wall. For the cost of ornamented, face or synthetic masonry veneer, see Wall Ornamentation on Page 6.

MULTIPLES AND MOTELS

SECTION SEG 2 (SEGREGATED COST METHOD)

EXTERIOR WALL (Continued) Concrete or Masonry Wall Extras

	1	2	3	4
Rammed earth, soil cement, 24"	\$23.05	\$26.70	\$30.90	\$35.75
Pneumatic build-up, formed				
one side	36.25	41.00	46.50	52.50
For each 6" variation in thickness	1.33	1.56	1.83	2.14
Tile, structural clay, 6"	20.10	22.35	24.90	27.70
10"	23.55	26.15	29.05	32.25
Add for stay in place forming	1.10	1.47	1.96	2.61
Add for glazed block or tile, each side	6.19	6.92	7.73	8.63
Add for pilasters	1.15	1.41	1.72	2.11
Add for bond beams	1.24	1.49	1.80	2.16
Add for seismic reinforcement	.52	.85	1.34	2.08
Add for synth. plaster on rigid insulation (EIFS)	5.01	6.12	7.46	9.11
Deluxe, textured or aggregate	8.18	9.74	11.61	13.83
Add for thin masonry, on rigid insulation	12.30	13.80	15.45	17.30
Add for clay tile backup in lieu of block	2.14	2.54	3.01	3.57
Add for earth-sheltered waterproofing	.93	1.50	2.35	3.63
Add for insulation	.76	1.10	1.59	2.30
Earth sheltered structures	1.38	2.03	3.00	4.42
Add for insulated glazing	.76	2.24	4.45	7.76
Add for impact resistant glazing	1.50	1.77	2.10	2.48

Curtain Walls

	1	2	3	4
Brick or tile panels	\$25.75	\$30.50	\$36.10	\$42.75
Concrete and glass panels, precast	31.00	35.50	41.00	47.00
Glass fiber reinforced, molded	26.60	32.50	39.70	48.50
Metal and glass panels (ordinary)	34.25	40.25	47.50	55.75
Stainless steel or bronze and glass	49.25	57.00	66.00	76.25
Stone panels, local stone	44.50	49.25	54.25	60.00
Granite	49.25	55.75	63.25	71.50
Limestone or slate	46.50	51.00	56.00	61.50
Marble	47.00	53.25	60.50	68.50
Composite or aggregate panels	32.25	39.50	48.50	59.50
Structural glazed atrium (including supports)	80.00	105.00	138.00	181.00
Steel studs and stucco	18.20	21.25	24.75	28.90
Synthetic plaster on rigid insulation (EIFS)	20.60	24.75	29.70	35.70
Deluxe, textured or aggregate	24.15	28.65	34.00	40.35
Wood or aggregate board siding	18.00	21.90	26.65	32.45
Add for insulation, insulated area only	1.00	1.47	2.16	3.18

Pre-engineered Walls

Sandwich panels, alum. or steel, both sides	\$19.80	\$22.80	\$26.20	\$30.15
Cement fiber or shotcrete, two sides	14.70	17.70	21.30	25.65
Fiberglass panels, two sides	19.40	22.95	27.10	32.05
Glass exterior, metal interior	22.30	25.65	29.45	33.85
Add for stainless steel or textured (Galbestos)	3.12	3.74	4.48	5.37
Add for poly laminated (FRP) interior	.75	0.96	1.24	1.59
Deduct for gypsum or hardboard interior	1.38	1.51	1.64	1.79
Prefabricated building panels, aluminum or steel and glass panels	27.75	30.50	33.50	36.75
Add for porcelain enamel finish	2.77	3.28	3.90	4.62
Add for block backup	5.60	6.33	7.16	8.09
Stucco on steel panel	33.50	36.75	40.25	44.25
Veneer, block or brick, on steel panel	36.25	40.25	44.50	49.25
stone, rubble or rustic	44.25	48.25	52.75	57.75

EXTERIOR WALL (Continued) Single-Wall Construction

	1	2	3	4
Aluminum or steel, on steel frame	\$ 7.74	\$ 9.35	\$11.30	\$13.66
On wood frame	6.76	8.23	10.01	12.18
Add for porcelain enamel finish	2.77	3.28	3.90	4.62
Add for stainless steel or textured (Galbestos)	3.12	3.74	4.48	5.37
Asphalt siding on wood frame	5.75	6.64	7.67	8.85
Cement fiber (Transite), on steel frame	8.05	9.57	11.37	13.52
Sheet siding, on wood frame	7.29	8.71	10.42	12.45
Siding or shingles, on wood frame	7.89	9.33	11.04	13.06
Fiberglass light panels, on steel frame	6.14	6.97	7.91	8.98
Sandwich panels	7.33	8.04	8.81	9.66
Heavy, (FRP), over 8 oz.	9.29	10.89	12.76	14.96
Light panels on wood frame	5.37	6.11	6.95	7.91
Sandwich panels	6.57	7.18	7.86	8.59
Heavy, (FRP), over 8 oz.	8.54	10.04	11.81	13.88
Glass panels	22.85	28.85	36.40	45.95
Projected greenhouse	47.50	53.25	59.50	66.50
Log, up to 10" diameter	18.80	24.40	31.70	41.15
Deluxe, hand-hewn or oversized	27.50	34.00	42.25	52.25
Plywood, boards or siding, on steel frame	7.83	9.33	11.12	13.25
On wood frame	6.83	8.19	9.82	11.77
Stucco, on baled straw	15.35	18.60	22.55	27.30
Stucco, on wood frame	7.89	9.15	10.60	12.29
Synthetic plaster on rigid insul. (EIFS), on steel frame	11.20	13.20	15.55	18.30
Wood shingles on wood frame	7.91	9.23	10.78	12.58
Add for exterior sheathing, per layer	1.16	1.33	1.52	1.74
Add for interior sheathing or liner, finished	2.03	2.39	2.81	3.30
Poly laminated panel (FRP)	2.77	3.27	3.87	4.57
Add for stud wall backing	.73	.88	1.07	1.30
Add for insulation	.72	.86	1.03	1.24
Vinyl faced, exposed	.92	1.03	1.16	1.30
Rigid board, faced	1.21	1.58	2.07	2.71
Add for air infiltration wrap	.17	.23	.32	.43
Add for insulated glazing	.76	2.24	4.46	7.77
Add for impact resistant glazing	1.50	1.78	2.10	2.49

Wood or Steel Stud Walls

	1	2	3	4
Aluminum or steel siding, horizontal	\$15.20	\$18.05	\$21.50	\$25.55
Sheet panels	13.70	16.45	19.75	23.75
Asphalt siding	13.35	15.75	18.55	21.90
Cement fiber siding or shingles,				
Horizontal	14.70	17.55	20.95	25.05
Sheet, embossed	14.00	16.45	19.35	22.75
Hardboard siding or shingles,				
Horizontal	14.50	17.05	20.05	23.60
Sheet, embossed	13.85	16.25	19.10	22.40
Plywood, textured	13.20	15.50	18.25	21.45
Deluxe, redwood, cedar, etc.	14.75	17.40	20.50	24.15
Shingles or shakes, wood	14.85	17.70	21.10	25.15
Stucco	15.05	17.95	21.35	25.45

MULTIPLES AND MOTELS

SECTION SEG 2 (SEGREGATED COST METHOD)

EXTERIOR WALL (Continued)

Wood or Steel Stud Walls	1	2	3	4
Synthetic plaster on rigid insulation (EIFS)	\$17.60	\$21.05	\$25.20	\$30.15
Deluxe, textured or aggregate	22.25	26.00	30.45	35.60
Vinyl siding	13.80	16.70	20.20	24.45
Wood siding	14.30	16.85	19.80	23.30
Deluxe, redwood, cedar, etc.	15.55	18.55	22.15	26.45
Log, veneer siding	16.55	20.90	26.40	33.30
Deluxe, half round, full corners ..	26.55	29.90	33.70	37.95
Veneer, face block or concrete brick	18.85	22.20	26.20	30.85
Common brick	19.20	22.70	26.80	31.65
Face brick	21.85	25.75	30.30	35.70
Mortarless brick	22.10	25.70	29.90	34.80
Stone, ashlar veneer	33.75	40.00	47.25	55.75
Rubble or rustic	26.75	31.90	38.05	45.35
Synthetic veneer or panel	19.15	23.80	29.55	36.75
Thin veneer on rigid insulation ..	23.15	27.20	31.90	37.45
Add for sheathing .....	.96	1.17	1.42	1.72
Add for seismic/wind bracing ...	.55	.66	.78	.93
Add for insulation .....	.70	.84	1.01	1.21
Add for air infiltration wrap .....	.23	.29	.37	.46
Add for air space wrap .....	.70	.79	.89	1.00
Add for double stud walls	1.48	1.78	2.14	2.57
Add for wood stressskin sandwich panels	4.30	5.10	6.04	7.16
Add for insulated glazing .....	.76	2.24	4.46	7.77
Add for impact resistant glazing ..	1.50	1.78	2.10	2.49
Deduct for garage single wall ...	7.86	9.21	10.80	12.66

BASEMENT WALLS – Apply to basement wall area.

Concrete block, reinforced, 6" ..	\$9.78	\$11.14	\$12.70	\$14.47
8"	10.87	12.43	14.22	16.26
12"	13.80	15.65	17.75	20.10
for each additional 4" of block, add	2.89	3.17	3.48	3.82
Concrete, reinforced, 6"	11.45	13.15	15.10	17.35
8"	13.05	14.90	17.05	19.50
12"	16.15	18.35	20.80	23.60
16"	19.50	21.95	24.75	27.85
For each additional 4" of concrete, add	3.30	3.60	3.92	4.28
Masonry, brick, 8"	16.50	18.75	21.35	24.30
Stone, 12"	22.80	26.70	31.30	36.70
For each 4" variation in thickness	5.61	6.23	6.93	7.70
Wood, treated	8.50	10.84	13.83	17.64
Add for stay in place forming ...	.58	0.87	1.30	1.94
Add for waterproofing .....	.93	1.18	1.50	1.90
Earth sheltered structures	1.47	2.15	3.14	4.60
Add for insulation .....	.72	1.05	1.54	2.25
Earth sheltered structures	1.40	2.03	2.94	4.26
For specific earth sheltered waterproofing, see Section UIP 1.				

STAINED GLASS – Apply to art glass for window, dome or skylight area. These costs vary greatly, and the following typical cost ranges should be used with caution. See Section UIP 6 for complete description and detailed costs. For residential straight seams or simple bevel, deduct 50% from Low Cost. For ceiling domes, use low cost range for plastic, average for stock glass and high cost for custom stained glass.

Low cost, plain, min. work or detailed bevel etched	\$ 70	\$ 95	\$130	\$ 177
Average, simple figures and scenes	220	295	395	530
High cost, highly detailed work ..	470	655	920	1,285

WALL ORNAMENTATION – Apply to ornamented area.

	1	2	3	4
Brick, split face, Rom./ Norman face, standard size	\$10.57	\$12.21	\$14.11	\$16.30
Mortarless brick	12.20	14.00	16.00	18.35
Select common	10.35	11.97	13.84	16.00
Used	11.20	12.90	14.90	17.20
Sim. ven. or panel, 1/4"- 3/8"	9.07	11.03	13.41	16.30
Thin veneer on rigid insulation	12.30	13.80	15.45	17.35
Add for pictorial carved artwork	145.00	165.00	190.00	220.00
Cement fiber siding	2.89	3.50	4.25	5.15
Concrete, ornamental cast stone	23.10	27.70	33.25	39.85
Concrete block, imitation flagstone	9.24	10.82	12.68	14.85
Solar screen	9.94	11.68	13.72	16.12
Ornamented face, slump, fluted, split or ground	9.88	11.45	13.26	15.37
Glazed one side, add	6.18	6.90	7.71	8.61
Cut stone, carved	98.00	142.00	206.00	299.00
Glass block, white or aqua ...	38.25	42.25	46.75	51.75
Colors or solar reflective	53.25	58.00	63.25	69.00
Granite, ashlar or panel	48.25	56.00	64.75	75.00
Limestone, ashlar or panel ...	35.00	41.25	48.75	57.50
Local stone, ashlar veneer or panel	30.25	35.75	42.00	49.50
Rubble or rustic	22.50	26.90	32.15	38.45
Imitation precast stone	10.12	13.15	17.08	22.18
Marble, panels	39.75	46.50	54.25	63.25
Metal panels, screens, louvers	17.60	22.55	28.85	36.95
Preformed wall panels	2.94	5.24	8.68	13.81
Add for curved panels .....	.87	1.25	1.81	2.61
Ornamental doorways	56.00	121.00	219.00	364.00
Slate, panels	33.75	39.00	45.25	52.50
Stucco	3.70	4.14	4.64	5.20
On masonry	2.89	3.31	3.79	4.34
Add for synthetic on rigid insulation (EIFS)	2.31	2.96	3.79	4.85
*built-up (EIFS) panel relief	4.97	6.42	8.28	10.69
Terra cotta	26.60	31.50	37.30	44.20
Tile, ceramic	13.25	15.25	17.55	20.20
*Mosaics	19.60	23.85	29.00	35.25
Hand painted tiles	99.00	138.00	194.00	271.00
Vinyl siding	3.06	3.68	4.42	5.32
Vitrolite (structural glass)	21.95	25.65	29.95	34.95
Wood, plywood	2.33	2.98	3.82	4.89
Shingles	3.37	4.03	4.82	5.76
Siding	3.02	3.77	4.71	5.88
Ornamented molding or trim ..	8.97	12.67	17.89	25.26
Add for treated wood .....	.49	.59	.72	.87
*Note - For pictorial artwork, add	10.57	14.78	20.66	28.89
For security shutters, bars or liquid crystal glazing, see Section UIP 5.				

EXTERIOR AND BASEMENT STAIRS – Per riser. Fire escapes, see Section UIP 5.

Concrete	\$170	\$235	\$325	\$445
Steel pans or prefab. concrete				
On steel	190	255	350	470
Steel or aluminum grating	225	295	385	505
Wood	62	97	149	227

MULTIPLES AND MOTELS

SECTION SEG 2 (SEGREGATED COST METHOD)

ROOF STRUCTURE – Apply to roof area.

	1	2	3	4
Concrete joists, slab	\$10.61	\$11.87	\$13.28	\$ 14.85
Lift slab	9.71	10.75	11.91	13.19
Pan or waffle slab and joists	9.86	10.95	12.15	13.49
Precast joists and deck	9.30	10.36	11.53	12.84
Precast joists, wood deck	7.28	8.10	9.00	10.01
Cored plank on bearing walls	8.23	9.15	10.17	11.31
Thin shell	15.45	18.40	21.95	26.20
Concrete dome, cast in place	34.75	38.75	43.25	48.25
Thin shell	22.65	26.00	29.80	34.20
Steel joists, concrete slab	12.30	13.90	15.70	17.70
Gypsum on formboard	6.12	7.65	9.56	11.94
Precast deck	11.05	12.30	13.75	15.30
Steel deck	6.60	8.32	10.48	13.20
Light-gauge truss joists	5.43	6.96	8.93	11.45
Steel deck, gypsum or concrete	8.48	10.47	12.92	15.94
Wood or composition deck	5.14	6.58	8.42	10.77
Light gauge truss joists	4.54	5.85	7.54	9.72
Open steel system for corrugated metal	2.68	3.81	5.42	7.71
Light purlin supports only	1.23	1.61	2.10	2.74
Steel space frame/sheathing, (three dimen.)	19.60	25.40	32.95	42.75
Architectural (exclusive of glazing)	31.00	46.75	70.50	105.75
Metal dome and cover	27.25	31.00	35.50	40.50
Glazed or translucent panels	61.00	72.00	86.00	102.00
Wood joists, wood or composition deck	4.32	5.64	7.36	9.61
Exposed rafters, 2" T&G sheathing	6.53	8.21	10.32	12.98
Prefab. panels (exclusive of girders)	1.78	2.21	2.75	3.41
Stresskin sandwich panels (exclusive of purlins)	6.43	8.28	10.66	13.73
Add for snow roof, furred sheathing layer	1.90	2.08	2.28	2.50
Open wood system for corrugated metal	1.60	2.71	4.38	6.86
Light purlin supports only for metal, wood or fiberglass	.74	.97	1.27	1.67
Wood dome and deck	19.80	23.65	28.30	33.80
Add for seismic/hurricane truss ties	.35	.42	.51	.61
Add for complex roof, turrets, ornate trim	70%	55%	45%	35%
For treated wood, increase costs by 10% to 20%.				

ROOF COVER – Apply to roof area.

Aluminum or steel, corr., crimped or tile panels,				
Preformed, light to 26 gauge	\$ 1.88	\$ 2.46	\$ 3.22	\$ 4.22
Heavy, under 26 gauge	3.90	4.54	5.28	6.14
Formed seam, flat or standing batten seam	5.05	6.33	7.93	9.93
Sandwich panels, pre-engineered	8.04	10.27	13.13	16.77
Shingles	3.85	4.73	5.80	7.12
Aggregate finish	5.00	6.11	7.47	9.13
Thatch	16.50	18.30	20.30	22.50
Add for interior metal liner	1.73	2.05	2.42	2.87
Plastic	1.68	1.97	2.31	2.71
Add for porcelain enamel finish	2.77	3.28	3.90	4.62
Add for stainless steel or textured (Galbestos)	3.12	3.74	4.48	5.37
Asphalt, corrugated	1.53	1.81	2.14	2.53
Atrium skylight, frame and glazing	31.50	43.00	58.50	79.50
Built-up composition	1.82	2.33	2.97	3.80
Cement fiber shingles	3.92	4.97	6.29	7.97
Corrugated or sheet (Transite)	3.70	5.26	7.48	10.63
Composition, roll, mineral surface	1.00	1.20	1.45	1.74

ROOF COVER (Continued)

	1	2	3	4
Composition shingles, light, to 235#	\$ 1.62	\$ 1.87	\$ 2.16	\$ 2.50
Heavy, over 235# or laminated	2.08	2.70	3.52	4.57
Copper, flat or standing seam	10.75	12.76	15.14	17.97
Batten seam	11.60	13.75	16.30	19.35
Shingles	10.69	11.78	12.99	14.32
Elastomeric or modified bitumen,				
Single ply	3.01	4.06	5.48	7.39
Reinforced sheet or spray-fluid coat	5.43	6.42	7.58	8.96
Fiberglass, corrugated or sheet, light	1.91	2.27	2.71	3.22
Sandwich panels	3.12	3.67	4.32	5.08
Heavy, FRP, over 8 oz.	3.64	4.70	6.08	7.86
Slate	7.51	9.07	10.95	13.23
Red	14.10	17.20	21.00	25.60
Composite, reinforced fiber	4.97	6.18	7.68	9.54
Terne, flat or standing seam	10.52	12.40	14.61	17.21
Batten seam	11.35	13.40	15.80	18.60
Tile, clay	6.70	8.67	11.21	14.50
Concrete	5.03	5.92	6.98	8.22
Plastic or rubber	4.34	5.07	5.93	6.93
Add for custom coloring or glazing	1.21	1.55	1.98	2.54
Wood shakes	3.49	4.07	4.74	5.53
Shingles	3.24	3.83	4.54	5.37
Fiber shingles	2.14	2.58	3.12	3.76
Add for fire-resistant finish	.51	.61	.74	.89
Add for roof insulation	.89	1.40	2.17	3.31
Earth sheltered structures	1.67	2.54	3.84	5.78
Add for earth sheltered waterproofing	1.46	2.12	3.06	4.44

NOTE: For underroof insulation supporting structures, see Ceiling Extras on Page 3. For earthen roof cover, see Fill costs on Page 1. See Section UIP 13 for top dressing, sod and/or sprinklers. For specific earth-sheltered waterproofing, see Section UIP 1.

ROOF MODIFIERS – Use the following multipliers for sloping roofs to convert the unit costs to cost per square foot of horizontal roofed area.

	Rise	:	Run	Multiplier
Less than	3'	:	12'	1.00
	3'	:	12'	1.03
	4'	:	12'	1.06
	5'	:	12'	1.08
	6'	:	12'	1.12
	8'	:	12'	1.20
	12'	:	12'	1.42
	15'	:	12'	1.60
	18'	:	12'	1.80

TRUSSES AND GIRDERS – Apply to area supported.

Steel trusses or longspan girders	\$2.28	\$2.93	\$3.77	\$4.84
Timber trusses	2.50	3.20	4.09	5.24
Glued, laminated trusses or girders	2.43	3.04	3.80	4.75

EXTERIOR BALCONIES - Apply to balcony area.

Concrete	\$21.85	\$27.80	\$35.40	\$45.05
Steel	21.40	28.50	38.00	50.65
Wood	17.75	23.45	31.05	41.05
Add for ornate finishes, balustrades	18.50	22.80	28.10	34.65

MULTIPLES AND MOTELS

SECTION SEG 2 (SEGREGATED COST METHOD)

CANOPIES OR MARQUEES – Apply to horizontal area. For light false-mansard structures, deduct 50%. For greater detail, see Section UIP 4 or 6. Patio covers, see Section UIP 13.

Wood frame	\$22.70	\$28.10	\$34.80	\$43.10
Steel frame	29.00	36.75	46.50	58.75

DORMERS – See Section UIP 4, Roofs; for solar rooms, see Section UIP 11.

ARCHITECTURAL COLUMNS – See Section UIP 6.

For small apartment or residential type elevators, dumbwaiters and inclined railways, see Section UIP 7.

For lobby equipment, telephone systems, exercise equipment, see Section UIP 12.

For complete kitchen units, see Section UIP 2. Commercial washer dryers, see Section UIP 12.

BUILT-IN CONSTRUCTION – Apply to each item.

	1	2	3	4
Appliance allowance (if not itemized),				
Single family	\$1,510	\$3,410	\$6,260	\$10,510
High value residence				
(excl. automation, security) ...	16,500	22,400	30,500	41,500
Row/town houses	1,510	2,770	4,640	7,450
Multiple residences, per unit ...	1,070	1,810	2,920	4,580
Senior citizen, multiple and town house,				
per unit	1,070	1,360	1,740	2,220
Single unit (self-contained) kitchen	3,250	4,100	5,200	6,575
Garbage disposer	135	190	265	370
Deluxe, heavy duty	400	500	620	775
Range and oven combination ...	680	915	1,230	1,655
Residential, commercial quality	3,725	4,700	5,900	7,425
Custom, double wide	8,500	11,150	14,600	19,100
Microwave or refrigerated				
Combination	1,780	2,110	2,490	2,950
Range top	360	575	895	1,375
Component top, per component	480	680	960	1,355
Steamer	635	995	1,530	2,335
Induction top	955	1,315	1,815	2,505
Custom tops	2,510	3,590	5,150	7,370
Ovens	640	975	1,475	2,225
Custom double wall ovens ...	2,120	3,920	6,610	10,620
Microwave combination	1,700	2,130	2,660	3,330
Warming ovens	700	825	975	1,155
Oven, microwave	160	365	670	1,130
Exhaust fan and hood	165	300	500	800
Countertop down draft	850	1,045	1,290	1,585
Custom, stainless steel or copper	2,120	3,580	5,770	9,030
Cookware racks	210	465	840	1,405
Dishwasher	370	565	850	1,280
Deluxe, built-in	1,340	1,680	2,110	2,650
Individual drawers, built-in, each	1,060	1,340	1,680	2,120
Trash compactor	530	640	775	940
Radio intercom, base system ...	435	565	730	950
Add per satellite	95	115	138	167
Audio/video entry system	2,875	3,975	5,525	7,650
Each extra monitor station ...	810	965	1,155	1,380
Refrigerator or freezer	555	1,070	1,845	2,995
Deluxe, built-in, each	2,950	4,200	5,950	8,450
Individual drawers, built-in, each	3,250	4,125	5,225	6,625

MISCELLANEOUS BUILT-IN CONSTRUCTION (Continued)

	1	2	3	4
Mixer/blender (food center,				
processor)	\$ 265	\$ 450	\$ 725	\$ 1,135
Deluxe, built-in	1,170	1,630	2,280	3,190
Can opener, built-in	64	87	117	159
Coffee maker, built-in	210	320	485	735
Toaster, built-in	135	170	220	280
Towel/food wrap dispenser, built-in	200	235	270	315
Wok or deep fryer, built-in	635	775	940	1,145
Deluxe	1,380	1,850	2,480	3,330
Kitchen hot-food heat lamps, each	375	430	495	565
Motorized pantries, 1' to 3'	4,675	5,600	6,700	8,000
Wine captains, undercounter ...	1,005	1,160	1,340	1,550
Standing units	2,450	2,860	3,340	3,900
Ice machines, residential	605	730	880	1,065
Deluxe, to 50# per day	1,060	1,360	1,740	2,230
Bathroom heater, electric	120	175	255	375
Mirror defog heaters	64	91	130	186
Hair dryer	80	119	178	265
Heated towel rack	425	965	1,775	2,980
Exhaust fan	120	165	225	310
Bathroom scale, built-in	205	230	260	295
Vacuum cleaner system, three inlets	1,700	1,890	2,100	2,340
Add for extra inlets	190	225	270	320
Ironing center	615	740	885	1,065
Clothes washer, single-family ...	595	755	950	1,205
Deluxe	1,340	1,500	1,670	1,870
Add for pedestals	180	210	240	280
Dryer	525	645	795	980
Deluxe	890	1,055	1,250	1,485
Drying center	1,340	1,450	1,570	1,700
Combination unit	1,150	1,500	1,950	2,530
Water softener	1,390	1,830	2,410	3,170
Complete filtration system ...	3,500	4,650	6,200	8,250
Closet carousels	3,475	4,175	5,025	6,050
Safe, built-in, small wall or floor ..	445	680	1,035	1,560
Deluxe	1,580	2,710	4,390	6,900
Residential security systems				
Wireless	880	1,615	2,715	4,355
Hard wired	2,450	3,440	4,820	6,760
Home automation systems	2,775	3,525	4,475	5,675
custom including security				
system	10,550	14,650	20,300	28,150
Trash compactor, apartment or motel	5,175	12,500	23,450	39,800
Gas incinerator	980	1,125	1,290	1,480
House phone, located at entrance	555	650	765	895
Add per door release	170	190	210	230
Intercom, master station,				
20-30 station	1,090	1,420	1,850	2,410
Add per intercom outlet or remote				
Station	125	145	170	195
Add per door release	180	195	210	230
Television security, closed circuit:				
One camera and one monitor,				
Base system	1,650	3,600	6,520	10,870
Each extra camera	635	1,620	3,090	5,290
Each extra monitor	265	415	635	970
Video tape recorder	2,530	3,750	5,570	8,260

MULTIPLES AND MOTELS

SECTION SEG 2 (SEGREGATED COST METHOD)

MISCELLANEOUS BUILT-IN CONSTRUCTION (Continued)

	1	2	3	4
Home entertainment, audio-video systems:				
Built-in and/or including cabinets	12,400	26,100	46,700	77,300
Complete home including security and automation system	30,200	52,400	85,500	135,000
Home theater, (screening room) wall and sound treatments, stage, screen, seating, audio and projection equipment:				
Prefab. package units, complete	34,000	47,000	64,900	89,700
Custom built theater and decor	226,000	271,000	324,000	388,000
Built-in aquarium (excl. fish and plants, etc.)	4,900	9,000	15,150	24,300
Bowling alley, reconditioned, with automatic pinsetter, (new, add 30%)	23,800	29,600	36,900	46,000
Golf course simulator, complete station, including projection equipment	5,300	15,400	30,550	53,100
Racquetball court, prefab., complete	39,500	45,100	51,400	58,700
Add for spectator viewing, window/wall	11,400	22,100	38,100	61,900
Shooting range, indoor, per station, complete	12,700	14,500	16,600	18,900
Soda fountain, complete unit, per linear foot	1,440	1,640	1,860	2,110
Wine vaults, modular room, 15 to 75 sq. ft.	2,775	4,525	7,125	11,000
Sauna rooms, 15 to 100 sq. ft.	3,075	4,900	7,600	11,650
*Chandeliers, high-value	8,550	13,700	21,400	32,900
Add for winch, 200- to 300-lb. capacity	1,500	1,700	1,920	2,170

***NOTE:** Fixtures classified by age or beauty as having antique or historical value, or designed by name artists, must be valued as art objects by fine arts specialists; costs can easily run seven to ten times the listed costs for chandeliers and two to four times mantel costs.

FIREPLACES – Cost per fireplace. For each additional opening using the same chimney, add 30% to 50% (custom, 20% to 40%). Buildings with basements, add 40% (custom, 25%) to extend the foundation to the basement level. "Steel, with flue" is the prefabricated hanging or free-standing-type fireplace or stove.

	1	2	3	4
One story	\$2,490	3,670	5,420	\$8,000
Add per additional story of chimney flue	665	890	1,190	1,595
Steel, with flue	1,320	1,870	2,640	3,740
Pellet stoves	2,610	3,240	4,010	4,970
Add per additional story of chimney stack	295	440	660	990
Direct vent	1,530	2,150	3,025	4,250
Custom or oversized, one story	9,250	12,100	15,750	20,600
Masonry heaters, soapstone, etc.	8,550	14,000	22,100	34,250
Add per additional story of chimney flue	1,730	1,980	2,280	2,610
Steel, direct vent	3,825	4,900	6,275	8,025
Add for Heatilator type	370	495	660	885
Add for raised hearth	225	350	535	810
Add for log lighter	255	290	335	380

FIREPLACES (Continued)

	1	2	3	4
*Mantels, special designs or antique reproductions, add:				
Cast stone (bonded limestone)	\$4,300	6,200	8,900	\$12,825
Custom marble, granite or onyx	7,900	12,450	19,250	29,450
Ornate wood, carved	4,300	4,850	5,450	6,150
Precast plaster	2,220	2,990	4,020	5,410

***NOTE:** Fixtures classified by age or beauty as having antique or historical value, or designed by name artists, must be valued as art objects by fine arts specialists; costs can easily run seven to ten times the listed costs for chandeliers and two to four times mantel costs.

COMPLETION OF BUILDING VALUATION

Contractors' overhead and profit, sales taxes, permit, fees and insurance during construction are included in the costs above. Interest on interim construction financing is also included, but not financing costs, real estate taxes or brokers' commissions.

Architects' fees are not included and should be added from Appendix C.

Depreciation suggestions are given in Appendix A.

County Multipliers which bring the basic costs up to date for each locality are found in the Appendix D.

Tract developments, where a large number of identical or similar row houses are built at one time, may effect savings in construction costs. However, in evaluating a single row house in a tract, the assessor must use his own judgment as to whether there was a saving which is pertinent to his specific appraisal.

Garages for single-family row houses and multiple dwellings have a relatively low cost in relation to the living units, and their construction is not usually complicated by plumbing, heating, etc. For this reason, they can easily be priced from the Calculator section. If a garage is of extraordinary construction, has interior finish, plumbing, or built-in features, it may be priced from the Segregated costs in this section or the Unit-in-Place costs.

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STORES AND COMMERCIAL BUILDINGS

SECTION SEG 3

(SEGREGATED COST METHOD)

Stores, restaurants and other commercial buildings usually have fairly large open spaces designed to accommodate large numbers of people. The costs given are average costs of various components including the contractors' profit and overhead but not the architects' fees. They cover the basic construction of the building, including most items usually found in the general contract, but do not include furnishing and fixtures specific to a tenant, for example bars, kitchen equipment, counters or seating. Prices of these items may be found in Section UIP 12. They do include all fixed partitioning, ceilings, air conditioning ducts, flooring, etc.

Where several occupancies are found in one building, for example, apartments over a store building, the two portions should be priced separately from the appropriate sections, i.e., Section SEG 1 for the apartments and Section SEG 3 for the stores.

Foundations in Class A and B commercial structures can be priced accurately on a square foot of floor area basis. However, in light Class C, D and S buildings, the perimeter foundation may carry most or all of the load and the cost is generally proportional to the perimeter. These foundations may be better priced on the basis of a linear foot of bearing wall, with costs of column footings added if there are interior columns supporting a roof or floor load above.

Frame costs should be adjusted for partial bearing walls, as described in Section UIP 1, using a cost proportional to the load

which is carried by the frame. If the frame members are visible and uniform enough to be easily measured and counted, they may be priced from Section UIP 1. When a complete frame cost is used, generally the trusses or girders would be included as the horizontal members of the frame. See explanations in Section UIP 1 or SEG INTRO. In single-story buildings where the frame supports only a light roof, Rating 1 might often be chosen, even in average buildings.

Interior construction varies widely in commercial structures. The costs given in Table I are only typical ranges and should be used with caution. Partitions may be measured and priced from Table II which includes a typical number of openings and covers only common types of partitions. If desirable, partition costs may also be built-up from Section UIP 2. However, the interior construction costs (Table I) also include miscellaneous cabinets, shelves, stairs and other items.

Plumbing in commercial buildings, such as stores, where costs can vary widely, are often best priced on a per fixture basis. Square foot costs given are typical ranges for complete plumbing costs.

Exterior wall costs and interior construction costs, with regard to shopping centers, do not include storefronts, signs or marquees which can be priced in detail from Section UIP 6.

SEGREGATED COSTS

(For explanation of the rating numbers, see Introduction to SEG Method.)

EXCAVATION AND SITE PREPARATION

	1	2	3	4
Excavation (per cu. ft.)	\$.32	\$.43	\$.57	\$.76
Fill (per cu. ft. of compacted earth)	.32	.41	.52	.67
Site preparation (per sq. ft. of site)	.25	.33	.43	.57

FOUNDATION – Table I gives complete average costs per square foot of floor area. If a more detailed estimate is desired for Class C, D or S buildings with bearing walls, use Tables II and III as appropriate.

TABLE I. CONCRETE FOUNDATIONS – Apply to total floor area including basements, but excluding mezzanines or balconies.

Concrete foundations for:

Class A	\$2.42	\$3.15	\$4.11	\$ 5.36
Class B	2.62	3.38	4.35	5.61
Class C, bearing wall	2.28	2.99	3.92	5.14
Nonbearing wall	2.19	2.87	3.76	4.93
Class D, masonry veneer	2.02	2.66	3.51	4.63
Siding or stucco	1.77	2.34	3.09	4.09
Pole-frame construction	1.67	2.19	2.87	3.77
Class S	1.73	2.29	3.04	4.03
Classes C, D and S light perimeter foundation for large open shell type structures . . . . .	.72	.93	1.21	1.56
Add for perimeter insulation,				
Ground floor area only . . . . .	.10	.16	.25	.39
earth sheltered structures . . . . .	.13	.22	.36	.57
Add for seismic base isolators	4.30	6.23	9.04	13.10
damping devices	1.75	2.38	3.25	4.42

CONCRETE FOUNDATIONS (Continued)

TABLE II. ALTERNATE METHOD – Apply to linear feet of continuous footings or foundation walls if Table I is not used. See discussion above.

	1	2	3	4
Heavy grade beam/stem foot.				
Class C	\$30.00	\$40.25	\$54.25	\$72.75
Class D, masonry veneer	26.75	36.15	48.85	66.00
siding or stucco	23.60	31.85	43.05	58.10
Class S	23.10	31.30	42.45	57.50
Light reinforced-grade beam,				
Classes C, D and S	18.10	24.80	33.95	46.45
Add for perimeter insulation . . . . .	.97	2.12	3.85	6.42
Earth sheltered structures	1.45	3.14	5.66	9.43
Add for perimeter radon control matting	2.91	3.46	4.11	4.88
Add for perimeter raised floor skirting	8.61	10.02	11.65	13.56

TABLE III. CONCRETE COLUMN FOOTINGS – Apply to total number of columns if Table I is not used. Costs apply to one-story buildings. For others, add 20% for each story over one.

Concrete columns	\$57.00	\$95.00	\$153.00	\$238.00
Steel columns	51.25	87.00	140.25	220.00
Light pre-engineered frame	41.00	53.25	69.50	90.25
Light tubular/pipe frame	30.50	42.00	57.75	79.50
Wood columns	46.75	72.50	110.75	168.25
Light pole frame	32.00	44.00	60.50	83.25

FOUNDATION ADJUSTMENTS – Apply to base cost used.

Add 2% for each foot over 12' average story height.
 Deduct 2% for each foot under 12' average story height.
 Deduct .8% for each story over one, above ground, for multistory buildings.
 For one story buildings with foundations and footings formed and poured monolithically with floor slabs, use 70% of the above costs, for that floor only.
 Add for pilings from Section UIP 1. If foundations are brick or stone instead of concrete, increase costs by 20%. For concrete block, reduce costs by 8%.

STORES AND COMMERCIAL BUILDINGS

SECTION SEG 3

(SEGREGATED COST METHOD)

FRAME – Apply to total floor area including basements, but excluding mezzanines.

	1	2	3	4
Bearing walls, wood or steel floor supports only	\$ 1.46	\$ 1.67	\$ 1.91	\$ 2.19
Masonry supports only	2.13	2.43	2.78	3.18
Steel, fireproofed, Class A	14.40	16.50	18.95	21.75
Composite concrete steel, Class B	13.45	15.15	17.05	19.20
Concrete, reinforced, Class B	13.10	14.95	17.00	19.40
Precast, post tension	12.55	14.15	15.95	18.00
Steel, Classes C and D	5.47	6.66	8.12	9.89
Class S	4.97	6.07	7.41	9.04
Light pre-engineered frame	3.15	3.84	4.68	5.71
Light tubular/pipe frame	1.88	2.41	3.10	3.98
Add for fireproofing	.83	1.35	2.12	3.28
Steel columns, wood beams	3.48	4.48	5.75	7.40
Wood, A-frame construction	4.27	5.11	6.12	7.32
Laminated bents and arches	4.84	5.76	6.86	8.16
Light arch-rib construction	3.11	3.73	4.48	5.38
Mill-type (heavy timber) construction	5.02	6.00	7.18	8.59
Heavy timber/log construction, architectural	10.14	12.56	15.56	19.28
Post and beam construction	3.57	4.24	5.04	5.99
Light pole-type construction	2.04	2.54	3.15	3.92
Add for seismic/wind bracing, Class A and B	2.45	3.55	5.16	7.48
Open Class C, D and S frames	.82	1.03	1.29	1.62
damping devices	1.10	1.45	1.90	2.50

FRAME ADJUSTMENTS – Apply to base cost used.

Add 3% for each foot of average story height over 12' base height. Deduct 3% for each foot of average story height under 12' base. For multi-story buildings, add 2% for each story over two, to apply against the total floor area up to 30 stories; over 30, add 1% for each additional story.

For partially framed structures, see Section UIP 1.

FLOOR STRUCTURE – Apply to area of described floor or mezzanine.

Asphalt, on ground, including base	\$ 2.34	\$ 3.05	\$ 3.98	\$ 5.20
Concrete: on ground exclusive of vapor barrier	3.72	4.46	5.34	6.39
Lift slab	11.10	12.30	13.65	15.10
Elevated flat slab and joists	12.55	13.95	15.50	17.25
Pan or waffle slab and joists	11.45	12.70	14.05	15.60
Precast joists and deck	10.92	12.10	13.41	14.86
Precast joists, wood sheathing	8.48	9.39	10.39	11.50
Cored plank on bearing walls	9.48	10.54	11.71	13.02
Steel joists: flat slab	13.55	15.40	17.45	19.80
Corrugated deck and concrete	10.92	12.89	15.23	17.98
Cellular deck and concrete	-----	15.05	17.95	21.35
Open metal grating	18.55	25.15	34.05	46.10
Precast deck	11.80	13.20	14.80	16.60
Wood sheathing	6.52	8.17	10.25	12.85
Light gauge truss joists	5.72	7.23	9.14	11.56
Wood joists and sheathing	5.54	6.99	8.83	11.15
Wood joists and bridging only	4.17	5.44	7.10	9.27

For treated wood, increase costs by 10% to 20%.

FLOOR EXTRAS – Add to floor structure costs.

Vapor barrier	\$.68	\$.96	\$1.35	\$1.90
Super flat (level) slab on grade, add	.61	1.01	1.60	2.49
Each inch of sheathing over 1", (mill type) add	1.25	1.40	1.56	1.74
Foamed concrete surfacing, 1 1/2" - 2"	.97	1.20	1.49	1.84
Floor insulation, add	.73	.88	1.07	1.29
Cold storage	1.50	1.86	2.30	2.85
For each inch over 2", add	.31	.44	.63	.90

FLOOR COVER – Apply to area of described floor.

	1	2	3	4
Access (computer) floor, on stanchions	\$18.35	\$21.80	\$25.95	\$30.85
Full retail floors	12.25	14.30	16.70	19.50
Asphalt tile	2.10	2.46	2.88	3.38
Bamboo, laminated plank	10.13	12.20	14.68	17.68
Block, wood, treated	6.42	7.71	9.27	11.14
Brick, common, in mortar	8.32	9.95	11.91	14.25
Brick pavers, in concrete	9.83	11.79	14.15	16.98
Carpet and pad	2.38	3.86	6.07	9.37
Custom carpet and pad	8.50	14.29	22.93	35.84
Indoor/outdoor	2.03	2.67	3.50	4.60
Color, concrete	.99	1.25	1.57	1.98
Cork	5.53	6.44	7.50	8.73
Diat, magnesite, etc.	7.22	8.41	9.79	11.40
Flagstone, random local stone, in concrete	13.10	15.65	18.75	22.40
Hardener and sealer, concrete	.75	1.04	1.43	1.98
Heavy duty	1.80	2.17	2.61	3.15
Aggregate topping, 1/2" - 1"	4.88	6.40	8.39	11.00
*Hardwood	8.14	10.69	14.05	18.45
Sports gym floors on resilient sleepers	9.37	11.46	14.03	17.16
Leather	36.00	42.25	49.75	58.50
Linoleum	3.43	4.17	5.07	6.17
Marble or granite	24.15	33.75	47.25	66.05
Cast tile	15.15	17.70	20.65	24.15
Melamine/laminated tile	2.91	4.04	5.62	7.80
deluxe	7.27	8.53	10.01	11.75
Plastic tile, interlocking	7.05	7.81	8.66	9.60
Rubber fabric tile	9.37	10.99	12.90	15.13
Rubber tile or sheet	3.84	5.37	7.52	10.53
Seamless plastic, epoxy, urethane, neoprene, 1/32" - 1/16" thincoat	3.78	4.71	5.88	7.33
1/8" - 3/8"	6.00	7.54	9.49	11.93
Add for colored chips or glitter	1.51	1.91	2.43	3.08
Slate, grouted	15.15	17.85	21.00	24.75
Softwood	6.31	7.60	9.15	11.02
Stone plank	13.95	17.15	21.15	26.00
Synthetic sports surfacing	7.33	9.15	11.42	14.25
Terrazzo (exclusive of base slab) tile	10.58	13.17	16.41	20.43
19.50	22.35	25.65	29.40	
Tile, ceramic or quarry	10.23	13.11	16.80	21.53
Custom tile	24.15	29.15	35.20	42.50
*Wood over concrete, hardwood	9.32	12.09	15.68	20.34
Parquet block, prefinished	8.96	12.54	17.54	24.55
Softwood	7.31	8.70	10.35	12.32
Vinyl composition tile or sheet	1.92	2.50	3.26	4.25
Vinyl sheet	3.08	4.36	6.17	8.73
Vinyl tile	3.25	4.89	7.34	11.00
*Add for custom wood floors	6.19	12.78	22.62	37.32
For pictorial artwork, add	9.60	13.61	19.29	27.35

Add 15% for conductive floor coverings.

RETAIL MALLS – For pedestrian concourse, see Calculator section.

STORES AND COMMERCIAL BUILDINGS

SECTION SEG 3 (SEGREGATED COST METHOD)

CEILING – Apply to area of described ceiling.

	1	2	3	4
Acoustical ceilings, tile or panels:				
metal panels, including pads and suspension system	\$6.96	\$8.70	\$10.88	\$13.61
Mineral fiber, fiberglass, panels only	1.54	2.20	3.14	4.49
Organic fiber, wood or cane, panels only	1.92	2.26	2.67	3.15
Embossed metal	5.47	7.53	10.36	14.25
Fiber sports court panel with suspension system	5.41	6.69	8.27	10.23
Gypsum board, taped and painted	2.03	2.27	2.55	2.85
Spray on texture	1.96	2.14	2.33	2.54
Mirror-faced panels	19.50	21.65	24.05	26.75
Paint or stain, bottom of roof or floor	.61	.82	1.09	1.46
Plaster on lath: acoustical	4.11	4.63	5.22	5.89
Spray on, thincoat with texture on lath or drywall	2.93	3.26	3.62	4.02
Standard, add 20% for Keene's	3.55	4.03	4.57	5.19
Add for metal lath . . . . .	.50	.58	.67	.78
Plaster on masonry soffit: acoustical	3.52	3.96	4.45	5.00
Spray on, thincoat with texture	2.36	2.60	2.86	3.15
Standard, add 23% for Keene's	2.97	3.36	3.80	4.30
Plaster panels, decorative	12.80	14.20	15.75	17.50
Plastic panels, with suspension system, but excluding lighting	6.46	7.81	9.43	11.40
Plywood (softwood) or hardboard panels	3.06	3.58	4.19	4.90
Hardwood	4.54	5.50	6.67	8.08
Coffered or vaulted panel with molding	9.73	13.28	18.14	24.76
Custom wood, site-built	24.15	28.55	33.70	39.80
Poly laminated panels (FRP)	3.08	3.44	3.85	4.30
Insulated panel	4.71	5.31	5.99	6.75
Wood, boards or T&G, softwood	2.95	3.49	4.14	4.90
Hardwood	4.90	5.79	6.84	8.08
Carved, decorative	8.72	12.79	18.77	27.53

CEILING EXTRAS – Add to ceiling costs. For special ornamentation, see Section UIP 2.

Ceramic tile, add	\$13.00	\$16.75	\$21.60	\$27.80
Custom tile, decorative	27.05	32.90	40.05	48.70
Custom papers, stenciling, staff, Add	12.45	17.15	23.65	32.60
Border or coving only	3.08	4.02	5.26	6.87
Extensive decor, leather, cust. plaster, Terra cotta, add	36.25	46.25	58.75	74.75
Wood furring . . . . .	.94	1.16	1.43	1.77
Metal furring	1.45	1.83	2.31	2.91
If ceiling structure is required which is not part of the roof or floor structure, add	1.50	1.88	2.37	2.97
Suspended ceiling, metal suspension sys. add	1.43	1.78	2.21	2.74
Fiberglass, FRP	2.17	2.59	3.10	3.71
Hardwood, decorative	3.48	4.91	6.93	9.78
Seismic supports, add . . . . .	.22	.29	.39	.51
Ceiling insulation, add . . . . .	.70	.88	1.11	1.40
Vinyl faced, exposed . . . . .	.97	1.12	1.30	1.50
Add for underdeck supporting bands	.32	.38	.44	.52
Rigid board, faced	1.41	1.85	2.41	3.16
Cold storage	2.06	2.76	3.71	4.98
For each inch over 2", add . . . . .	.31	.45	.64	.92

For specific cold-storage insulation, see Section UIP 7.

STAGES AND PERMANENT STAGE FIXTURES-Apply to stage area.

Live performance	\$32.50	\$42.00	\$54.50	\$70.50
Speakers'(performance) platform	16.90	21.45	27.25	34.60

INTERIOR CONSTRUCTION – Table I is based on averages for several types of occupancies, not including furniture, fixtures, and equipment. Table II gives costs based on a square foot of partition area and may be used when a more detailed analysis is desired. For additional interior costs, see Sections UIP 2, 5 and 6. Fixtures and equipment, see Section UIP 12.

TABLE I. Apply to total floor area.

Add or deduct 5% for each foot of variation from 12' average story height.

FRAME INTERIOR PARTITIONS

	1	2	3	4
Banquet Halls	\$10.66	\$15.58	\$22.77	\$33.27
Barbershops	7.14	9.59	12.88	17.29
Bars	8.42	10.98	14.32	18.68
Cocktail lounges	9.19	12.43	16.82	22.75
Dairy sales	10.91	12.62	14.61	16.90
Department stores	11.10	13.05	15.30	18.00
Mall anchor stores	4.93	6.90	9.66	13.53
Discount stores	6.04	6.62	7.25	7.94
Warehouse discount	3.29	4.35	5.75	7.60
Mega warehouse discount	1.66	2.22	2.96	3.95
Warehouse food marts	7.07	7.77	8.54	9.38
Warehouse showrooms	4.46	5.32	6.36	7.59
Drugstores	17.90	21.10	24.90	29.40
Florist shops	12.90	14.10	15.45	16.90
Laundromats	7.43	8.93	10.73	12.89
Laundry/dry cleaners	7.84	9.46	11.42	13.78
Markets	11.35	12.25	13.25	14.30
Convenience stores	14.80	15.95	17.25	18.60
Mini-marts	41.00	43.25	45.50	47.75
Roadside stands	1.34	3.54	6.83	11.75
Supermarkets	11.20	12.10	13.10	14.15
Restaurants, small fast food	22.10	36.10	57.05	88.35
Snack bars	8.57	19.57	36.00	60.54
Table service	21.45	28.55	37.95	50.50
Cafeterias	11.00	15.95	23.10	33.45
Truck stops	27.50	29.25	31.25	33.50
Dinning atriums/playrooms	14.25	18.10	22.95	29.15
Retail stores	7.34	8.63	10.14	11.91
Luxury boutiques	28.25	41.75	61.50	91.00
Shopping center stores, Neighborhood	8.42	9.43	10.55	11.81
Community	8.54	9.65	10.92	12.34
Regional	9.55	11.04	12.77	14.76
Discount	6.54	7.37	8.31	9.37
Winery shops	12.00	20.15	32.35	50.55

MASONRY INTERIOR PARTITIONS

Banquet Halls	\$11.75	\$16.90	\$24.30	\$34.90
Barbershops	8.01	10.58	13.98	18.46
Bars	9.39	12.06	15.48	19.88
Cocktail lounges	10.19	13.57	18.07	24.06
Dairy sales	12.05	13.80	15.80	18.10
Department stores	12.25	14.20	16.50	19.15
Mall anchor stores	5.71	7.81	10.69	14.63
Discount stores	6.84	7.43	8.07	8.77
Warehouse discount	4.02	5.14	6.58	8.42
Mega warehouse discount	2.10	2.75	3.59	4.70
Food marts	7.94	8.67	9.47	10.34
Showrooms	5.17	6.09	7.16	8.43
Drugstores	19.20	22.55	26.50	31.15
Florist shops	14.05	15.30	16.65	18.10
Laundromats	8.32	9.81	11.57	13.64
Laundry/dry cleaners	8.77	10.46	12.47	14.87
Markets	12.50	13.50	14.60	15.80
Convenience stores	15.95	17.20	18.55	20.00
Mini-marts	42.75	45.00	47.25	49.50
Roadside stands	1.70	4.05	7.56	12.80
Supermarkets	12.35	13.35	14.45	15.60

STORES AND COMMERCIAL BUILDINGS

SECTION SEG 3

(SEGREGATED COST METHOD)

MASONRY INTERIOR PARTITIONS (Continued)

	1	2	3	4
Restaurants, small fast food . . .	\$23.55	\$37.80	\$59.15	\$91.00
Snack bars	9.55	20.84	37.71	62.91
Table service	22.90	30.25	39.90	52.70
Cafeterias	12.20	17.35	24.70	35.15
Truck stops	29.25	31.25	33.00	35.25
Dinning atriums/playrooms . . .	15.40	19.40	24.50	30.90
Retail stores	8.25	9.59	11.14	12.95
Luxury boutiques	29.75	43.50	64.00	93.75
Shopping center stores,				
Neighborhood	9.38	10.43	11.59	12.88
Community	9.51	10.66	11.95	13.40
Regional	10.56	12.11	13.89	15.93
Discount	7.36	8.25	9.26	10.38
Winery shops	13.15	21.55	34.10	52.80

TABLE II. – ALTERNATE METHOD – Apply to square feet of partition area. Costs include doors and openings only. See discussion on Page 1. Do not use these costs if Table I is used. Section UIP 2 has a more detailed list.

	1	2	3	4
Acoustic accordion partitions . .	\$39.75	\$55.75	\$78.25	\$110.00
Clear glass, full height, framed	28.50	39.50	54.75	76.00
Masonry, tile or concrete block	8.78	12.89	18.94	27.81
Metal partitions	17.15	22.10	28.45	36.65
Metal and glass	17.75	23.10	30.15	39.25
Steel studs, drywall, two sides	6.23	8.55	11.74	16.11
Plaster, two sides	9.02	12.21	16.54	22.40
Wood frame, drywall, two sides	5.47	7.66	10.72	15.01
Plaster, two sides	8.15	11.21	15.43	21.23
For poly laminated panels (FRP),				
Add	2.10	3.51	5.63	8.78
For wood paneling, add	1.57	3.60	6.64	11.17

PLUMBING – Apply to total floor area or use Section UIP 3 for more detailed cost per fixture. The following costs represent typical ranges only.

Banquet Halls	\$7.53	\$10.28	\$14.04	\$19.17
Barbershops	4.27	5.82	7.93	10.80
Bars	7.91	10.64	14.31	19.25
Cocktail lounges	8.56	11.48	15.39	20.63
Dairy sales	6.31	7.66	9.29	11.27
Department stores	1.49	2.58	4.21	6.65
Mall anchor stores	1.18	2.08	3.43	5.44
Discount stores	1.43	2.07	3.00	4.35
Warehouse discount stores				
and showrooms . . . . .	.86	1.03	1.23	1.47
Mega warehouse discount . .	.79	.95	1.15	1.39
Food marts	1.81	2.78	4.22	6.38
Drugstores	2.81	3.76	5.03	6.72
Florist shops	5.16	6.38	7.89	9.75
Laundromats	9.66	11.40	13.44	15.86
Laundry/dry cleaners	7.06	9.16	11.89	15.43
Markets	3.00	4.18	5.83	8.13
Convenience stores	4.11	5.15	6.44	8.07
Mini-marts	9.97	12.54	15.76	19.82
Roadside stands . . . . .	.19	1.07	2.39	4.35
Supermarkets	3.16	4.25	5.73	7.71
Restaurants, lower qualities . .	6.87	8.54	10.61	13.18
Higher quality and small				
fast food	9.59	13.35	18.59	25.89
Cafeterias	7.15	10.51	15.44	22.68
Snack bars	4.95	11.43	21.10	35.55
Truck stops	9.67	14.13	20.64	30.15
Dinning atriums/playrooms . .	3.70	4.66	5.86	7.38
Retail stores	1.84	3.48	5.92	9.57
Luxury boutiques	7.95	9.93	12.41	15.50
Shopping center stores,				
Neighborhood	3.50	4.56	5.95	7.76
Community	3.80	5.02	6.63	8.75
Regional	4.11	5.21	6.61	8.38
Discount	1.65	2.65	4.14	6.36
Winery shops	6.56	7.93	9.59	11.60

SPRINKLERS – Apply to sprinklered area. Costs include all piping and connections to main for light-hazard occupancies, but do not include tanks. For double sprinkler systems with heads both above and below a ceiling, use sprinklered area and 1.6 times the listed cost.

	1	2	3	4
1,000 square feet	\$3.87	\$5.01	\$6.48	\$8.39
2,000	3.50	4.48	5.72	7.32
3,000	3.28	4.18	5.32	6.78
5,000	3.03	3.84	4.88	6.19
10,000	2.72	3.42	4.30	5.41
15,000	2.56	3.20	4.00	5.00
20,000	2.45	3.06	3.81	4.76
30,000	2.30	2.86	3.54	4.40
50,000	2.14	2.63	3.24	3.99
75,000	2.00	2.45	3.01	3.69
100,000	1.90	2.33	2.87	3.52
150,000	1.79	2.19	2.68	3.28
200,000	1.73	2.10	2.54	3.08
300,000	1.62	1.96	2.36	2.85
400,000	1.55	1.86	2.23	2.68
600,000	1.45	1.74	2.08	2.50
800,000	1.41	1.68	2.00	2.38
1,000,000	1.35	1.61	1.91	2.27

HEATING, COOLING AND VENTILATION – Apply to total floor area.

Add or deduct 3% for each foot of variation in average story height from 12' base.

Costs are given for gas fired heating systems. Add or deduct as follows for other fuels.

Oil fired +7% Coal, stoker +7% Coal, hand fired -2%

Heating Only

Electric, cable or baseboard . . .	\$2.70	\$3.38	\$4.23	\$ 5.30
Radiant panels	2.48	2.89	3.36	3.91
Electric wall heaters	1.32	1.55	1.83	2.15
Forced air	2.81	3.57	4.54	5.78
Hot water, baseboard or convectors	4.85	6.30	8.19	10.64
radiant floor	4.41	6.08	8.39	11.57
Radiant heat, gas, suspended	1.38	1.86	2.50	3.36
Space heaters, gas, with fan . .	1.05	1.46	2.02	2.81
Steam coil, with boiler	2.03	2.60	3.32	4.25
Steam coil, without boiler . . .	1.38	1.86	2.50	3.36
Steam radiator, with boiler	4.41	5.51	6.88	8.60
Without boiler	3.53	4.51	5.77	7.38
Wall or floor furnace	1.43	1.70	2.03	2.42

Heating and Cooling

Zoned A.C., hot and chilled water	\$12.05	\$15.00	\$18.70	\$23.30
Warm and cooled air	6.89	9.01	11.79	15.43
Package heating and cooling,				
short ducts	4.85	6.51	8.74	11.74
Heat pump system	5.30	7.23	9.85	13.43
Add for ground-loop heat source	1.38	2.03	2.99	4.41
Individual thru wall heat pump	2.32	3.30	4.69	6.66

Cooling Only

Evaporative coolers	\$2.48	\$2.92	\$3.43	\$4.03
Refrigerated air conditioning only,				
zoned system	5.01	6.25	7.81	9.75
Package unit, short ducts	3.42	4.24	5.25	6.51
Ventilation only, with ducts				
and blowers . . . . .	.88	1.09	1.34	1.65

STORES AND COMMERCIAL BUILDINGS

SECTION SEG 3 (SEGREGATED COST METHOD)

ELECTRICAL AND LIGHTING – Apply to total floor area. Restaurants are listed by occupancy but are not included in the general tables.

	1	2	3	4
Few Outlets:				
Nonmetallic	\$4.02	\$4.97	\$ 6.15	\$ 7.60
Armored cable (BX)	4.77	5.91	7.33	9.08
Flexible conduit	5.69	7.06	8.75	10.85
Rigid conduit	6.80	8.44	10.47	12.99
Average Number of Outlets:				
Nonmetallic	\$5.83	\$ 7.21	\$ 8.92	\$11.03
Armored cable (BX)	6.95	8.61	10.67	13.22
Flexible conduit	8.31	10.31	12.78	15.85
Rigid conduit	9.94	12.33	15.28	18.95
Many Outlets:				
Nonmetallic	\$ 8.41	\$10.44	\$12.97	\$16.10
Armored cable (BX)	10.08	12.52	15.54	19.30
Flexible conduit	12.10	15.00	18.65	23.15
Rigid conduit	14.55	18.05	22.35	27.70
For undercarpet cable systems, deduct 10% from base costs for that floor only.				
Unfinished Areas:				
Nonmetallic	\$1.63	\$1.99	\$2.43	\$2.96
Armored cable (BX)	1.96	2.38	2.90	3.52
Flexible conduit	2.41	2.90	3.48	4.19
Rigid conduit	2.88	3.46	4.15	4.99

Typical costs for some occupancies.

Banquet Halls	\$10.23	\$13.30	\$17.29	\$22.47
Barbershops	4.75	6.55	9.03	12.46
Bars	9.09	12.19	16.34	21.90
Cocktail lounges	12.95	16.55	21.20	27.15
Dairy sales	7.38	9.48	12.18	15.65
Department stores	10.29	13.96	18.95	25.71
Mall anchor stores	6.06	8.77	12.68	18.35
Discount stores	4.17	5.67	7.70	10.47
Warehouse discount stores	1.97	2.83	4.06	5.83
Mega warehouse discount	1.34	1.91	2.73	3.89
Foodmarts	4.92	6.71	9.15	12.48
Showrooms	2.86	4.02	5.64	7.92
Drugstores	9.19	12.21	16.22	21.54
Florist shops	6.94	9.31	12.50	16.78
Laundromats	8.56	10.05	11.81	13.87
Laundry/dry cleaners	6.99	8.48	10.28	12.46
Markets	7.15	9.21	11.87	15.30
Convenience stores	8.14	10.95	14.72	19.80
Mini-marts	20.45	23.40	26.70	30.55
Roadside stands	1.25	3.94	7.95	13.95
Supermarkets	7.50	9.35	11.66	14.54
Restaurants, lower qualities	10.37	13.05	16.43	20.69
Higher quality and small				
fast food	18.50	22.35	27.05	32.70
Cafeterias	10.57	13.66	17.66	22.82
Snack bars	7.54	10.56	14.78	20.70
Truck stops	11.70	15.50	20.50	27.10
Dinning atriums/playrooms	4.78	7.02	10.32	15.16
Retail stores, Classes A and B	5.78	8.71	13.09	19.64
Classes C, D and S	4.58	7.45	11.75	18.16
Luxury boutiques	13.15	18.35	25.65	35.85
Shopping center stores,				
Neighborhood	6.38	8.58	11.53	15.51
Community	6.65	9.19	12.70	17.55
Regional	7.94	11.07	15.44	21.54
Discount	4.66	6.59	9.31	13.16
Winery shops	9.10	15.94	26.16	41.43

***NOTE:** The additional cost to the right for face block or brick is the difference between the cost of face block or brick and standard block or common brick in place as part of a wall. For the cost of ornamented, face, or synthetic masonry veneer, see Wall Ornamentation on Page 7.

EXTERIOR WALL – Apply to total wall area. Costs do not include storefronts.

	1	2	3	4
Concrete or Masonry Walls				
Adobe or hollow clay block, 6" ..	\$21.05	\$23.25	\$25.70	\$28.40
8"	22.65	25.10	27.80	30.80
12"	25.80	28.55	31.55	34.90
14"	28.50	31.50	35.00	38.75
Adobe block, grouted or cavity,				
22" - 24"	32.75	36.50	40.50	45.00
30" - 32"	35.50	39.25	43.50	48.25
Block, concrete, 6"	18.45	20.35	22.40	24.70
8"	19.75	21.80	24.05	26.55
12"	22.55	24.90	27.45	30.30
16"	25.40	28.00	30.90	34.10
For each additional 4" of block, add	2.87	3.15	3.46	3.80
Block, grouted or cavity, 10" - 12"	21.35	23.50	25.90	28.50
*Add for ornamented face block .	1.35	2.04	3.08	4.62
Brick, block backup, 8"	23.80	26.30	29.10	32.20
12"	26.65	29.45	32.55	35.95
16"	29.50	32.50	36.00	39.75
Brick, common, 8"	26.70	29.45	32.45	35.75
12"	32.25	35.50	39.25	43.25
16"	37.75	41.75	46.25	51.00
For each additional 4" of brick, add	5.55	6.15	6.81	7.54
Brick, grouted or cavity,				
Reinforced, 9" - 10"	29.25	32.25	35.50	39.25
Block backup, 9" - 10"	26.45	29.10	32.05	35.30
Block backup, 12" - 14"	29.25	32.25	35.50	39.25
Brick, 6" SCR modular	20.20	22.45	24.95	27.75
8"	22.50	24.85	27.45	30.35
*Add for face brick	3.04	3.32	3.63	3.97
Concrete, reinforced, formed, 4"	20.70	22.90	25.30	28.00
6"	22.25	24.60	27.20	30.10
8"	23.90	26.40	29.15	32.20
12"	27.10	29.90	32.95	36.35
For each additional 4" of concrete, add	3.15	3.44	3.75	4.09
Precast panels, 2"	16.95	18.80	20.90	23.20
4"	18.20	20.15	22.30	24.65
6"	20.00	22.10	24.40	26.95
8"	22.15	24.40	26.85	29.55
12"	26.00	28.50	31.20	34.20
Tilt-up panels, 4"	17.20	19.15	21.30	23.70
6"	18.45	20.55	22.90	25.50
8"	19.85	22.15	24.70	27.55
10"	21.45	23.90	26.70	29.75
12"	23.05	25.75	28.70	32.05
Add for insulated sandwich ..	1.52	1.93	2.44	3.10
Add for brick or tile inserts ...	5.79	7.18	8.91	11.05
Glass block, white or aqua	47.25	50.00	53.00	56.00
Colors or reflective	63.00	66.00	70.00	73.00
Local stone, block backup,				
Ashlar veneer, 12"	41.75	47.00	53.00	59.75
Rubble or rustic, veneer, 12"	33.75	38.50	43.75	49.75
For each 4" variation in thickness	2.87	3.15	3.46	3.80
Local fieldstone, in mortar, 12" ..	28.00	32.50	38.00	44.25
For each 4" variation in thickness	2.57	3.00	3.50	4.09
Local stone, rough cut, solid, 12"	46.50	56.50	68.50	83.25
Granite	48.50	61.25	77.25	97.50
Limestone	52.00	63.00	76.25	92.50
For each 6" variation in thickness	21.05	24.95	29.60	35.10

STORES AND COMMERCIAL BUILDINGS

SECTION SEG 3

(SEGREGATED COST METHOD)

EXTERIOR WALL (Continued)

Concrete or Masonry Walls	1	2	3	4
Rammed earth, soil cement, 24" . pneumatic build-up, formed	22.50	26.00	30.10	34.80
one side	36.00	40.50	45.50	51.25
For each 6" variation in thickness	1.29	1.52	1.79	2.10
Tile, structural clay, 6" .	19.65	21.85	24.30	27.05
10"	23.00	25.55	28.35	31.45

Concrete or Masonry Wall Extras	1	2	3	4
Add for stay in place forming . . .	\$ 1.11	\$ 1.47	\$ 1.95	\$ 2.58
Add for glazed block or tile, each side	6.26	6.99	7.80	8.71
Add for pilasters	1.17	1.43	1.74	2.12
Add for bond beams	1.26	1.51	1.82	2.19
Add for seismic reinforcement . .	.50	.82	1.29	2.00
Add for synthetic plaster on Rigid insulation (EIFS)	4.85	6.00	7.42	9.18
Deluxe, textured or aggregate	7.95	9.55	11.48	13.80
Add for thin masonry, on rigid insulation	12.30	13.80	15.50	17.40
Add for clay tile backup in lieu of block	2.10	2.48	2.92	3.45
Add for earth sheltered waterproofing	.92	1.41	2.15	3.25
Add for insulation	.78	1.10	1.56	2.21
earth sheltered structures	1.29	1.87	2.70	3.91
For special stonework, see Section UIP 6.				

Curtain Walls

Brick or tile panels	\$24.15	\$28.90	\$ 34.55	\$ 41.30
Concrete and glass panels, precast Glass fiber reinforced, molded	30.00	34.50	40.00	46.00
Metal and glass panels (ordinary)	32.25	38.25	45.50	54.00
Stainless steel or bronze and glass	48.00	55.50	64.25	74.25
Stone panels, local stone	44.25	48.75	53.75	59.25
Granite	47.75	54.00	61.25	69.25
Limestone or slate	45.25	50.00	55.25	61.00
Marble	46.00	52.00	59.00	66.75
Composite or aggregate panels	30.00	37.00	46.00	56.75
Structural glazed atrium including supports	72.00	97.00	130.00	174.00
Steel studs and stucco	17.50	20.50	24.05	28.15
Synthetic plaster on rigid insulation (EIFS)	19.80	23.75	28.55	34.25
Deluxe, textured or aggregate	23.00	27.50	32.85	39.25
Wood or aggregate board siding	17.10	21.05	25.90	31.85
Add for insulation, insulated area only	.99	1.46	2.15	3.16

Pre-engineered Walls

Sandwich panels, steel or alum., both sides	\$19.00	\$22.05	\$25.55	\$29.65
Cold storage, metal both sides	23.35	26.30	29.60	33.30
Cement fiber or shotcrete, two sides	14.05	17.00	20.60	24.90
Fiberglass panels, two sides	18.60	22.10	26.25	31.15
Glass exterior, metal interior	21.45	24.85	28.75	33.30
Add for stainless steel or textured (Galbestos)	3.08	3.69	4.42	5.30
Add for poly laminated (FRP) interior	.82	1.02	1.26	1.57
Deduct for gypsum or hardboard interior	-1.34	-1.48	-1.63	-1.80
Prefabricated building panels, aluminum or steel and glass panels	27.05	29.80	32.80	36.10
Add for porcelain enamel finish	2.73	3.23	3.83	4.53
Add for block backup	5.53	6.23	7.02	7.91
Stucco on steel panel	29.50	33.00	36.75	41.00
Veneer, block or brick, on Steel panel	34.50	38.75	43.25	48.50
Stone, rubble or rustic	43.50	47.50	52.00	56.75

EXTERIOR WALL (Continued)

Single-wall Construction	1	2	3	4
Aluminum or steel, on steel frame	\$ 7.37	\$ 8.93	\$10.82	\$13.11
On wood frame	6.62	8.06	9.83	11.97
Add for porcelain enamel finish	2.71	3.22	3.83	4.55
Add for stainless steel or textured Galbestos	3.07	3.68	4.41	5.28
Asphalt siding, on wood frame . .	5.70	6.58	7.60	8.78
Cement fiber (Transite), On steel frame	7.76	9.22	10.95	13.01
Sheet siding on wood frame . .	7.06	8.42	10.04	11.98
Siding or shingles on wood frame	7.55	8.95	10.61	12.58
Fiberglass light panels, on Steel frame	5.93	6.75	7.67	8.73
Sandwich panels	7.14	7.85	8.63	9.48
Heavy, (FRP), over 8 oz.	8.90	10.46	12.29	14.44
Light panels on wood frame . .	5.24	5.96	6.77	7.70
Sandwich panels	6.46	7.06	7.73	8.45
Heavy, (FRP), over 8 oz.	8.21	9.67	11.38	13.40
Glass panels	22.10	27.80	34.90	43.90
Projected greenhouse	47.00	52.50	58.75	65.50
Log, up to 10" diameter	18.35	23.75	30.75	39.85
Deluxe, hand hewn or oversized	27.05	33.40	41.25	50.90
Plywood, boards or siding, on steel frame	7.48	8.94	10.68	12.76
On wood frame	6.73	8.07	9.69	11.62
Stucco, on baled straw	15.00	18.10	21.85	26.40
Stucco, on wood frame	7.63	8.86	10.28	11.93
Synthetic plaster on rigid insul. (EIFS), on steel frame	10.81	12.71	14.94	17.57
Wood shingles on wood frame . .	7.93	9.25	10.79	12.59
Add for exterior sheathing, per layer	1.15	1.31	1.49	1.70
Add for interior sheathing or liner, finished	1.98	2.35	2.79	3.31
Poly laminated panel (FRP)	2.62	3.13	3.75	4.48
Add for stud wall backing	.71	.86	1.05	1.28
Add for insulation	.70	.85	1.03	1.25
Vinyl faced, exposed	.94	1.04	1.15	1.28
Rigid board, faced	1.20	1.57	2.05	2.68
Add for air infiltration wrap	.19	.25	.32	.42

Wood or Steel Stud Walls

Aluminum or steel siding, horizontal sheet panels	\$15.05	\$17.70	\$20.75	\$24.40
Asphalt siding	13.15	15.35	17.95	20.95
Cement fiber siding or shingles, horizontal	14.65	17.25	20.30	23.90
Sheet, embossed	13.80	16.05	18.70	21.80
Hardboard siding or shingles, horizontal Sheet, embossed	14.35	16.70	19.40	22.60
Plywood, textured	13.70	15.90	18.45	21.45
Deluxe, redwood, cedar, etc.	13.35	15.55	18.10	21.05
Shingles or shakes, wood	14.90	17.40	20.25	23.65
Stucco	15.10	17.75	20.90	24.55
Synthetic plaster on rigid insulation (EIFS)	14.90	17.55	20.65	24.30
Deluxe, textured or aggregate . .	17.50	20.65	24.35	28.75
Vinyl siding	20.65	24.35	28.75	33.95
Wood siding	14.90	17.55	20.60	24.25
Deluxe, redwood, cedar, etc.	14.50	16.85	19.60	22.80
Log, veneer siding	15.75	18.55	21.90	25.80
Deluxe, half-round, full corners .	16.55	20.60	25.60	31.80
Veneer, face block or concrete brick Common brick	25.65	28.95	32.70	36.90
Face brick	18.60	21.70	25.30	29.50
Mortarless brick	18.95	22.15	25.90	30.25
Stone, ashlar veneer	21.75	25.30	29.40	34.15
Rubble or rustic	21.95	25.30	29.15	33.60
Synthetic veneer or panel	33.25	39.00	45.75	53.50
Thin veneer on rigid insulation . .	26.75	31.35	36.80	43.15
Add for sheathing	18.85	23.15	28.45	34.95
Add for seismic/wind bracing	23.00	26.75	31.15	36.25
Add for air infiltration wrap	.94	1.15	1.41	1.73
Add for seismic/wind bracing	.50	.62	.76	.94

STORES AND COMMERCIAL BUILDINGS

SECTION SEG 3 (SEGREGATED COST METHOD)

EXTERIOR WALL (Continued) Wood or Steel Stud Extras

	1	2	3	4
Add for insulation	\$.69	\$.83	\$1.00	\$1.20
Add for air infiltration wrap	.21	.27	.36	.47
Add for air space wrap	.67	.76	.85	.96
Add for double stud walls	1.47	1.77	2.13	2.56
Add for wood stressskin sandwich panels	4.37	5.14	6.06	7.13

WALL ORNAMENTATION – Apply to ornamented area.

	1	2	3	4
Brick, split face, Roman or Norman face, standard size	\$10.65	\$12.34	\$14.31	\$16.58
Mortarless brick	11.70	13.60	15.80	18.40
Select common	12.30	14.10	16.20	18.55
Used	10.35	12.01	13.94	16.18
Simulated veneer or panel, 1/4" - 3/8"	11.35	13.10	15.15	17.50
Thin veneer on rigid insulation	9.30	11.29	13.70	16.62
Add for pictorial carved artwork	12.30	13.75	15.40	17.25
Cement fiber siding	145.00	170.00	195.00	225.00
Concrete, ornamental cast stone	3.08	3.85	4.80	6.00
Concrete block, imitation flagstone	23.80	28.45	34.00	40.65
Solar screen	9.43	11.03	12.89	15.07
Ornamented face, slump, fluted, split or ground	10.26	12.03	14.09	16.52
Glazed one side, add	10.18	11.76	13.59	15.71
Cut stone, carved	6.17	6.91	7.74	8.67
Glass block, white or aqua	100.00	145.00	211.00	306.00
Colors or solar reflective	39.00	43.25	47.75	52.75
Granite, ashlar or panel	53.25	58.50	64.25	70.50
Limestone, ashlar or panel	49.25	56.75	65.50	75.75
Local stone, ashlar veneer or panel	36.25	42.50	50.00	58.75
Rubble or rustic	31.50	37.00	43.25	50.75
Imitation precast stone	23.55	28.00	33.25	39.55
Marble, panels	10.58	13.78	17.95	23.39
Metal panels, screens, louvers	40.25	47.25	55.50	65.00
Preformed wall panels	17.15	22.45	29.35	38.40
Add for curved panels	3.08	5.56	9.25	14.78
Ornamental doorways	.87	1.27	1.86	2.73
Slate, panels	61.00	119.00	206.00	336.00
Stucco	34.75	40.00	46.00	53.00
On masonry	3.84	4.32	4.86	5.47
Add for synthetic on rigid insulation (EIFS)	3.25	3.65	4.10	4.60
*Built-up (EIFS) panel relief	2.45	3.11	3.94	5.00
Terra cotta	5.06	6.53	8.43	10.88
Tile, ceramic	27.75	32.75	38.75	46.00
*Mosaics	13.40	15.45	17.80	20.55
Hand painted tiles	19.75	24.05	29.35	35.75
Vinyl siding	107.00	148.00	206.00	286.00
Vitrolite (structural glass)	3.32	3.94	4.67	5.53
Wood, plywood	22.40	26.30	30.95	36.35
Shingles	2.53	3.21	4.08	5.18
Siding	3.66	4.35	5.16	6.13
Ornamented molding or trim	3.30	4.08	5.05	6.25
Add for treated wood	10.49	14.24	19.33	26.23
*Note - For pictorial artwork, add	.50	.61	.75	.91
	11.35	15.60	21.40	29.40

STAINED GLASS – Apply to art glass for window, dome or skylight area. These costs vary greatly and the following typical cost ranges should be used with caution. See Section UIP 6 for complete description and detailed costs. For residential straight seams or simple bevel, deduct 50% from the Low Cost.

	1	2	3	4
Low cost, plain, min. work or detailed bevel etched	\$ 69	\$ 94	\$129	\$176
Average, simple figures and scenes	220	295	395	530
High cost, highly detailed work (including domes)	475	655	905	1245

STOREFRONTS – Apply to total storefront wall area including bulkheads. See Section UIP 6 for complete description and detailed costs. Costs include typical glazed areas, entrances, ornamentation, and bulkheads commensurate with the quality, excluding extremes. The deluxe front is highly ornamented, best stones, metals, revolving entries, etc. Costs do not include signs.

Exterior front, without displays	\$ 32.00	\$ 48.75	\$ 74.00	\$111.50
Deluxe (luxury boutique type)	120.00	150.00	190.00	240.00
Add for display areas	8.26	8.72	9.21	9.72
Interior mall fronts including closures	24.75	34.80	49.00	68.90

MISCELLANEOUS – Apply to total square feet of lined area if required.

Cold storage, insulation board for each inch over 2", add	\$1.80	\$2.39	\$3.16	\$4.19
	.31	.45	.65	.94

BASEMENT WALLS - Apply to basement wall area.

Concrete block, reinforced, 6"	\$10.65	12.10	13.74	\$15.60
8"	12.05	13.65	15.50	17.55
12"	14.80	16.70	18.85	21.25
For each additional 4" of block, add	2.85	3.13	3.44	3.78
Concrete, reinforced, 6"	12.85	14.55	16.55	18.75
8"	14.60	16.50	18.65	21.10
12"	17.75	19.95	22.45	25.25
16"	20.95	23.45	26.25	29.35
For each additional 4" of concrete, add	3.15	3.43	3.74	4.07
Masonry, brick, 8"	18.00	20.30	22.90	25.85
Stone, 12"	25.45	29.45	34.10	39.50
For each 4" variation in thickness	5.47	6.08	6.75	7.50
Wood, treated	10.03	12.38	15.29	18.87
Add for stay-in-place forming	.64	.95	1.41	2.10
Add for waterproofing	.99	1.23	1.54	1.92
Earth sheltered structures	1.28	1.87	2.75	4.02
Add for insulation	.76	1.08	1.53	2.17
Earth sheltered structures	1.10	1.69	2.58	3.90

For specific earth sheltered waterproofing, see UIP 1.

EXTERIOR, BASEMENT AND TOWER STAIRS - Per riser. For fire escapes, see UIP 5.

Concrete	\$175	\$245	\$340	\$475
Steel pans or prefab. concrete on steel	195	265	360	490
Steel or aluminum grating	225	300	400	530
Wood	66	104	160	245

STORES AND COMMERCIAL BUILDINGS

SECTION SEG 3

(SEGREGATED COST METHOD)

ROOF STRUCTURE – Apply to roof area.

	1	2	3	4
Concrete joists, slab	\$11.10	\$12.45	\$14.00	\$15.75
Lift slab	10.10	11.26	12.55	13.99
Pan or waffle slab and joists	10.24	11.46	12.82	14.35
Precast joists and deck . . .	9.69	10.86	12.16	13.63
Precast joists, wood deck . .	7.75	8.64	9.62	10.72
Cored plank on bearing walls	8.62	9.63	10.76	12.02
Thin shell	16.10	19.20	22.85	27.25
Concrete dome, cast in place .	37.00	40.50	44.25	48.25
Thin shell	23.95	26.80	30.00	33.60
Fabric roof, air supported . . .	38.50	41.75	45.25	49.00
Tension supported	43.25	48.25	54.00	60.50
Add for thermal liner	3.74	4.55	5.53	6.72
Steel joists, concrete slab . . .	12.55	14.25	16.25	18.45
Gypsum on formboard	6.46	7.98	9.86	12.19
Precast deck	10.95	12.35	14.00	15.80
Steel deck	6.75	8.53	10.77	13.61
Light-gauge truss joists . . .	5.57	7.13	9.12	11.67
Steel deck, gypsum or concrete	8.81	10.83	13.32	16.37
Wood or composition deck . .	5.48	6.98	8.88	11.30
Light-gauge truss joists . . .	4.69	6.04	7.78	10.02
Open steel system for				
corrugated metal	2.81	3.99	5.66	8.03
Light purlin supports only . .	1.28	1.67	2.17	2.82
Steel space frame and sheathing				
three dimensional	19.50	25.45	33.25	43.40
Architectural (exclusive of				
glazing)	30.75	47.25	72.00	109.00
Metal dome and cover	27.75	32.00	36.75	42.50
Glazed or translucent panels	63.00	77.00	94.00	115.00
Wood joists, wood or composition				
deck	4.47	5.88	7.72	10.15
Exposed rafters, 2" T&G				
Sheathing	6.62	8.34	10.52	13.26
Prefab. panels (exclusive of girders)	1.82	2.26	2.80	3.48
Stresskin sandwich panels				
exclusive of purlins	6.52	8.44	10.92	14.14
Add for snow roof, furred				
sheathing layer	1.92	2.12	2.34	2.59
Open wood system for				
Corrugated metal	1.71	2.86	4.57	7.13
Light purlin supports only for				
metal, wood, or fiberglass . .	.75	.99	1.32	1.75
Lamella	12.60	15.20	18.30	22.05
Wood dome and deck	19.45	23.90	29.30	36.00
Add seismic/hurricane truss ties	.36	.43	.51	.61
Add for monitor roof	60%	50%	40%	40%
Add for sawtooth roof	40%	35%	30%	25%
Add for complex roof turrets,				
ornate trim	70%	55%	45%	35%
For treated wood, increase costs by 10% to 20%.				

ROOF COVER – Apply to roof area.

	1	2	3	4
Aluminum or steel, corrugated,				
Crimped or tile panels , pre-				
formed, light, to 26 gauge . .	\$ 2.03	\$ 2.45	\$ 2.95	\$ 3.55
Heavy, under 26 gauge	4.07	4.68	5.37	6.17
Formed seam, flat or standing	5.30	6.49	7.94	9.72
batten seam	6.17	7.51	9.13	11.11
Sandwich panels, pre-engineered	8.26	10.35	12.96	16.23
Cold storage	17.95	20.60	23.60	27.05
Shingles	4.02	4.82	5.77	6.92
Aggregate finish	5.23	6.29	7.55	9.08
Thatch	17.05	18.50	20.10	21.80
Add for interior liner, metal . .	1.80	2.07	2.38	2.73
plastic	1.63	1.89	2.20	2.56
Add for porcelain enamel finish	2.73	3.23	3.83	4.53
Add for stainless steel or textured				
Galbestos	3.08	3.69	4.42	5.30
Asphalt, corrugated	1.57	1.83	2.14	2.50
Atrium skylight, frame and glazing	32.25	42.75	57.00	75.75
Built-up composition	1.86	2.36	2.98	3.78
Cement fiber shingles	4.07	5.03	6.21	7.68
Corrugated or sheet (Transite)	3.84	5.32	7.38	10.23
Composition, roll, mineral surface	.99	1.20	1.45	1.75
Composition shingles, light to 235#	1.63	1.87	2.14	2.45
Heavy over 235# or laminated	2.10	2.70	3.48	4.48
Copper, flat or standing seam	11.00	12.85	15.00	17.50
Batten seam	11.85	13.85	16.15	18.85
Shingles	10.88	11.77	12.74	13.78
Elastomeric or modified bitumen,				
single ply	3.08	4.08	5.40	7.15
Reinforced sheet or spray-fluid coat	5.53	6.45	7.53	8.78
Fiberglass, corrugated or sheet, light	1.92	2.26	2.67	3.15
Sandwich panels	3.25	3.72	4.26	4.88
Heavy, FRP, over 8 oz.	3.78	4.79	6.06	7.68
Slate	7.68	9.11	10.80	12.80
Red	14.25	17.15	20.65	24.90
Composite, reinforced fiber	5.00	6.16	7.60	9.37
Terne, flat or standing seam . .	10.65	12.39	14.41	16.76
Batten seam	11.65	13.50	15.65	18.10
Tile, clay	6.92	8.79	11.17	14.20
Concrete	5.00	5.84	6.82	7.97
Plastic or rubber	4.42	5.12	5.93	6.87
Add for custom coloring or				
glazing	1.28	1.61	2.03	2.56
Wood, shakes	3.66	4.19	4.79	5.48
Shingles	3.30	3.84	4.46	5.18
Fiber shingles	2.15	2.59	3.13	3.78
Add for fire-resistant finish . .	.50	.61	.75	.92
Add for roof insulation . . . . .	.91	1.40	2.13	3.22
Earth sheltered structure . . .	1.46	2.25	3.43	5.20
Add for earth sheltered waterproofing	1.29	1.91	2.82	4.17

NOTE: For underroof insulation and supporting structures, see Ceiling Extras on Page 3. For specific earth-sheltered waterproofing, see Section UIP 1. For earthen roof cover, see Fill costs on Page 1. For cold-storage insulation, see Ceiling Extras or Section UIP 7 for detailed costs.

STORES AND COMMERCIAL BUILDINGS

SECTION SEG 3 (SEGREGATED COST METHOD)

ROOF MODIFIERS – Use the following multipliers for sloping roofs 6' : 12' or greater to convert the unit costs to cost per square foot of horizontal roofed area.

Rise	:	Run	Multiplier	Rise	:	Run	Multiplier
6'	:	12'	1.12	12'	:	12'	1.42
8'	:	12'	1.20	18'	:	12'	1.80

CUPOLA STRUCTURES, CLOCKS, ETC. – See Section UIP 4. For clock or bell towers, see in Section SEG 6, Page 8.

TRUSSES AND GIRDERS – Apply to area supported.

	1	2	3	4
Steel trusses or longspan girders	\$2.57	\$3.17	\$3.91	\$4.82
Timber trusses	2.82	3.48	4.29	5.30
Glued, laminated trusses or girders	2.60	3.18	3.89	4.75

EXTERIOR BALCONIES - Apply to balcony area.

Concrete	\$18.90	\$24.55	\$31.85	\$41.30
Steel	17.15	23.60	32.55	44.80
Wood	14.75	20.05	27.30	37.15
Add for ornate finishes, balustrades	15.75	19.70	24.65	30.85

CANOPIES OR MARQUEES – Apply to horizontal area. For light false-mansard structures, deduct 50%. For greater detail, see Section UIP 4 or 6.

Wood frame	\$23.60	\$29.35	\$36.50	\$45.35
Steel frame	29.00	36.75	46.75	59.50

DORMERS – See Section UIP 4, Roofs; solar rooms, see Section UIP 11.

ARCHITECTURAL COLUMNS – See Section UIP 6.

ELEVATORS AND ESCALATORS – Apply to total area served or use Section UIP 7 for detailed costs.

	1	2	3	4
Department stores, Classes A and B	----	\$4.99	\$6.56	\$8.69
Mall anchors	\$2.87	3.77	4.87	----
Class C	----	3.63	4.87	6.51
Mall anchors	2.12	2.73	3.55	----

MISCELLANEOUS BUILT-IN CONSTRUCTION – Apply to each item.

	1	2	3	4
Drive-up window, fast food	\$1,150	\$2,320	\$4,060	\$6,660
Pneumatic tube system, Per station	18,900	22,700	27,300	32,800
PVC systems	3,725	4,500	5,450	6,600
Sound system, base cost	840	1,020	1,235	1,500
Add per speaker, paging only music and voice	90	108	130	157
Television security system, closed circuit, see UIP 3.	215	240	260	290

MISCELLANEOUS BUILT-IN CONSTRUCTION - The following table is to be used to remove all built-in refrigerated storage boxes and ancillary cooling equipment that is classified as real estate and included in the interior construction tables found on Pages 3 and 4. Apply as a deduction to the total floor area.

Banquet Hall	\$ 2.18	\$ 3.03	\$ 4.22	\$ 5.87
Bars	2.97	4.23	6.02	8.57
Cocktail lounges	2.67	3.85	5.54	7.98
Dairy sales	8.80	10.35	12.18	14.33
Drugstores	1.73	2.37	3.26	4.47
Florist shops	7.80	8.60	9.49	10.47
Markets	5.42	5.93	6.49	7.10
Convenience stores	6.22	7.01	7.90	8.91
Mini-marts	12.00	13.05	14.20	15.45
Roadside stands	----	----	3.21	6.38
Supermarket	5.24	5.79	6.40	7.07
Restaurants, small fast food	4.30	6.32	9.28	13.63
Snack bars	4.27	6.67	10.27	15.63
Table service	2.86	4.53	7.03	10.76
Cafeterias	2.83	4.30	6.49	9.76
Truck stops	4.09	5.23	6.68	8.53
Modular Diner	12.25	15.40	19.40	24.40
Winery shops	8.97	10.40	12.07	14.00

NUMBER OF STORIES MULTIPLIER

To allow for the cost of hoisting materials, increased labor costs, and miscellaneous costs due to high-rise construction, multiply the total Segregated Costs of aboveground portions of the building by 100% plus .25% for each story over three.

Example: Twenty three story building: Multiplier = 1.050

ATRIUM H.V.A.C.

To price the heating and cooling of large atrium areas, simply refine the appropriate square foot system cost to be applied to the ground floor area by 100% plus 3% for each foot over the 12-foot average story height adjustment found on Page 4.

Example: Multistory building, atrium height of 52': Multiplier = 2.20

COMPLETION OF BUILDING VALUATION

The contractors' overhead and profit, sales taxes, permit fees, and insurance during construction are included in the above costs. Interest on interim construction financing is also included, but not financing costs, real estate taxes or brokers' commissions.

Architects' fees are not included and should be added from Appendix C.

Depreciation suggestions are given in Appendix A.

County Multipliers which bring the basic costs up to date for each locality are found in Appendix D.

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GARAGES, INDUSTRIAL BUILDINGS, LOFTS AND WAREHOUSES

SECTION SEG 4

(SEGREGATED COST METHOD)

Garages, industrial buildings, lofts, and warehouses are characterized by utilitarian construction; however, many light industrial buildings approach office buildings in interior construction and space division. In this respect, electronic and similar industrial plants have loft or office building characteristics. If the plumbing and interiors of these buildings are not priced in detail, care should be exercised using the typical cost ranges shown. The interior and plumbing costs included in the tables of costs per square foot of floor area include typical office and showroom space necessary for the manufacturing or storage operation. They do not include office and showroom space for other functions of the entire business even though they may be attached to the structure. Many buildings of the types covered by this section are designed to support heavy loads. Their foundations, frames, floors, and walls are heavier than most other occupancies, while fenestration is simpler. Sheds, including low cost utilitarian storage structures, which are usually lighter than typical industrial or warehouse buildings, should be priced from Section UIP 11.

Cold-storage facilities can be priced by building up the basic structure cost from this section and adding costs for specific insulation and refrigeration from Section UIP 7.

Foundations for Classes A and B industrial buildings can be priced quite accurately on a square foot of floor area basis. However, with Classes C, D and S light industrial shell type buildings, a perimeter foundation or footings may carry most or all of the load and the cost is generally proportional to the perimeter. Such costs may be better computed on the linear foot of bearing wall basis with costs of column

footings added if there are interior columns supporting a roof or floor load above.

Frame costs should be adjusted for partial bearing walls, as described in Section UIP 1, using a cost proportional to the load which is carried by the frame. If the frame members are visible and uniform enough to be easily measured and counted, they may be priced from Section UIP 1. When a complete frame cost is used, generally the trusses or girders would be included as the horizontal members of the frame. See explanations in Section UIP 1 or SEG INTRO. In single-story buildings where the frame supports only a light roof, Rating 1 might often be chosen, even in average buildings. Interior construction varies widely in industrial structures. The costs given are only typical ranges and should be used with caution. If desirable, partition costs may also be built up from Section UIP 2; however, interior costs also include miscellaneous cabinets, shelves, stairs, and other items.

Plumbing will vary widely and may be more accurately priced on a per fixture basis; however, typical cost ranges are given on a square foot basis. Industrial sinks and other specialized fixtures may also be found in Section UIP 3. Plumbing costs do not include process piping for industrial equipment.

Electrical costs do not include power wiring or panels for industrial equipment.

Exterior walls may contain few or no windows, or they may be nearly an all-glass area. Thus, the exterior wall costs have a wide variation, depending on the amount and quality of fenestration.

SEGREGATED COSTS

(For explanation of the rating numbers see Introduction to SEG Method.)

EXCAVATION AND SITE PREPARATION

	1	2	3	4
Excavation, bulk (per cu. ft.)	\$.30	\$.41	\$.56	\$.77
Fill (per cu. ft. of compacted earth)	.31	.40	.53	.69
Site preparation (per sq. ft. of site)	.24	.32	.43	.57

FOUNDATION – Table I gives complete average costs per square foot of floor area. If a more detailed estimate is desired for Class C, D or S buildings with continuous or column footing foundations, use Tables II and/or III as appropriate.

TABLE I. CONCRETE FOUNDATIONS – Apply to total floor area including basements, but excluding mezzanines.

Concrete foundations for:				
Class A	\$2.33	\$3.12	\$4.17	\$ 5.58
Class B	2.53	3.35	4.42	5.85
Class C, bearing wall	2.14	2.88	3.88	5.22
Nonbearing wall	2.04	2.75	3.72	5.02
Class D, masonry veneer	1.90	2.58	3.51	4.77
Siding or stucco	1.69	2.28	3.09	4.17
Pole frame construction	1.57	2.12	2.86	3.87
Class S	1.72	2.35	3.20	4.36
Classes C, D and S, light perimeter foundation for open shell type structures	.70	.94	1.26	1.69
Add for perimeter insulation,				
Ground floor area only	.10	.17	.26	.41
Earth sheltered structures	.14	.23	.37	.58
Add for seismic, base isolators	4.00	6.04	9.09	13.65
Damping devices	3.56	4.83	6.55	8.89

FOUNDATION (Continued) – ALTERNATE METHOD

TABLE II. CONCRETE FOUNDATIONS – Apply to linear feet of continuous footings or foundation walls if Table I is not used. See foundation discussion above.

	1	2	3	4
Heavy grade beam/stem footing				
Class C	\$28.25	\$39.75	\$56.00	\$79.00
Class D, masonry veneer	25.25	35.75	51.00	72.00
Siding or stucco	22.15	31.50	44.50	63.00
Class S	23.05	33.00	47.00	67.00
Classes C, D and S, reinforced				
Light grade beam	17.80	25.50	36.75	53.00
Unreinforced grade beam	8.79	12.95	19.05	28.00
Add for perimeter insulation	.95	2.13	3.89	6.53
Earth sheltered structures	1.35	3.09	5.68	9.55
Add for perimeter radon control matting	2.93	3.47	4.10	4.85
Add for perim. raised floor skirting	8.49	9.97	11.70	13.75

TABLE III. CONCRETE COLUMN FOOTINGS – Apply to total number of columns if Table I is not used. Costs apply to one-story buildings. For others, add 20% for each story over one.

Concrete columns	\$54.00	\$97.00	\$160.00	\$255.00
Steel columns	50.00	91.00	155.00	245.00
Light pre-engineered frame	41.25	55.00	73.00	98.00
Light tubular/pipe frame	31.50	44.75	63.00	90.00
Wood columns	45.25	75.00	120.00	185.00
Light pole frame	31.50	44.50	63.00	89.00

FOUNDATION ADJUSTMENTS – Apply to base cost used.

Add 2% for each foot of average story height over 14' base. Deduct 2% for each foot of average story height under 14' base. Deduct .8% for each story over one, for multistory buildings. For one story buildings with light perimeter grade beam foundations or foundations and footings formed and poured monolithically with floor slabs, use 60% of the above costs for that floor only. Add for pilings from Section UIP 1. If foundations are brick or stone instead of concrete, increase costs by 20%. For concrete block, reduce costs by 8%.

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES

SECTION SEG 4 (SEGREGATED COST METHOD)

FRAME – Apply to total floor area including basements, but excluding mezzanines.

	1	2	3	4
Bearing walls, wood or steel				
floor supports only	\$ 1.45	\$ 1.74	\$ 2.08	\$ 2.50
Masonry supports only	2.09	2.50	3.00	3.59
Steel, fireproofed, Class A	14.25	16.75	19.70	23.20
Composite concrete steel, Class B	13.30	15.35	17.75	20.50
Concrete, reinforced, Class B	12.95	15.10	17.65	20.60
Precast, post-tensioned	12.45	14.40	16.60	19.20
Steel, Classes C and D	5.24	6.75	8.69	11.20
Class S	5.03	6.51	8.42	10.90
Light pre-engineered frame	3.19	4.10	5.28	6.79
Light tubular/pipe frame	1.92	2.60	3.51	4.75
Add for fireproofing . . . . .	.85	1.37	2.15	3.31
Steel columns, wood beams	3.45	4.67	6.31	8.53
Wood, A-frame construction	4.09	5.14	6.47	8.13
Laminated bents and arches	4.66	5.83	7.29	9.12
Light arch-rib construction	2.95	3.75	4.77	6.06
Mill-type (heavy timber) construction	4.87	6.11	7.66	9.61
Heavy timber/log construction, architectural	9.53	12.55	16.50	21.70
Post and beam construction	3.34	4.21	5.30	6.68
Light pole type construction	1.89	2.50	3.31	4.39
Add for seismic/wind bracing, Class A and B	2.82	3.99	5.64	7.98
Open Class C, D and S frames . . . . .	.79	1.00	1.26	1.60
damping devices	1.18	1.55	2.03	2.67

FRAME ADJUSTMENTS – Apply to base cost used.

Add 4% for each foot of average story height over 14' base height. Subtract 4% for each foot of average story height under 14'. For multistory buildings, add 4% for each story over two, to apply against the total floor area. For craneways, use frame member costs in Section UIP 7. For partially framed structures, see Section UIP 1.

FLOOR STRUCTURE – Apply to area of described floor or mezzanine.

Asphalt, on ground, including base	\$ 2.16	\$ 2.97	\$ 4.07	\$ 5.59
Concrete: on ground (exclusive of vapor barrier)	3.47	4.38	5.53	6.99
Lift slab	10.35	12.05	14.05	16.40
Elevated flat slab and joists	11.70	13.70	16.00	18.75
Pan or waffle slab and joists	10.75	12.50	14.55	16.95
Precast joists and deck	10.15	11.85	13.85	16.15
Precast joists, wood sheathing	7.91	9.23	10.75	12.55
Cored plank on bearing walls	8.87	10.40	12.15	14.20
Steel joists: flat slab	12.60	15.05	18.00	21.55
Corrugated deck and concrete	10.05	12.50	15.60	19.45
Cellular deck and concrete	-----	14.15	18.35	23.85
Open metal grating	18.40	26.25	37.25	53.00
Precast deck	11.00	13.00	15.40	18.20
Wood sheathing	6.13	8.03	10.55	13.80
Light gauge truss joists	5.33	7.09	9.43	12.55
Wood joists and sheathing	5.15	6.83	9.05	12.00
Wood joists and bridging only	3.87	5.33	7.34	10.10

For treated wood, increase costs by 10% to 20%.

FLOOR EXTRAS – Add to floor structure costs.

Vapor barrier	\$.69	\$.98	\$ 1.39	\$ 1.97
Super flat (level) slab on grade, add .60	1.03	1.67	2.62	
Each inch of slab on grade over 10", add . . . . .	.45	.53	.62	.72
Each inch of sheathing over 1", (mill type) add	1.20	1.38	1.58	1.81
Foamed concrete surfacing, 1 1/2" - 2" . . . . .	.96	1.20	1.49	1.86
Floor insulation, add . . . . .	.72	.89	1.09	1.35
Cold storage	1.47	1.86	2.37	3.00
For each inch over 2", add . . . . .	.31	.44	.64	.91

FLOOR COVER – Apply to area of described floor.

	1	2	3	4
Access (computer) floor, on				
stanchions	\$17.90	\$21.30	\$25.50	\$30.25
Full office floors	11.80	13.90	16.40	19.30
Asphalt tile	2.11	2.46	2.87	3.34
Bamboo, laminated plank	9.83	11.70	13.95	16.60
Block, wood, treated	6.19	7.34	8.69	10.30
Brick, common, in mortar	8.14	9.55	11.20	13.15
Brick, industrial, acidproof	14.80	18.40	22.90	28.50
Brick pavers, in concrete	9.55	11.30	13.40	15.90
Carpet and pad	2.11	3.32	5.14	7.85
Custom carpet and pad	7.85	12.55	19.55	30.00
Indoor/outdoor	1.99	2.54	3.25	4.16
Color, concrete . . . . .	.95	1.20	1.51	1.90
Cork	5.45	6.25	7.16	8.20
Diato, magnesite, etc.	7.04	8.13	9.39	10.85
Flagstone, random local stone, in concrete	13.00	15.30	17.95	21.10
Gratings, plastic	10.30	16.80	26.50	41.00
Steel or aluminum	11.05	17.05	26.00	39.50
Stainless steel	46.75	66.00	92.00	130.00
Hardener and sealer, concrete heavy duty . . . . .	.72	.97	1.31	1.77
Aggregate topping, 1/2" - 1"	4.75	6.22	8.14	10.65
*Hardwood	7.53	9.70	12.50	16.10
Sports gym floors on resilient sleepers	8.84	10.80	13.25	16.20
Linoleum	3.45	4.09	4.84	5.74
Marble or granite	22.95	31.00	42.00	57.00
Cast tile	14.40	16.80	19.65	22.95
Melamine/laminated tile	2.75	3.71	4.99	6.73
Deluxe	7.09	8.29	9.70	11.35
Plastic tile, interlocking	6.91	7.65	8.47	9.37
Rubber fabric tile	9.20	10.65	12.35	14.30
Rubber tile or sheet	3.63	4.95	6.75	9.20
Seamless plastic, epoxy, urethane, neoprene, 1/32" - 1/16" thincoat	3.58	4.39	5.39	6.62
1/8" - 3/8"	5.80	7.16	8.83	10.90
Add for colored chips or glitter	1.47	1.86	2.36	2.99
Slate, grouted	14.40	16.90	19.85	23.30
Softwood	6.00	7.13	8.46	10.05
Stone plank	13.45	16.30	19.80	24.00
Synthetic sports surfacing	7.09	8.71	10.70	13.15
Terrazzo (exclusive of base slab) tile	10.00	12.30	15.05	18.50
tile	19.35	22.00	25.00	28.50
Tile, ceramic or quarry	9.83	12.30	15.45	19.35
Custom tile	23.15	27.50	33.00	39.25
*Wood over concrete, hardwood parquet block, prefinished, in mastic	8.49	11.50	15.60	21.10
Softwood	7.01	8.23	9.67	11.35
Vinyl composition tile or sheet	1.93	2.41	3.01	3.75
Vinyl sheet	2.99	4.09	5.60	7.67
Vinyl tile	3.10	4.52	6.59	9.60
*Add for custom wood floors	5.77	12.20	21.85	36.25
For pictorial artwork, add	9.78	13.85	19.60	27.75
Add 15% for conductive floor coverings.				

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES

SECTION SEG 4 (SEGREGATED COST METHOD)

CEILING – Apply to area of described ceiling.

	1	2	3	4
Acoustical ceilings, tile or panels: metal panels, including pads and including pads and suspension system	\$ 6.27	\$ 8.13	\$10.55	\$13.65
Clean room panels, incl. suspension system	10.70	12.10	13.70	15.50
Mineral fiber, fiberglass, panels only	1.32	2.00	3.00	4.51
Organic fiber, wood or cane, panels only	1.86	2.22	2.65	3.17
Embossed metal	4.93	7.04	10.05	14.35
Fiber sports court panel with suspension system	5.16	6.48	8.13	10.20
Gypsum board, taped and painted spray on texture	1.97	2.20	2.47	2.76
Mirror faced panels	1.90	2.10	2.31	2.55
Paint or stain, bottom of roof or floor	18.45	20.60	23.05	25.75
Plaster on lath: acoustical . . . . .	.57	.78	1.07	1.47
Spray on, thincoat with texture on lath or drywall	3.94	4.51	5.17	5.92
Standard, add 20% for Keene's Add for metal lath	2.85	3.20	3.59	4.03
Plaster on masonry soffit: acoustical Spray on, thincoat with texture Standard, add 23% for Keene's	3.41	3.93	4.52	5.21
.49	.57	.66	.77	
3.37	3.85	4.41	5.04	
2.28	2.54	2.84	3.17	
2.84	3.27	3.76	4.33	
Plaster panels, decorative	12.65	14.05	15.65	17.40
Plastic panels, with suspension system, but excluding lighting	6.03	7.48	9.27	11.50
Plywood (softwood) or hardboard panels	2.80	3.36	4.03	4.84
Hardwood	4.09	5.10	6.36	7.94
Coffered or vaulted panel with molding	8.99	12.55	17.55	24.50
Custom wood, site-built	23.95	28.25	33.25	39.00
Poly laminated panels (FRP)	2.99	3.37	3.79	4.27
Insulated panel	4.51	5.15	5.89	6.73
Wood, boards or T & G, softwood Hardwood	2.80	3.36	4.03	4.84
4.43	5.38	6.54	7.94	
Carved, decorative	7.94	11.85	17.75	26.50

CEILING EXTRAS – Add to ceiling costs. For special ornamentation see UIP 2.

Ceramic tile, add	\$11.80	\$15.70	\$20.85	\$27.75
Custom tile, decorative	26.00	32.00	39.50	48.75
Custom papers, stenciling, staff, add Border or coving only	11.45	16.20	22.95	32.50
2.93	3.88	5.13	6.79	
Extensive decorating, cust. plaster, Terra cotta, add	35.50	45.50	58.00	75.00
Wood furring . . . . .	.88	1.10	1.38	1.73
Metal furring	1.40	1.79	2.28	2.91
If ceiling structure is required which is not part of the roof or floor structure, add	1.41	1.81	2.31	2.96
Suspended ceiling, metal, suspension system add	1.24	1.62	2.11	2.75
Fiberglass, FRP	2.00	2.46	3.01	3.70
Hardwood, decorative	3.32	4.66	6.55	9.21
Seismic supports, add . . . . .	.27	.34	.43	.54
Ceiling insulation, add . . . . .	.70	.88	1.12	1.41
Vinyl faced, exposed . . . . .	.96	1.12	1.32	1.54
Add for underdeck supporting bands . . . . .	.32	.38	.45	.53
Rigid board, faced	1.36	1.81	2.40	3.19
Cold storage	2.11	2.82	3.77	5.03
For each inch over 2", add . . . . .	.31	.45	.64	.93
Vapor barrier, plastic14	.20	.28	.39

For specific cold storage insulation, see UIP 8.

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INTERIOR CONSTRUCTION – Apply to total floor area.

Add or deduct 5% for each foot of variation from 14' average story height.

FRAME INTERIOR PARTITIONS

	1	2	3	4
Armories	\$15.85	\$18.65	\$21.90	\$25.75
Automotive centers	5.93	7.93	10.60	14.20
Auto dealerships, complete	3.37	4.77	6.74	9.54
Broadcasting facilities	33.25	40.50	49.25	60.00
Cold storage facilities	1.03	2.55	4.82	8.21
Computer centers	32.00	35.75	40.00	44.75
Creameries	6.37	9.39	13.85	20.40
Garages, minilube	21.00	30.25	43.25	62.00
Service, lower qualities	2.27	3.29	4.76	6.89
Higher qualities (incl. municipal service ctrs.)	3.62	10.85	21.65	37.75
Service shed . . . . .	.74	1.07	1.53	2.21
Storage	1.70	2.49	3.66	5.37
Underground parking	2.27	2.91	3.74	4.80
Hangars, storage . . . . .	.45	1.77	3.74	6.68
Maintenance and offices	3.59	5.21	7.55	10.95
Industrials, manufacturing, light Heavy	1.23	2.80	5.15	8.65
18.90	23.15	28.25	34.75	
Engineering and research	4.84	8.36	13.60	21.45
Laboratories	33.00	39.00	45.75	54.00
Lofts	2.87	5.54	9.54	15.50
Flex buildings	2.19	4.54	8.05	13.30
Miniwarehouses	3.37	4.57	6.19	8.38
High-rise facilities	3.94	5.32	7.19	9.72
Parking structures, parkades	1.02	1.99	3.43	5.58
Passenger terminals	13.00	21.45	34.00	53.00
Post offices, branch	33.25	39.75	47.75	57.00
Main	30.50	38.25	48.00	60.00
Processing facilities	5.46	8.37	12.70	19.20
Showrooms	6.15	8.40	11.45	15.65
T-hangars	1.24	1.64	2.16	2.85
Warehouses, storage . . . . .	.39	1.43	2.99	5.31
Distribution	2.27	3.66	5.75	8.86
Mega storage/distribution . . . . .	.18	1.60	3.72	6.88
Transit	4.21	5.79	7.96	10.95
Add for masonry partitions	15%	12%	10%	10%

MEZZANINES – Apply to open mezzanine area. (Cost of miscellaneous items such as rail, stairs, etc.)

Mezzanine	\$2.67	\$3.41	\$4.35	\$5.55
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MISCELLANEOUS – Apply to total square feet of building area, if required. These costs vary greatly, and the following typical cost ranges should be used with caution. Built-in equipment which is normally included under the general contract is included in the interior construction costs.

Laboratories, fixed equipment	\$15.85	\$19.60	\$24.25	\$30.00
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STORAGE VAULTS – Per square foot of vault area, excluding doors. Add or deduct 2% for each foot of height variation from the 14' standard. For more detailed costs see UIP 2.

Record storage	\$74.00	\$82.00	\$90.00	\$100.00
Modular vault systems, insulated/record storage	47.50	59.00	72.00	89.00

CATWALKS – Apply to linear footage of walkway.

Catwalks, steel	\$100.00	\$115.00	\$135.00	\$160.00
Wood	87.00	100.00	115.00	135.00
Ladders, steel	15.85	21.10	28.25	37.50
Wood	13.75	18.35	24.50	32.75

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES

SECTION SEG 4 (SEGREGATED COST METHOD)

PLUMBING – Apply Table I to total floor area. Use Table II or UIP 3 for more detail.

TABLE I – Typical cost ranges.

	1	2	3	4
Armories	\$ 4.76	\$ 6.87	\$ 9.91	\$14.30
Automotive centers	2.76	4.10	6.10	9.06
Auto dealerships, complete ...	2.82	4.21	6.29	9.39
Broadcasting facilities	2.98	4.38	6.45	9.48
Cold storage facilities	1.11	1.98	3.28	5.22
Computer centers	4.60	6.08	8.03	10.60
Creameries	5.66	8.96	13.90	21.25
Garages, minilube	5.33	8.54	13.35	20.50
Service, lower qualities	2.07	3.46	5.55	8.66
Higher qualities (incl. municipal service centers)	3.47	5.66	8.92	13.80
service shed .....	.30	.45	.67	1.00
Storage	1.36	2.08	3.16	4.77
Underground parking ...	1.49	1.92	2.46	3.17
Hangars, storage .....	.59	1.22	2.15	3.55
Maintenance and offices ...	2.04	3.68	6.12	9.78
Industrials, manufacturing, light	1.50	2.45	3.87	6.00
Heavy	5.40	6.50	7.82	9.41
Engineering and research .	3.85	5.62	8.19	11.95
Laboratories	14.80	21.40	31.00	44.75
Lofts	2.00	3.64	6.09	9.75
Flex buildings	1.61	2.70	4.32	6.75
Miniwarehouses .....	.33	.90	1.74	3.01
High-rise facilities .....	.54	1.16	2.08	3.45
Parking structures, parkades .	.61	1.20	2.09	3.41
Passenger terminals	6.80	10.00	14.70	21.60
Post offices, branch	3.70	4.98	6.71	9.03
Main	4.17	5.85	8.20	11.50
Processing facilities	4.58	6.34	8.78	12.15
Showrooms	4.07	5.73	8.06	11.35
T-hangars .....	.43	.72	1.15	1.80
Warehouses, storage .....	.88	1.59	2.65	4.23
Distribution	2.30	3.45	5.17	7.74
Mega storage/distribution ..	.30	.64	1.15	1.91
Transit	3.40	4.41	5.73	7.44

TABLE II – ALTERNATE METHOD – Apply to total number of fixtures. Do not use these costs if Table I is used.

Cost per fixture	\$2,675	\$3,800	\$5,400	\$7,700
Cost per tap or drain without fixture	515	665	855	1,100

SPRINKLERS – Apply to sprinklered area. Costs include all piping for ordinary-hazard occupancies but do not include tanks. For extra-hazard occupancies, such as hangars, add 15% to the costs below. For supplemental in-rack systems, add 30% to 100% per level. For early-suppression, fast-response system, add \$.28 plus \$.58 to \$.87 for pumps. Chemical systems: see UIP 3. For further discussion, see SEG Intro.

2,500 square feet	\$2.99	\$3.99	\$5.32	\$7.09
5,000	2.69	3.56	4.71	6.24
10,000	2.44	3.20	4.19	5.49
15,000	2.29	2.99	3.90	5.09
20,000	2.17	2.83	3.68	4.80
30,000	2.06	2.66	3.45	4.46
40,000	1.96	2.53	3.27	4.22
50,000	1.91	2.45	3.15	4.05
60,000	1.85	2.37	3.04	3.90
80,000	1.77	2.26	2.89	3.70
100,000	1.73	2.20	2.80	3.56

SPRINKLERS (Continued)

	1	2	3	4
125,000 square feet	\$1.66	\$2.11	\$2.68	\$3.41
150,000	1.61	2.05	2.60	3.31
200,000	1.55	1.96	2.48	3.14
250,000	1.50	1.89	2.38	2.99
300,000	1.46	1.83	2.30	2.88
400,000	1.40	1.75	2.19	2.73
600,000	1.31	1.64	2.04	2.55
800,000	1.26	1.57	1.95	2.43
1,000,000	1.21	1.50	1.87	2.32

HEATING, COOLING AND VENTILATING – Apply to total floor area.

Add or deduct 3% for each foot of variation in average story height from 14' base.

Costs are given for gas fired heating surfaces. Add or deduct as follows for other fuels.

Oil fired +7% Coal, stoker +7% Coal, hand-fired -2%
For Passenger Terminals, Research Labs and Cold Storage Buildings, use costs in the Calculator Section.

Heating Only

Electric cable or baseboard ..	\$2.65	\$3.44	\$4.47	\$5.80
Radiant panels	2.53	3.01	3.58	4.26
Electric wall heaters (including FWA)	1.38	1.65	1.97	2.36
Forced air	3.02	3.91	5.06	6.55
Hot water, baseboard or radiators	4.90	6.53	8.70	11.60
Radiant floor	4.75	6.54	9.01	12.40
Radiant heat, gas, suspended	1.47	2.00	2.72	3.70
Space heaters, gas, with fan ..	1.23	1.71	2.38	3.31
Steam coil, with boiler	2.08	2.70	3.50	4.54
Steam coil, without boiler ..	1.47	1.97	2.65	3.56
Steam radiator, with boiler ...	4.68	6.05	7.82	10.10
Without boiler	3.76	4.99	6.63	8.80
Wall or floor furnace	1.47	1.79	2.18	2.65

Heating and Cooling

Zoned A.C., hot and chilled water	\$12.70	\$16.75	\$22.15	\$29.25
Warm and cooled air	7.33	9.79	13.05	17.45
Package heating and cooling, short ducts	5.58	7.35	9.68	12.75
Heat-pump system	6.01	8.33	11.55	16.00
Add for ground loop heat source	1.55	2.25	3.27	4.75
Individual thru wall heat pump ...	2.60	3.57	4.89	6.71

Cooling Only

Evaporative coolers	\$2.60	\$3.11	\$3.73	\$ 4.46
Refrigerated air conditioning only, zoned system	5.03	6.48	8.35	10.75
Package unit, short ducts ..	3.56	4.49	5.66	7.13
Ventilation only, with ducts & blowers	.91	1.17	1.49	1.91

MISCELLANEOUS – Apply to square feet of floor area of described laminar flow coverage. These costs vary greatly and the following typical cost ranges should be used with caution.

Clean rooms,				
Class 100,000 to 10,000 ...	\$165	\$ 220	\$ 295	\$ 395
Class 1,000 to 100	500	600	725	870
Class 100 to 10	830	1,440	2,360	3,725

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES

SECTION SEG 4 (SEGREGATED COST METHOD)

ELECTRICAL AND LIGHTING – Apply to total floor area. Broadcasting facilities, computer centers, laboratories, passenger terminals and other buildings with heavy demand loads are not included in the general tables.

	1	2	3	4
Few Outlets:				
Nonmetallic	\$1.86	\$2.46	\$3.24	\$4.28
Armored cable (BX)	2.27	2.97	3.88	5.07
Flexible conduit	2.71	3.53	4.61	6.01
Rigid conduit	3.29	4.25	5.49	7.09
Average Number of Outlets:				
Nonmetallic	\$3.26	\$4.27	\$5.58	\$ 7.30
Armored cable (BX)	3.89	5.08	6.64	8.67
Flexible conduit	4.63	6.03	7.86	10.25
Rigid conduit	5.52	7.19	9.37	12.20
Many Outlets:				
Nonmetallic	\$5.72	\$ 7.41	\$ 9.61	\$12.45
Armored cable (BX)	6.73	8.75	11.40	14.80
Flexible conduit	7.91	10.30	13.45	17.55
Rigid conduit	9.30	12.20	15.95	20.90
Unfinished Areas:				
Nonmetallic	\$1.16	\$1.55	\$2.06	\$2.75
Armored cable (BX)	1.46	1.91	2.49	3.25
Flexible conduit	1.80	2.31	2.97	3.82
Rigid conduit	2.21	2.79	3.53	4.47

Typical costs for some occupancies.

	1	2	3	4
Armories	\$ 6.40	\$ 8.24	\$10.60	\$13.65
Automotive centers	4.76	6.75	9.58	13.60
Auto dealerships, complete	6.50	9.26	13.20	18.80
Broadcasting facilities	13.25	18.25	25.00	34.50
Cold storage facilities	3.68	5.50	8.23	12.30
Computer centers	18.60	24.45	32.25	42.25
Creameries	4.43	7.06	11.00	16.85
Garages, mini-lube	5.69	8.67	13.10	19.75
Service, lower qualities	3.44	5.66	8.99	13.95
Higher qualities				
(incl. municipal service ctrs.)	5.72	9.73	15.70	24.65
Service shed	1.30	1.95	2.93	4.38
Storage	2.56	4.02	6.21	9.48
Underground parking	3.65	4.50	5.56	6.86
Hangars, storage	1.70	2.61	3.97	6.00
Maintenance and offices	4.79	7.19	10.80	16.15
Industrials, manufacturing, light	2.98	5.32	8.82	14.05
Heavy	12.40	15.30	18.85	23.25
Engineering and research	6.41	9.35	13.65	19.90
Laboratories	18.65	27.25	39.75	58.00
Lofts	4.45	7.04	10.90	16.70
Flex buildings	2.85	4.73	7.55	11.75
Mini warehouses	1.57	2.31	3.41	5.03
High-rise facilities	1.88	2.79	4.15	6.17
Parking structures, parkades	1.88	3.20	5.18	8.14
Passenger terminals	10.95	16.65	25.25	38.00
Post offices, branch	11.05	14.50	19.05	25.00
Main	11.95	15.80	20.85	27.50
Processing facilities	15.70	21.30	29.00	39.25
Showrooms	8.44	11.55	15.75	21.50
T-hangars	1.42	2.11	3.12	4.63
Warehouses, storage	1.41	2.49	4.11	6.53
Distribution	3.32	5.40	8.51	13.15
Mega storage/distribution	1.53	2.80	4.69	7.51
Transit	4.16	6.23	9.33	13.95

EXTERIOR WALL – Apply to total wall area.

Concrete or Masonry Walls

	1	2	3	4
Adobe or hollow clay block, 6"	\$18.50	\$21.00	\$23.80	\$27.00
8"	19.85	22.65	25.75	29.50
12"	22.65	25.75	29.25	33.25
14"	24.95	28.50	32.25	36.75
Adobe block, grouted or cavity				
22" – 24"	28.50	32.50	37.25	42.50
30" – 32"	31.25	35.50	40.50	46.00
Block, concrete, 6"	16.20	18.40	20.85	23.65
8"	17.40	19.75	22.45	25.50
12"	19.90	22.55	25.50	29.00
16"	22.40	25.25	28.75	32.50
For each additional 4" of block, add	2.53	2.85	3.21	3.62
Block, grouted or cavity, 10" – 12"	18.90	21.35	24.10	27.25
*Add for ornamented face block	1.32	1.99	2.99	4.49
Brick, block backup, 8"	20.95	23.80	27.00	30.75
12"	23.45	26.50	30.25	34.25
16"	25.75	29.25	33.25	37.75
Brick, common, 8"	23.45	26.50	30.25	34.25
12"	28.50	32.25	36.50	41.50
16"	34.25	38.50	43.50	49.00
For each additional 4" of brick, add	5.39	5.99	6.65	7.39
Brick, grouted or cavity, reinforced, 9"–10"	25.75	29.25	33.00	37.50
Block backup, 9"–10"	23.30	26.25	29.75	33.50
Block backup, 12"–14"	25.75	29.00	33.00	37.25
Brick, 6" SCR modular	17.65	20.20	23.15	26.50
8"	19.75	22.45	25.50	29.00
*Add for face brick	2.88	3.17	3.49	3.84
Concrete, reinforced, formed, 4"	18.15	20.65	23.50	26.75
6"	19.55	22.15	25.25	28.50
8"	21.20	24.00	27.25	30.75
12"	24.25	27.25	30.75	34.75
For each additional 4" of concrete, add	3.02	3.29	3.58	3.89
Precast panels, 2"	15.05	17.10	19.45	22.10
4"	16.10	18.30	20.75	23.55
6"	17.65	20.00	22.70	25.75
8"	19.65	22.20	25.00	28.25
12"	23.15	26.00	29.25	32.75
Tilt-up panels, 4"	14.95	17.10	19.60	22.45
6"	16.05	18.40	21.10	24.20
8"	17.30	19.80	22.70	26.00
10"	18.60	21.30	24.45	28.00
12"	20.00	23.00	26.50	30.50
Add for insulated sandwich	1.58	1.95	2.40	2.96
Add for brick or tile inserts	5.76	7.05	8.62	10.55
Glass block, white or aqua	45.25	48.00	51.00	54.00
Colors or reflective	59.00	63.00	67.00	71.00
Local stone, block backup, ashlar veneer, 12"	37.75	43.25	49.75	57.00
Rubble or rustic, veneer, 12"	30.25	35.00	40.50	46.75
For each 4" variation in thickness	2.56	2.87	3.22	3.61
Local field stone, in mortar, 12"	26.25	30.25	34.75	40.00
For each 4" variation in thickness	2.38	2.76	3.20	3.71
Local stone, rough cut, solid, 12"	45.25	54.00	64.00	76.00
Granite	46.25	58.00	72.00	89.00
Limestone	50.00	60.00	71.00	85.00
For each 6" variation in thickness	20.30	23.80	28.00	32.75
Rammed earth, soil cement, 24"	20.05	23.30	27.00	31.50
Pneumatic build-up, formed one side	31.75	36.00	41.00	46.50
For each 6" variation in thickness, add or deduct	1.28	1.48	1.71	1.98
Tile, structural clay, 6"	17.15	19.65	22.50	25.75
10"	20.15	23.05	26.50	30.25

***NOTE:** The additional cost for face block or brick is the difference between the cost of face block or brick and standard block or common brick in place as part of a wall. For the cost of ornamented, face, or synthetic masonry veneer, see Wall Ornamentation on Page 8.

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES

SECTION SEG 4 (SEGREGATED COST METHOD)

EXTERIOR WALL (Continued)

Concrete or Masonry Wall Extras

	1	2	3	4
Add for stay in place forming . . .	\$ 1.02	\$1.38	\$1.87	\$2.53
Add for glazed block or tile, each side	6.17	6.89	7.70	8.60
Add for pilasters	1.11	1.36	1.67	2.04
Add for bond beams	1.21	1.45	1.75	2.10
Add for seismic reinforcement . . .	.50	.81	1.28	1.98
Add for synthetic plaster on rigid insulation (EIFS)	4.77	5.83	7.14	8.73
Deluxe, textured or aggregate	7.90	9.43	11.25	13.45
Add for thin masonry on rigid insulation	12.10	13.50	15.05	16.75
Add for clay tile backup in lieu of block	2.03	2.40	2.84	3.36
Add for earth sheltered waterproofing .	.90	1.37	2.08	3.14
Add for insulation . . . . .	.72	1.04	1.51	2.18
Earth sheltered structures	1.21	1.78	2.61	3.84
For special stonework, see UIP 6.				

Curtain Walls

Brick or tile panels	\$23.15	\$27.75	\$33.25	\$40.00
Concrete and glass panels, precast . .	29.00	33.50	38.50	44.25
Glass fiber reinforced, molded	24.65	30.00	36.50	44.25
Metal and glass panels (ordinary) . . .	31.75	37.50	44.00	52.00
Stainless steel or bronze and glass . .	47.00	54.00	63.00	73.00
Stone panels, local stone	43.50	48.00	53.00	58.00
Granite	46.50	53.00	60.00	69.00
Limestone or slate	44.25	48.75	54.00	59.00
Marble	45.00	51.00	57.00	64.00
Composite or aggregate panels	29.00	35.75	44.00	54.00
Structural glazed atrium including supports	70.00	93.00	125.00	165.00
Steel studs and stucco	17.10	19.95	23.35	27.25
Synthetic plaster on rigid Insulation (EIFS)	19.35	23.20	27.75	33.25
Deluxe, textured or aggregate	22.55	26.75	32.00	38.00
Wood or aggregate board siding	16.35	20.00	24.50	30.00
Add for insulation, insulated areas only . . . . .	.95	1.40	2.08	3.07

Pre-engineered Walls

Sandwich panels, alum. or steel, both sides	\$17.40	\$20.45	\$24.05	\$28.25
Cold storage, metal, both sides	21.65	24.85	28.50	32.75
Cement fiber or shotcrete, two sides	13.00	15.90	19.40	23.70
Fiberglass panels, two sides	16.70	20.20	24.40	29.50
Glass exterior, metal interior add for stainless steel or textured Galbestos	3.05	3.63	4.33	5.16
Add for poly laminated (FRP) interior . . . . .	.84	1.02	1.24	1.50
Deduct for gypsum or hardboard interior	1.32	1.44	1.57	1.71
Prefabricated building panels Alum. or steel and glass panels	25.75	28.50	31.50	35.00
Add for porcelain enamel finish	2.64	3.14	3.74	4.45
Add for block backup	5.45	6.12	6.88	7.73
Stucco on steel panel	28.00	31.50	35.25	39.75
Veneer, block or brick, on Steel panel	31.75	36.25	41.50	47.50
Stone, rubble or rustic	41.00	45.25	49.75	55.00

EXTERIOR WALL (Continued)

Single-wall Construction

	1	2	3	4
Aluminum or steel, on steel frame \$6.20	\$7.81	\$9.84	\$12.40	
On wood frame	5.48	6.93	8.77	11.10
Add for porcelain enamel finish	2.64	3.14	3.74	4.45
Add for stainless steel or textured Galbestos	3.05	3.63	4.33	5.16
Cement fiber (Transite), on Steel frame	6.56	8.11	10.05	12.40
Sheet siding on wood frame	5.92	7.37	9.16	11.40
Siding or shingles on wood frame	6.46	7.95	9.79	12.05
Fiberglass light panels, on Steel frame	5.29	6.17	7.21	8.41
Sandwich panels	6.55	7.34	8.22	9.21
Heavy, FRP, over 8 oz.	7.70	9.35	11.35	13.80
Light panels on wood frame	4.63	5.42	6.34	7.42
Sandwich panels	5.91	6.59	7.35	8.20
Heavy, FRP, over 8 oz.	7.07	8.62	10.50	12.80
Glass panels	17.80	23.60	31.25	41.50
Projected greenhouse	42.75	48.75	55.00	63.00
Log, up to 10" diameter	16.30	21.55	28.50	37.75
Deluxe, hand hewn or oversized	22.95	29.50	37.75	48.50
Plywood, boards or siding, On steel frame	6.35	7.89	9.81	12.20
On wood frame	5.56	6.96	8.71	10.90
Stucco, on baled straw	14.80	17.75	21.25	25.50
Stucco, on wood frame	6.59	7.92	9.52	11.45
Synthetic plaster on rigid insul. (EIFS), on steel frame	9.69	11.70	14.20	17.15
Wood shingles on wood frame	6.76	8.15	9.83	11.85
Add for exterior sheathing, per layer .	1.13	1.29	1.47	1.67
Add for interior sheathing or liner, finished	1.88	2.23	2.65	3.14
Poly laminated panel (FRP)	2.60	3.09	3.68	4.38
Add for stud wall backing . . . . .	.72	.87	1.05	1.27
Add for insulation . . . . .	.70	.84	1.02	1.23
Vinyl faced, exposed . . . . .	.91	1.02	1.14	1.27
Rigid board, faced	1.18	1.55	2.03	2.67
Add for air infiltration wrap . . . . .	.19	.25	.32	.42

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES

SECTION SEG 4

(SEGREGATED COST METHOD)

EXTERIOR WALL (Continued)

Wood or Steel Stud Walls

	1	2	3	4
Alum. or steel siding, horizontal	\$13.55	\$15.95	\$18.80	\$22.15
Sheet panels	12.15	14.45	17.15	20.35
Asphalt siding	11.90	13.90	16.30	19.05
Cement fiber, siding or shingles,				
Horizontal	13.25	15.60	18.40	21.65
Sheet, embossed	12.50	14.60	17.00	19.85
Hardboard siding or shingles,				
Horizontal	13.10	15.25	17.75	20.65
Sheet, embossed	12.45	14.45	16.80	19.55
Plywood, textured	11.75	13.75	16.10	18.85
Deluxe, redwood, cedar, etc.	13.15	15.40	18.05	21.15
Shingles or shakes, wood	13.30	15.70	18.55	21.90
Stucco	13.45	15.85	18.65	22.00
Synthetic plaster on rigid				
insulation (EIFS)	15.70	18.55	22.00	26.00
Deluxe, textured or aggregate	18.45	21.85	26.00	30.75
Vinyl siding or shingles	13.45	15.85	18.65	22.00
Wood siding	12.70	14.90	17.45	20.45
Deluxe, redwood, cedar, etc.	13.75	16.30	19.40	23.00
log veneer siding	14.90	18.45	22.80	28.25
Deluxe, half round, full corners	23.25	26.50	30.00	34.00
Veneer, face block or concrete brick	16.90	19.70	22.95	26.75
Common brick	17.10	20.05	23.45	27.50
Face brick	19.55	22.80	26.50	31.00
Mortarless brick	19.85	22.95	26.50	30.75
Stone, ashlar veneer	30.00	35.25	41.25	48.50
Rubble or rustic	23.90	28.25	33.25	39.25
Synthetic veneer or panel . .	16.60	20.40	25.00	30.75
Thin veneer on rigid insulation	21.00	24.40	28.50	33.00
Add for sheathing . . . . .	.89	1.10	1.37	1.70
Add for seismic/wind bracing .	.50	.61	.74	.90
Add for insulation . . . . .	.69	.83	1.00	1.20
Add for air infiltration wrap . . .	.22	.28	.35	.45
Add for air space wrap . . . . .	.65	.74	.84	.95
Add for double-stud walls	1.38	1.69	2.07	2.53
Add for wood stresskin				
Sandwich panels	4.25	5.02	5.93	7.01

HANGAR DOORS – Per square foot of door. For fabric curtain doors, use rank 4 base costs where costs may vary from a plus 20% to minus 10%.

	1	2	3	4
Steel doors,				
Small hangars, to 20' high . .	\$17.90	\$25.75	\$37.25	\$ 54.00
Medium hangars, to 40' high	38.25	49.00	63.00	80.00
Large hangars, over 40' high	58.00	72.00	89.00	110.00

MISCELLANEOUS – Apply to total square feet of lined area if required.

Secure compartmentalization,				
layered drywall	\$ 5.56	\$ 6.33	\$ 7.20	\$ 8.20
Metal shielding, radio frequency	23.15	31.50	43.25	59.00
radiation protection	13.45	17.00	21.55	27.25
Ballistic shielding,				
fiberglass panels	21.35	31.00	44.75	65.00
Cold storage, insulation board	1.70	2.29	3.09	4.16
for each inch over 2", add . .	.30	.44	.64	.93

STAINED GLASS – Apply to art glass in window, dome or skylight area. These costs vary greatly, and the following typical cost ranges should be used with caution. See Section UIP 6 for complete description and detailed costs. For residential straight seams or simple bevel, deduct 50% from the Low Cost.

Low cost, plain, min. work or detailed				
bevel etched	\$ 69	\$ 94	\$130	\$175
Average, simple figures and				
scenes	220	295	390	520
High cost, highly detailed work				
(including domes)	470	645	890	1,220

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES

SECTION SEG 4 (SEGREGATED COST METHOD)

WALL ORNAMENTATION – Apply to ornamented area.

	1	2	3	4
Brick, split face, Roman or Norman	\$ 10.70	\$ 12.35	\$ 14.25	\$ 16.45
face, standard size	11.75	13.60	15.80	18.30
Mortarless brick	12.35	14.15	16.15	18.50
Select common	10.55	12.15	14.05	16.20
Used	11.45	13.15	15.15	17.40
Sim. veneer or panel, 1/4"– 3/8"	9.31	11.30	13.70	16.60
Thin veneer on rigid insulation	12.25	13.65	15.20	16.90
Add for pictorial carved artwork	150.00	170.00	195.00	225.00
Cement fiber siding	3.27	3.98	4.85	5.91
Concrete, ornamental cast stone	23.70	28.25	33.75	40.25
Concrete block, imitation flagstone	9.55	11.10	12.90	15.00
Aolar screen	10.20	11.95	13.95	16.35
Ornamental face, slump, fluted,				
Split or ground	10.20	11.80	13.60	15.70
Glazed one side, add	6.15	6.90	7.73	8.67
Cut stone, carved	100.00	145.00	210.00	305.00
Glass block, white or aqua	38.75	42.75	47.25	52.00
Colors or solar reflective	54.00	59.00	64.00	70.00
Granite, ashlar or panel	49.25	57.00	66.00	76.00
Limestone, ashlar or panel	36.50	42.50	49.75	58.00
Local stone, ashlar veneer or panel	31.50	37.00	43.50	51.00
Rubble or rustic	22.85	27.25	32.75	39.25
Imitation precast stone	10.70	13.85	17.95	23.25
Marble, panels	40.25	47.00	55.00	64.00
Metal panels, screens, louvers	17.25	22.55	29.50	38.50
Preformed wall panels	3.10	5.61	9.35	14.95
Add for curved panels	.89	1.28	1.85	2.67
Ornamental doorways	61.00	120.00	205.00	335.00
Slate, panels	35.00	40.25	46.25	53.00
Stucco	3.87	4.34	4.86	5.45
On masonry	3.27	3.64	4.05	4.51
Add for synthetic on rigid				
Insulation (EIFS)	2.41	3.08	3.94	5.03
*Built-up (EIFS) panel relief	5.16	6.58	8.39	10.70
Terra cotta	27.75	32.75	38.75	45.75
Tile, ceramic	13.45	15.50	17.80	20.50
*Mosaics	20.20	24.30	29.25	35.25
Hand painted tiles	110.00	150.00	210.00	285.00
Vinyl siding	3.40	4.01	4.72	5.56
Vitrolite (structural glass)	22.55	26.50	31.00	36.50
Wood, plywood	2.51	3.16	3.98	5.02
Shingles	3.50	4.16	4.95	5.89
Siding	3.27	4.02	4.94	6.07
Ornamented molding or trim	10.40	14.00	18.90	25.50
Add for treated wood	.51	.61	.73	.87
*Note - For pictorial artwork, add	10.90	15.20	21.15	29.50

BASEMENT WALLS – Apply to basement wall area.

	1	2	3	4
Concrete block, reinforced, 6"	\$10.75	\$12.20	\$13.85	\$15.75
8"	12.05	13.65	15.40	17.45
12"	14.45	16.40	18.60	21.10
For each additional 4" of block, add	2.58	2.89	3.24	3.63
Concrete, reinforced, 6"	13.10	14.80	16.65	18.80
8"	14.65	16.50	18.60	20.95
12"	17.75	19.85	22.25	24.90
16"	20.80	23.10	25.75	28.50
For each additional 4" of concrete, add	3.05	3.32	3.61	3.92
Masonry, brick, 8"	18.05	20.30	22.85	25.75
Stone, 12"	25.25	29.25	34.00	39.50
For each 4" variation in thickness	5.45	6.03	6.68	7.39
Wood, treated	9.81	12.10	14.95	18.50
Add for stay in place forming	.65	.95	1.40	2.06
Add for waterproofing	1.01	1.25	1.54	1.91
Earth sheltered structures	1.24	1.83	2.71	4.00
Add for insulation	.75	1.07	1.53	2.18
Earth sheltered structures	1.20	1.77	2.61	3.86

For specific earth sheltered waterproofing, see Section UIP 1.

EXTERIOR AND BASEMENT STAIRS – Per riser.

Concrete	\$170	\$235	\$330	\$455
Steel pans or prefab. concrete				
on steel	190	260	350	480
Steel or aluminum grating	220	290	390	515
Wood	61	97	150	230

For fire escapes, see Section UIP 5.

EXTERIOR BALCONIES – Apply to balcony area.

Concrete	\$18.75	\$24.45	\$31.75	\$41.50
Steel	17.55	24.00	33.00	45.00
Wood	14.55	19.85	27.00	37.00
Add for ornate finishes,				
balustrades	15.85	19.75	24.65	30.75

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES

SECTION SEG 4 (SEGREGATED COST METHOD)

ROOF STRUCTURE – Apply to roof area.

	1	2	3	4
Concrete joists, slab	\$10.35	\$11.75	\$13.35	\$15.15
Lift slab	9.42	10.60	11.90	13.40
Pan or waffle slab and joists	9.59	10.80	12.15	13.70
Precast joists and deck	9.08	10.25	11.55	13.05
Precast joists, wood deck . . .	7.22	8.11	9.12	10.25
Cored plank on bearing walls	8.06	9.09	10.25	11.55
Thin shell	15.40	18.30	21.70	25.75
Concrete dome, cast-in-place	35.25	38.50	42.25	46.25
Thin shell	22.70	25.50	28.75	32.25
Fabric roof, air supported	37.25	40.50	43.75	47.50
Tension supported	42.00	46.50	51.00	57.00
Add for thermal liner	3.61	4.41	5.38	6.57
Steel joists, concrete slab	11.40	13.25	15.35	17.85
Gypsum on formboard	5.13	6.77	8.94	11.80
Precast deck	10.00	11.55	13.40	15.50
Steel deck	5.37	7.25	9.78	13.20
Light-gauge truss joints	4.41	6.06	8.33	11.45
Steel deck, gypsum or concrete	7.23	9.40	12.25	15.90
Wood or composition deck	4.39	5.98	8.15	11.10
Light gauge truss joists	3.59	5.01	6.98	9.74
Open steel system for				
Corrugated metal	2.55	3.70	5.35	7.76
Light purlin supports only	1.23	1.60	2.08	2.70
Steel space frame and sheathing				
three dimensional	18.30	24.15	31.75	42.00
Architectural (exclusive of glazing)	31.25	46.75	70.00	105.00
Metal dome and cover	28.50	32.75	37.50	43.00
Glazed or translucent panels	60.00	75.00	93.00	115.00
Wood joists, wood or				
Composition deck	3.30	4.69	6.66	9.47
Exposed rafters, 2" T&G sheathing	5.33	7.09	9.43	12.55
Prefab. panels (exclusive of girders)	1.70	2.13	2.67	3.34
Stresskin sandwich panels				
(exclusive of purlins)	6.13	7.89	10.15	13.05
Add for snow roof, furred				
Sheathing layer	1.87	2.06	2.28	2.51
Open wood system for				
Corrugated metal	1.63	2.69	4.27	6.63
Light purlin supports only for				
metal, wood or fiberglass	.61	.85	1.19	1.67
Lamella	11.55	14.00	16.95	20.50
Wood dome and deck	18.10	22.45	27.75	34.50
Add for seismic/hurricane truss ties	.33	.40	.48	.58
Add for monitor roof	60%	50%	40%	40%
Add for sawtooth roof	40%	35%	30%	25%
Add for complex roof turrets,				
ornate trim	70%	55%	45%	35%
For treated wood, increase costs by 10% to 20%.				

ROOF COVER – Apply to roof area.

	1	2	3	4
Aluminum or steel, corr., crimped or tile panels,				
Preformed, light, to 26 gauge	\$ 1.75	\$ 2.34	\$ 3.12	\$ 4.16
Heavy, under 26 gauge	3.69	4.37	5.19	6.15
Formed seam, flat or standing	4.40	5.75	7.52	9.83
Batten seam	5.16	6.65	8.57	11.05
Sandwich panels, pre-engineered	6.79	9.09	12.15	16.30
Cold storage	17.05	19.85	23.15	27.00
Shingles	3.51	4.40	5.51	6.91
Aggregate finish	4.57	5.74	7.22	9.07
Thatch	15.85	17.70	19.70	22.00
Add for interior liner, metal . .	1.64	1.93	2.28	2.69
Plastic	1.58	1.86	2.19	2.58
Add for porcelain enamel finish	2.64	3.14	3.74	4.45
Add for stainless steel				
or textured (Galbestos)	3.05	3.63	4.33	5.16
Asphalt, corrugated	1.40	1.69	2.04	2.46
Atrium skylight, frame and glazing	30.00	41.00	56.00	76.00
Built-up composition	1.58	2.10	2.78	3.69
Cement fiber, shingles	3.51	4.55	5.91	7.67
Corrugated or sheet (Transite)	3.17	4.67	6.89	10.15
Composition, roll, mineral surface	.88	1.11	1.40	1.76
Composition shingles, light to 235#	1.58	1.83	2.12	2.46
Heavy, over 235# or laminated	2.06	2.67	3.47	4.51
Copper, flat or standing seam . .	10.60	12.50	14.80	17.45
Batten seam	11.45	13.50	15.90	18.75
Shingles	10.65	11.60	12.65	13.75
Elastomeric or modified				
Bitumen, single ply	2.87	3.88	5.24	7.09
Reinf. sheet or spray-fluid coat	4.98	6.00	7.24	8.73
Fiberglass, corrugated or sheet, light	1.76	2.14	2.61	3.17
Sandwich panels	3.17	3.67	4.26	4.93
Heavy, FRP, over 8 oz.	3.51	4.54	5.88	7.62
Slate	6.73	8.34	10.35	12.80
Red	13.00	16.15	20.05	24.90
Composite, reinforced fiber	4.80	5.99	7.47	9.31
Terne, flat or standing seam . . .	9.78	11.70	14.00	16.75
Batten seam	10.60	12.65	15.10	18.00
Tile, clay	5.69	7.71	10.45	14.15
Concrete	4.51	5.45	6.59	7.97
Plastic or rubber	3.92	4.69	5.62	6.73
Add for custom coloring or glazing	1.23	1.57	2.02	2.58
Wood, shakes	3.27	3.87	4.59	5.43
Shingles	2.88	3.47	4.17	5.02
Fiber shingles	2.06	2.50	3.04	3.69
Plywood sheets	1.15	1.34	1.57	1.83
Add for fire-resistant finish . .	.49	.60	.73	.89
Add for roof insulation . . . . .	.89	1.39	2.13	3.24
Earth sheltered structures	1.30	2.12	3.35	5.19
Add for earth sheltered waterproofing	1.12	1.76	2.72	4.16

NOTE: For underroof insulation and supporting structures, see Ceiling Extras on Page 3. For specific earth-sheltered waterproofing, see Section UIP 1. For earthen roof cover, see Fill costs on Page 1. For cold storage insulation, see Ceiling Extras or Section UIP 7 for detailed costs.

GARAGES, INDUSTRIALS, LOFTS AND WAREHOUSES

SECTION SEG 4 (SEGREGATED COST METHOD)

ROOF MODIFIERS – Use the following multipliers for sloping roofs 6' : 12' or greater to convert the unit costs to cost per square foot of horizontal roofed area.

Rise	:	Run	Multiplier	Rise	:	Run	Multiplier
6'	:	12'	1.12	12'	:	12'	1.42
8'	:	12'	1.20	18'	:	12'	1.80

TRUSSES AND GIRDERS – Apply to area supported.

	1	2	3	4
Steel trusses or longspan girders	\$2.46	\$3.25	\$4.29	\$5.66
Timber trusses	2.65	3.50	4.64	6.13
Glued, laminated trusses or girders	2.46	3.20	4.17	5.43

CANOPIES OR MARQUEES – Apply to horizontal area. For light false mansard structures, deduct 50%. For greater detail, see Section UIP 4 or 6.

Wood frame	\$22.50	\$28.00	\$34.75	\$43.25
Steel frame	28.75	36.50	46.50	59.00

MISCELLANEOUS

Automotive lifts	Section UIP 11
Automotive repair and lube equipment	Section UIP 12
Automotive spray booths	Section UIP 12
Cranes, elevators and material handling	Section UIP 7
Security systems	Section UIP 3
Shipping dock equipment	Section UIP 12
Site paving and fencing, railroad spurs	Section UIP 13
Sound systems	Section UIP 2
Storage tanks	Section UIP 8
Warehouse racks and equipment	Section UIP 12

NUMBER OF STORIES MULTIPLIER

To allow for the cost of hoisting materials, increased labor costs, and miscellaneous costs due to high-rise construction, multiply the total Segregated Costs of aboveground portions of the building by 100% plus .25% for each story over three.

Example: Seven-story building: Multiplier = 1.010

SPECIAL HEIGHT MULTIPLIER – TALL BUILDINGS

To allow for the cost of hoisting materials, increased labor costs, and other increased costs due to great wall heights on major hangars or other tall single-story buildings, multiply the total Segregated Cost of these buildings by 100% plus .25% for each foot over 30 feet of wall height.

Example: Story height = 50 feet: Multiplier = 1.050

COMPLETION OF BUILDING VALUATION

Contractors' overhead and profit, sales taxes, permit fees, and insurance during construction are included in the above costs. Interest on interim construction financing is also included, but not financing costs, real estate taxes, or broker's commissions.

Architects' fees are not included and should be added from Appendix C.

Depreciation suggestions are given in Appendix A.

County Multipliers which bring the basic costs up to date for each locality are found in Appendix D.

OFFICES, BANKS AND HOSPITALS

SECTION SEG 5 (SEGREGATED COST METHOD)

Office buildings, medical buildings and public buildings comprise a wide range of buildings from the small neighborhood office to the multistory skyscraper. Within each group, certain segregated costs may vary greatly.

Interior construction in most of these buildings usually can be priced on the square foot basis; however, in buildings such as offices with large open areas, it may be advisable to verify by the built-up cost method in Section UIP 2.

Miscellaneous interior additives include special items found in some buildings, which are not usually included in the general contract for the building, but are a necessary part of the occupancy.

Mixed occupancies should be valued by separating the areas and pricing each occupancy on its individual basis.

Plumbing costs are given on the basis of floor area; however, it may be better in many cases to make an actual count of fixtures and to price them from Section UIP 3.

SEGREGATED COSTS

(For explanation of the rating numbers see Introduction to SEG Method.)

EXCAVATION AND SITE PREPARATION

	1	2	3	4
Excavation, bulk (per cu. ft.) . . .	\$.34	\$.46	\$.63	\$.86
Seismic, dry moat (per cu. ft.) . .	.52	.65	.81	1.01
Fill (per cu. ft. of compacted earth)	.35	.45	.57	.72
Site preparation (per sq. ft. of site)	.30	.38	.49	.63

FOUNDATION – Apply to total floor area including basements, but excluding mezzanines or balconies.

	1	2	3	4
Class A	\$2.72	\$3.52	\$ 4.56	\$ 5.90
Class B	2.94	3.76	4.81	6.15
Class C, bearing wall	2.52	3.27	4.25	5.51
Nonbearing wall	2.42	3.14	4.08	5.30
Class D, masonry veneer	2.27	2.97	3.88	5.07
Siding or stucco	2.01	2.63	3.43	4.48
Pole frame construction	1.90	2.46	3.18	4.11
Class S	2.01	2.64	3.46	4.54
Classes C, D and S, light perimeter foundation for open shell type structures . . . . .	.78	1.01	1.31	1.70
Add for perimeter insulation,				
Ground floor area only . . . . .	.12	.18	.27	.41
Earth sheltered structures . . . . .	.16	.25	.39	.59
Add for seismic, base isolators	4.86	6.99	10.05	14.45
damping devices	1.90	2.59	3.52	4.80
Lifeline structures (hospitals, etc.)	4.28	5.62	7.37	9.67

FOUNDATION ADJUSTMENTS – Apply to base cost used.

Add 2% for each foot over 12' average story height.
Deduct 2% for each foot under 12' average story height.
For multistory buildings deduct .8% for each story over one, above-ground. For one story buildings with foundations and footings formed and poured monolithically with floor slabs, use 70% of the above costs, for that floor only. Add for pilings from Section UIP 1. If foundations are brick or stone instead of concrete, increase costs by 20%. For concrete block, reduce costs by 8%.

FRAME – Apply to total floor area including basements, but excluding mezzanines or balconies.

Bearing walls, wood or steel floor supports only	\$ 1.54	\$ 1.82	\$ 2.16	\$ 2.55
Masonry supports only	2.23	2.63	3.10	3.65
Steel, fireproofed, Class A	15.85	19.40	23.70	29.00
Composite, concrete steel, Class B	14.75	17.60	20.95	25.00
Concrete, reinforced, Class B	14.55	17.60	21.30	25.75
precast, post tensioned	13.85	16.50	19.65	23.40
Steel, Classes C and D	6.05	7.53	9.36	11.65
Class S	5.66	7.08	8.87	11.10
Light pre-engineered frame	3.57	4.45	5.55	6.92
Light tubular/pipe frame	2.24	2.92	3.80	4.95
Add for fireproofing . . . . .	.91	1.46	2.27	3.49
Steel columns, wood beams	3.94	5.17	6.78	8.89
Wood, A-frame construction	4.85	5.87	7.10	8.59
Laminated bents and arches	5.51	6.63	7.98	9.61
Light arch rib construction	3.53	4.32	5.28	6.45
Mill type (heavy timber) construction	5.77	6.95	8.38	10.10
Heavy timber/log construction, Architectural	11.90	14.90	18.70	23.40
Post and beam construction	3.96	4.80	5.82	7.06
Light pole-type construction	2.36	2.98	3.77	4.76
Add for seismic/wind bracing, Classes A and B	3.33	4.78	6.88	9.88
Open Classes C, D and S frames . . . . .	.89	1.11	1.39	1.74
Damping devices	1.34	1.77	2.34	3.09

FRAME ADJUSTMENTS – Apply to base cost used.

Add 3% for each foot of average story height over the 12' base height. Deduct 3% for each foot under the 12' base. For multistory buildings, add 2% for each story over one, aboveground, to apply against the total floor area, up to 30 stories; over 30, add 1% for each additional story. For partially framed structures, see Section UIP 1.

FLOOR STRUCTURE – Apply to area of described floor or mezzanine. For stepped balconies, see table below:

	1	2	3	4
Concrete, on ground				
excluding vapor barrier	\$ 4.16	\$ 4.95	\$ 5.88	\$ 6.99
Stepped incline	5.45	6.43	7.57	8.93
Lift slab	11.65	13.10	14.80	16.65
Elevated flat slab and joists	13.10	14.80	16.75	18.95
Pan or waffle slab and joists	12.00	13.55	15.25	17.20
Precast joists and deck	11.40	12.85	14.45	16.30
Precast joists, wood sheathing	8.88	9.99	11.25	12.65
Cored plank on bearing walls	9.93	11.25	12.75	14.45
Steel joists: flat slab	14.45	16.55	19.00	21.75
Corrugated deck and concrete	12.00	14.15	16.65	19.65
Cellular deck and concrete	-----	17.50	20.40	23.75
Open metal grating	21.20	28.50	38.50	52.00
Precast deck	12.55	14.25	16.15	18.30
Wood sheathing	6.88	8.71	11.00	13.95
Light gauge truss joints	6.21	7.87	9.98	12.65
Wood joists and sheathing	5.99	7.59	9.62	12.20
Wood joists and bridging only	4.60	6.02	7.87	10.30

For treated wood, increase costs by 10% to 20%.

FLOOR EXTRAS – Add to floor structure costs.

Vapor barrier	\$.71	\$ 1.01	\$ 1.44	\$ 2.05
Each inch of slab on grade				
over 10", add . . . . .	.47	.55	.64	.74
Each inch of sheathing over 1", add	1.31	1.48	1.67	1.88
Foamed concrete surfacing,				
1" - 2"	1.06	1.30	1.59	1.94
Floor insulation, add . . . . .	.74	.92	1.14	1.41

STEPPED BALCONY STRUCTURES – Apply to horizontal area of balcony. Add for soffit finish, floor covering and electrical for complete balcony cost.

Wood	\$17.15	\$20.60	\$24.75	\$29.75
Concrete	23.45	27.25	31.50	36.50
Structural steel and concrete	26.25	30.50	35.25	40.75
Structural steel and wood	20.80	24.25	28.25	33.00

OFFICES, BANKS AND HOSPITALS

SECTION SEG 5

(SEGREGATED COST METHOD)

FLOOR COVER – Apply to area of described floor.

	1	2	3	4
Access (computer) floor,				
On stanchions	\$20.10	\$23.60	\$27.75	\$32.50
Full office floors	13.00	15.15	17.60	20.50
Asphalt tile	2.25	2.62	3.06	3.56
Bamboo, laminated plank	11.20	13.25	15.70	18.55
Brick pavers, in concrete	10.85	12.80	15.15	17.90
Carpet and pad	3.03	4.62	7.00	10.55
Custom carpet and pad	10.40	16.75	26.25	40.50
Indoor/outdoor	2.14	2.81	3.70	4.86
Color, concrete	1.14	1.40	1.71	2.10
Cork	6.12	7.01	8.02	9.18
Diato, magnesite, etc.	7.84	9.04	10.40	12.00
Flagstone, random local stone, in concrete	14.75	17.20	20.10	23.45
Hardener and sealer, concrete . . . . .	.91	1.22	1.63	2.19
*Hardwood	9.21	11.85	15.20	19.55
Sports gym floors on resilient sleepers	10.15	12.30	14.85	18.00
Leather	39.00	45.25	53.00	61.00
Linoleum	3.92	4.64	5.50	6.51
Marble or granite	27.25	37.25	51.00	70.00
Cast tile	16.35	18.95	22.00	25.50
Melamine laminated tile or sheet Deluxe	8.12	9.34	10.75	12.35
Plastic tile, interlocking	7.45	8.25	9.13	10.10
Rubber fabric tile	10.30	11.95	13.85	16.05
Rubber tile or sheet	4.63	6.22	8.34	11.20
Seamless plastic, epoxy, urethane, neoprene, 1/32" – 1/16" thincoat	4.28	5.21	6.35	7.73
1/8" – 3/8"	6.73	8.28	10.20	12.55
Add for colored chips or glitter	1.73	2.15	2.67	3.32
Slate, grouted	16.55	19.30	22.50	26.25
Softwood	6.95	8.23	9.75	11.55
Stone plank	16.05	19.25	23.10	27.75
Synthetic sports surfacing	8.23	10.10	12.40	15.25
Terrazzo (exclusive of base slab) tile	11.80	14.40	17.60	21.50
tile	21.40	24.30	27.50	31.25
Tile, ceramic or quarry	11.80	14.70	18.25	22.70
Custom tile	26.25	31.25	37.50	44.75
*Wood over concrete, hardwood Parquet block, prefinished, in Mastic	10.50	13.30	16.80	21.25
Softwood	10.65	14.35	19.30	26.00
Softwood	8.02	9.37	10.95	12.80
Vinyl composition tile or sheet	2.19	2.81	3.61	4.63
Vinyl sheet	3.79	5.09	6.84	9.18
Vinyl tile	4.10	5.82	8.25	11.70
*Add for custom wood floors	6.95	13.65	23.60	38.50
Add for pictorial artwork	10.70	14.85	20.55	28.50
Add 15% for conductive floor coverings.				

CEILING – Apply to area of described ceiling. To convert costs to floor area for high-pitched ceilings, use the roof slope multipliers on Page 9.

Acoustic ceilings, tile or panels:				
Metal panels incl. pads & suspension system	\$ 7.67	\$ 9.45	\$11.65	\$14.35
Clean room panels, incl. Suspension system	11.90	13.15	14.55	16.05
Mineral fiber, fiberglass, panels only	1.85	2.54	3.49	4.79
Organic fiber, wood or cane, Panels only	2.19	2.52	2.89	3.32
Embossed metal	6.56	8.65	11.40	15.05
Fiber sports court panel with suspension systems	6.17	7.42	8.93	10.75
Gypsum board, taped and painted spray on texture	2.10	2.26	2.43	2.61
Mirror faced panels	20.80	22.75	24.90	27.25
Paint or stain, bottom of roof or floor . . . . .	.74	.95	1.21	1.55

CEILING (Continued)

	1	2	3	4
Plaster on lath: acoustical	\$4.40	\$4.90	\$5.45	\$6.06
Spray on, thincoat with texture on lath or drywall	3.15	3.45	3.77	4.13
Standard, add 20% for Keene's Add for metal lath	3.81	4.27	4.78	5.35
.52	0.62	0.73	.87	
Plaster on masonry soffit: acoustical Spray-on, thincoat with texture	3.77	4.19	4.67	5.19
Standard, add 23% for Keene's	2.50	2.72	2.96	3.22
3.21	3.57	3.98	4.43	
Plaster panels, dec., panels only	14.00	15.40	17.00	18.70
Plastic panels, with suspension system but exclude lighting,	7.28	8.58	10.10	11.90
Plywood (softwood) or Hardboard panels	3.44	3.91	4.46	5.07
Hardwood	5.02	5.94	7.02	8.30
Coffered or vaulted panel with molding	10.75	14.45	19.35	26.00
Custom woods, site built	26.75	31.00	35.75	41.25
Poly laminated panels (FRP)	3.44	3.78	4.16	4.57
Insulated panel	5.04	5.65	6.34	7.11
Softwood	3.32	3.82	4.40	5.07
Hardwood	5.45	6.27	7.21	8.30
Carved, decorative	10.30	14.40	20.20	28.25

CEILING EXTRAS – Add to ceiling costs. For special ornamentation see Section UIP 2.

Ceramic tile, add	\$14.55	\$18.25	\$22.90	\$28.75
Custom tile, decorative	30.50	36.25	43.00	51.00
Custom papers, stenciling, staff, add Border or coving only	14.55	19.35	25.75	34.25
3.56	4.50	5.68	7.18	
Extensive decorating, cust. plaster, Terra cotta, add	39.50	49.75	63.00	79.00
Wood furring	1.03	1.26	1.53	1.87
Metal furring	1.57	1.96	2.46	3.07
If ceiling structure is required which is not part of the roof or floor structure, add	1.63	2.03	2.52	3.13
Suspended ceiling, metal suspension sys., add	1.52	1.89	2.34	2.90
Fiberglass, FRP	2.44	2.86	3.35	3.92
Hardwood, decorative	4.17	5.62	7.57	10.20
For seismic supports, add . . . . .	.25	0.32	0.41	.53
Ceiling insulation, add . . . . .	.75	0.94	1.17	1.46
Vinyl faced, exposed	1.05	1.20	1.38	1.58
Add for underdeck supporting bands . . . . .	.34	0.40	0.46	.54
Rigid board, faced	1.49	1.95	2.54	3.32

For ceiling domes, see stained glass, Page 7.

BANK VAULTS – Per square foot of vault area. Add or deduct 2% for each foot of height variation from the 12' standard. For more detailed costs see Section UIP 2.

Money	\$180.00	\$210.00	\$250.00	\$295.00
Record storage	72.00	80.00	90.00	100.00
Modular vault systems, security insulated/record storage	56.00	79.00	110.00	155.00
47.25	58.00	72.00	88.00	

MEZZANINES – Apply to open mezzanine area. (Cost of miscellaneous items such as rails, stairs, etc.)

Mezzanine	\$3.32	\$3.86	\$4.49	\$5.22
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OFFICES, BANKS AND HOSPITALS

SECTION SEG 5 (SEGREGATED COST METHOD)

INTERIOR CONSTRUCTION – Apply to total floor area. See Section UIP 2 if detailed costs are desired. General hospital interiors include Group I equipment.

Add or deduct 5% for each foot of variation from 12' average story height. Add for fixed seating from Section UIP 12.

FRAME INTERIOR PARTITIONS

	1	2	3	4
Banks (excluding vaults),				
branch, Classes A and B . . .	\$41.75	\$52.00	\$64.00	\$79.00
Classes C, D and S	36.75	46.25	58.00	73.00
Central offices, Classes A and B	38.50	47.75	59.00	73.00
Classes C, D and S	33.00	41.50	52.00	66.00
Convalescent hospitals,				
Classes A and B	40.25	47.25	55.00	65.00
Classes C, D and S	27.50	34.75	44.25	56.00
Dispensaries	19.00	23.10	28.25	34.25
Fire stations,staffed	26.25	37.25	53.00	75.00
Volunteer	5.42	9.78	16.30	26.00
General hospitals,				
Classes A and B	74.00	92.00	115.00	140.00
Classes C, D and S	49.25	61.00	76.00	94.00
Governmental buildings,				
Classes A and B	32.00	41.25	53.00	69.00
Classes C, D and S	28.50	36.75	47.25	61.00
Community service buildings,				
Classes A and B	25.50	33.25	43.50	57.00
Classes C, D and S	22.95	30.00	39.00	51.00
Jails (excluding jail hardware),				
Correctional facilities	20.50	26.25	33.75	43.25
Police stations	16.90	22.60	30.25	40.50
Medical office buildings,				
Classes A and B	39.25	46.25	54.00	64.00
Classes C, D and S	37.25	42.50	48.25	55.00
Dental clinics	40.00	47.75	57.00	68.00
Office buildings,				
Classes A and B	29.75	37.00	46.00	57.00
Classes C, D and S	23.15	29.75	38.50	49.75
Outpatient (surgical) centers . .	60.00	75.00	93.00	115.00
Public libraries (excl. book stacks),				
Classes A/B	40.00	52.00	68.00	89.00
Classes C, D and S	32.50	44.50	61.00	84.00
Veterinary hospitals	36.00	43.25	52.00	62.00
Kennels	17.55	23.40	31.25	41.50

MASONRY INTERIOR PARTITIONS

Banks (excluding vaults), branch,				
Classes A and B	\$45.25	\$55.00	\$ 68.00	\$ 83.00
Classes C, D and S	39.75	49.75	62.00	78.00
Central offices, Classes A and B	41.25	51.00	63.00	78.00
Classes C, D and S	35.50	44.50	56.00	70.00
Convalescent hospitals,				
Classes A and B	43.50	51.00	59.00	69.00
Classes C, D and S	29.75	37.75	48.00	61.00
Dispensaries	20.50	24.85	30.00	36.50
Fire stations, staffed	28.50	40.25	57.00	80.00
Volunteer	6.39	11.00	17.95	28.25
General hospitals,				
Classes A and B	78.00	96.00	120.00	145.00
Classes C, D and S	53.00	65.00	80.00	98.00
Governmental buildings,				
Classes A and B	35.00	45.00	58.00	75.00
Classes C, D and S	30.75	39.50	51.00	65.00
Community service buildings,				
Classes A and B	28.25	36.50	47.25	61.00
Classes C, D and S	25.00	32.25	41.75	54.00

MASONRY INTERIOR PARTITIONS (Continuation)

	1	2	3	4
Jails (excluding jail hardware),				
correctional facilities	\$22.50	\$28.50	\$36.25	\$ 46.25
Police stations	18.70	24.85	33.00	44.00
Medical office buildings,				
Classes A and B	42.25	49.25	57.00	67.00
Classes C, D and S	40.00	45.50	52.00	59.00
Dental clinics	43.50	51.00	61.00	72.00
Office buildings,				
Classes A and B	32.25	40.00	49.25	61.00
Classes C, D and S	25.25	32.25	41.50	53.00
Outpatient (surgical) centers . .	65.00	79.00	95.00	115.00
Public libraries (excluding book stacks)				
Classes A/B	43.25	56.00	73.00	95.00
Classes C, D and S	35.00	47.50	65.00	88.00
Veterinary hospitals	39.00	46.75	56.00	67.00
Kennels	19.35	25.50	33.75	44.75

MISCELLANEOUS – Apply to total square feet of building area, if required. These costs vary greatly, and the following typical cost ranges should be used with caution. Built-in equipment which is normally included under the general contract is included in the interior construction costs.

	1	2	3	4
Bank equipment,				
counters, vault doors, etc. . .	\$27.75	\$38.25	\$52.00	\$ 72.00
Jail equipment, cell blocks,				
locking devices, etc.	16.05	26.50	42.00	65.00
Police stations	2.55	4.22	6.72	10.45
Hospital equipment,				
Groups II and III	24.90	43.00	70.00	110.00
Hospital pneumatic conveyor system	3.26	3.81	4.46	5.22
Library equipment, bookstacks, etc.	13.00	23.15	38.25	61.00

SPRINKLERS – Apply to sprinklered area. Costs include all piping and connections to main for light hazard occupancies, but do not include tanks. For double sprinkler systems with heads both above and below a ceiling, use sprinklered area and 1.6 times the listed cost.

1,500 square feet	\$4.03	\$5.22	\$6.77	\$8.78
2,000	3.85	4.97	6.42	8.29
3,000	3.60	4.63	5.96	7.67
5,000	3.34	4.26	5.44	6.95
10,000	3.01	3.81	4.83	6.12
15,000	2.80	3.54	4.48	5.67
20,000	2.68	3.38	4.26	5.38
30,000	2.53	3.17	3.96	4.96
50,000	2.33	2.90	3.62	4.51
75,000	2.19	2.71	3.36	4.17
100,000	2.11	2.60	3.21	3.96
125,000	2.01	2.48	3.06	3.78
150,000	1.97	2.42	2.98	3.67
200,000	1.89	2.31	2.83	3.46
250,000	1.81	2.22	2.72	3.33
300,000	1.77	2.16	2.64	3.22
400,000	1.70	2.07	2.51	3.05
500,000	1.62	1.97	2.39	2.91

OFFICES, BANKS AND HOSPITALS

SECTION SEG 5(SEGREGATED COST METHOD)

PLUMBING – Apply to total floor area or use Section UIP 3 for cost per fixture. The following costs represent typical ranges only.

	1	2	3	4
Banks, branch and mini banks	\$ 4.95	\$ 7.81	\$12.05	\$18.45
central office	4.43	7.30	11.60	18.00
Convalescent hospitals	10.05	13.80	18.95	26.00
Dispensaries	6.73	9.13	12.40	16.80
Fire stations, staffed	6.51	10.85	17.30	27.00
Volunteer	3.37	5.60	8.93	13.90
General hospitals	14.65	21.40	31.25	45.75
Governmental buildings	6.29	9.67	14.70	22.25
Community service buildings	4.37	6.97	10.85	16.65
Jails, correctional facilities ...	12.80	18.25	26.00	37.25
Police stations	8.56	11.75	16.20	22.25
Medical office buildings	7.50	11.35	17.15	25.75
Dental clinics	7.95	11.80	17.50	26.00
Office buildings	2.95	5.25	8.68	13.80
Outpatient (surgical) centers ..	12.70	17.30	23.50	32.00
Public libraries	4.35	6.64	10.05	15.15
Veterinary hospitals	8.23	11.40	15.80	21.90
Kennels	4.67	6.73	9.71	14.00

HEATING, COOLING, AND VENTILATING – Apply to total floor area.

Add or deduct 3% for each foot of variation in average story height from 12' base.

Costs are given for gas fired heating surfaces. Add or deduct as follows for other fuels.

Oil fired + 7% Coal, stoker + 7% Coal, hand fired - 2%

For General Hospitals and Outpatient Surgical Centers use costs in the Calculator Section.

Heating Only

	1	2	3	4
Electric, cable or baseboard ..	\$3.81	\$5.44	\$ 7.77	\$11.10
Radiant panels	3.45	4.50	5.88	7.67
Electric wall heaters (including FWA)	1.82	2.22	2.72	3.32
Forced air	4.21	6.04	8.67	12.45
Hot water, baseboard or radiators	6.78	9.60	13.60	19.25
Radiant floor or ceiling	6.51	9.42	13.60	19.70
Radiant heat, gas, suspended	1.57	2.26	3.26	4.70
Space heaters, gas, with fan ..	1.19	1.80	2.72	4.09
Steam radiator, with boiler ...	6.29	8.95	12.75	18.15
Without boiler	5.14	7.61	11.25	16.65
Wall or floor furnace	1.89	2.35	2.93	3.64

Heating and Cooling

	1	2	3	4
Zoned A.C., hot and chilled water	\$17.25	\$22.90	\$30.25	\$40.25
Warm and cooled air	10.30	14.50	20.40	28.75
Package heating and cooling,				
short ducts	5.95	8.56	12.30	17.70
Heat pump system	7.79	11.35	16.50	24.00
Add for ground loop heat source	1.89	2.90	4.41	6.67
Individual thru wall heat pumps	3.02	4.25	5.97	8.39

Cooling Only

	1	2	3	4
Evaporative coolers	\$3.02	\$3.64	\$ 4.38	\$ 5.28
Refrigerated air conditioning only,				
Zoned system	5.78	7.70	10.25	13.65
Package unit, short ducts ...	4.09	5.44	7.23	9.62
Ventilation only,				
with ducts and blowers	1.19	1.67	2.33	3.26

ELECTRICAL AND LIGHTING – Apply to total floor area. General hospitals are not included in the general tables.

	1	2	3	4
Few Outlets:				
Nonmetallic	\$5.32	\$ 6.96	\$ 9.10	\$11.90
Armored cable (BX)	6.45	8.38	10.90	14.15
Flexible conduit	7.79	10.05	13.00	16.80
Rigid conduit	9.45	12.15	15.60	20.00
Average Number of Outlets:				
Nonmetallic	\$ 7.45	\$ 9.60	\$12.40	\$15.95
Armored cable (BX)	9.12	11.75	15.20	19.60
Flexible conduit	11.20	14.50	18.75	24.25
Rigid conduit	13.65	17.75	23.05	30.00
Many Outlets:				
Nonmetallic	\$10.45	\$13.20	\$16.70	\$21.10
Armored cable (BX)	12.90	16.55	21.25	27.25
Flexible conduit	16.05	20.80	27.00	35.00
Rigid conduit	19.80	26.00	34.25	45.00

For undercarpet cable systems; deduct 10% from base costs for that floor only.

Unfinished Areas:

	1	2	3	4
Nonmetallic	\$2.05	\$2.44	\$2.89	\$3.44
Armored cable (BX)	2.44	2.89	3.43	4.06
Flexible conduit	2.89	3.42	4.04	4.77
Rigid conduit	3.41	4.03	4.76	5.62

Typical costs for selected occupancies.

Banks, branch,				
Classes A and B	\$16.65	\$23.40	\$33.00	\$46.25
Classes C, D and S	14.70	20.85	29.50	42.00
Central office, Classes A and B	15.10	21.60	31.00	44.25
Classes C, D and S	13.50	19.25	27.50	39.00
Mini banks	19.25	26.75	36.75	51.00
Convalescent hospitals	12.35	17.50	24.75	35.00
Dispensaries	10.00	12.70	16.15	20.50
Fire stations, staffed	8.01	13.40	21.45	33.50
Volunteer	4.04	6.34	9.77	14.90
General hospitals,				
Classes A and B	26.25	35.75	49.00	67.00
Classes C, D and S	20.05	26.25	34.50	45.25
Governmental buildings,				
Classes A and B	13.20	20.10	30.50	45.75
Classes C, D and S	11.70	17.70	26.75	40.00
Community service buildings,				
Classes A and B	11.00	16.05	23.45	34.25
Classes C, D and S	9.69	14.00	20.25	29.25
Jails, correctional facilities ...	15.75	23.65	35.50	53.00
Police stations	13.35	19.10	27.50	39.25
Medical office buildings,				
Classes A and B	10.50	15.55	23.00	34.00
Classes C, D and S	8.63	12.55	18.25	26.50
Dental clinics	9.12	13.75	20.65	31.00
Office buildings, Classes A and B	8.15	15.95	27.50	45.00
Classes C, D and S	5.96	12.10	21.30	35.00
Outpatient (surgical) centers ..	15.05	21.75	31.50	45.50
Public libraries, Classes A and B	14.20	19.40	26.50	36.25
Classes C, D and S	11.05	15.80	22.55	32.25
Veterinary hospitals	10.35	13.85	18.55	24.80
Kennels	6.84	9.78	14.00	20.00

OFFICES, BANKS AND HOSPITALS

SECTION SEG 5

(SEGREGATED COST METHOD)

EXTERIOR WALL – Apply to total wall area.**Concrete or Masonry Walls**

	1	2	3	4
Adobe or hollow clay block, 6"	\$22.85	\$25.75	\$29.00	\$32.50
8"	24.65	27.75	31.50	35.50
12"	28.25	31.75	35.50	40.00
14"	31.00	35.00	39.25	44.25
Adobe block,				
Grouted or cavity, 22" – 24"	35.75	40.50	46.00	52.00
30" – 32"	38.50	43.25	48.75	55.00
Block, concrete, 6"	19.95	22.45	25.25	28.50
8"	21.40	24.10	27.00	30.50
12"	24.45	27.50	31.00	34.75
16"	27.25	30.75	34.50	38.75
For each additional 4" of block, add	2.96	3.31	3.71	4.15
Block, grouted or cavity, 10" – 12"	23.10	26.00	29.00	32.50
*Add for ornamented face block	1.49	2.21	3.28	4.86
Brick, block back-up, 8"	25.75	29.00	32.75	37.00
12"	29.00	32.50	36.75	41.25
16"	31.75	35.75	40.25	45.25
Brick, common, 8"	29.00	32.50	36.75	41.25
12"	34.75	39.00	43.50	48.75
16"	40.50	45.00	50.00	56.00
For each additional 4" of brick, add	5.82	6.44	7.12	7.88
Brick, grouted or cavity,				
Reinforced, 9" – 10"	31.50	35.25	39.75	44.50
Block back-up, 9" – 10"	29.00	32.50	36.75	41.25
Block back-up, 12" – 14"	31.50	35.50	40.00	45.00
Brick, SCR modular, 6"	22.10	24.95	28.25	31.75
8"	24.45	27.50	31.00	35.00
*Add for face brick	3.20	3.52	3.88	4.27
Concrete, reinforced, formed, 4"	22.50	25.25	28.50	32.25
6"	24.15	27.25	30.75	34.50
8"	25.75	29.00	32.75	36.75
12"	29.50	33.00	37.00	41.25
For each additional 4" of concrete, add	3.38	3.72	4.09	4.50
Precast panels, 2"	18.65	20.95	23.55	26.50
4"	19.95	22.45	25.25	28.50
6"	21.90	24.50	27.50	30.75
8"	24.15	27.00	30.00	33.50
12"	28.50	31.50	34.75	38.50
Tilt-up panels, 4"	18.75	21.15	23.90	27.00
6"	20.10	22.85	26.00	29.50
8"	21.60	24.50	27.75	31.50
10"	23.40	26.50	30.00	34.00
12"	25.25	28.75	32.50	37.00
Add for insulated sandwich	1.67	2.09	2.61	3.26
Add for brick or tile inserts	6.21	7.78	9.74	12.20
Glass block, white or aqua	50.00	53.00	57.00	61.00
Colors or reflective	67.00	71.00	75.00	79.00
Local stone, block back-up,				
Ashlar veneer, 12"	47.25	54.00	61.00	70.00
Rubble or rustic, veneer, 12"	38.25	44.00	50.00	58.00
For each 4" variation in thickness	2.96	3.31	3.71	4.15
Local fieldstone, in mortar, 12"	33.75	38.00	42.75	48.25
For each 4" variation in thickness	2.84	3.30	3.83	4.45
Local stone, rough cut, solid, 12"	48.75	60.00	73.00	90.00
Granite	51.00	66.00	85.00	110.00
Limestone	55.00	67.00	82.00	100.00
For each 6" variation in thickness	22.20	26.50	31.75	38.00

***NOTE:** The additional cost for face block or brick is the difference between the cost of face block or brick and standard block or common brick in place as part of a wall. For the cost of ornamented, face or synthetic masonry veneer, see wall ornamentation on next page.

EXTERIOR WALL (Continued)**Concrete or Masonry Walls**

	1	2	3	4
Rammed earth, soil cement, 24"	\$25.50	\$29.25	\$33.50	\$38.50
pneumatic build-up,				
formed one side	38.75	43.50	49.00	55.00
For each 6" variation in thickness, add or deduct	1.49	1.70	1.93	2.20
Tile, structural clay, 6"	21.40	24.30	27.50	31.25
10"	25.00	28.25	32.25	36.50
Concrete or Masonry Walls Extras				
Add for stay in place forming	\$ 1.22	\$ 1.60	\$ 2.10	\$ 2.75
Add for glazed block or tile, each side	6.61	7.37	8.22	9.16
Add for pilasters	1.25	1.53	1.88	2.31
Add for bond beams	1.33	1.61	1.94	2.35
Add for seismic reinforcement . . . . .	.54	0.87	1.36	2.10
Add for synthetic plaster on rigid insulation (EIFS)	5.16	6.35	7.81	9.60
Deluxe, textured or aggregate	8.38	10.05	12.05	14.45
Add for thin masonry on rigid insulation	13.10	14.70	16.50	18.55
Add for clay tile back up in lieu of block	2.20	2.63	3.13	3.74
Add for earth sheltered waterproofing	1.01	1.53	2.30	3.46
Add for insulation . . . . .	.83	1.17	1.66	2.35
Earth sheltered structures	1.36	1.97	2.86	4.14
For special stonework, see Section UIP 6.				

Curtain Walls

Brick or tile panels	\$26.50	\$32.00	\$38.50	\$46.25
Concrete and glass panels, precast	32.50	37.75	44.00	51.00
Glass fiber reinforced, molded	28.00	34.75	42.75	53.00
Metal and glass panels (ordinary)	36.00	42.75	51.00	60.00
Stainless steel or bronze and glass	52.00	61.00	71.00	83.00
Stone panels, local stone	47.00	52.00	57.00	63.00
Granite	51.00	58.00	67.00	76.00
Limestone or slate	48.25	53.00	59.00	65.00
Marble	48.50	56.00	64.00	73.00
Composite or aggregate panels	33.50	41.75	52.00	65.00
Structural glazed atrium including supports	83.00	110.00	150.00	200.00
Steel studs and stucco	19.00	22.50	26.50	31.50
Synthetic plaster on rigid insulation (EIFS)	22.35	26.75	32.25	38.75
Deluxe, textured or aggregate	26.00	31.00	36.75	43.75
Wood or aggregate board siding	19.45	24.05	29.75	36.75
Add for insulation, insulated area only	1.05	1.54	2.25	3.30

Pre-engineered Walls

Sand, pan., alum. or steel, 2 sides	\$21.70	\$24.85	\$28.50	\$32.50
Cement fiber or shotcrete, two sides	16.25	19.50	23.35	28.00
Fiberglass panels, two sides	21.20	25.00	29.50	34.75
Glass exterior, metal interior	23.90	27.50	31.75	36.75
Add for stainless steel or textured (Galbestos)	3.32	3.94	4.68	5.56
Add for poly laminated (FRP) interior . . . . .	.94	1.15	1.41	1.73
Deduct for gypsum or hardboard inter.	1.48	1.61	1.75	1.90
Prefabricated building panels,				
Aluminum or steel and glass panels	29.00	31.75	35.00	38.25
Add for porcelain enamel finish	2.97	3.50	4.12	4.86
add for block backup	5.84	6.62	7.51	8.51
Stucco on steel panel	32.50	36.00	39.75	44.00
Veneer, block or brick, on stl. pan.	37.25	42.00	47.00	53.00
Stone, rubble or rustic	47.00	51.00	56.00	61.00

OFFICES, BANKS AND HOSPITALS

SECTION SEG 5

(SEGREGATED COST METHOD)

EXTERIOR WALL (Continued)
Single-wall Construction

	1	2	3	4
Aluminum or steel, on steel frame	\$ 8.17	\$ 9.88	\$11.95	\$14.45
On wood frame	7.40	9.01	10.95	13.35
Add for porcelain enamel finish	2.97	3.50	4.12	4.86
Add for stainless steel or textured (Galbestos)	3.32	3.94	4.68	5.56
Cement fiber (Transite),				
On steel frame	8.51	10.15	12.05	14.35
Sheet siding on wood frame	7.73	9.25	11.05	13.25
Siding or shingles on wood frame	8.34	9.86	11.65	13.80
Fiberglass light panels,				
On steel frame	6.39	7.27	8.27	9.40
Sandwich panels	7.79	8.48	9.23	10.05
Heavy, FRP, over 8 oz.	9.67	11.40	13.40	15.75
Light panels, on wood frame	5.62	6.40	7.28	8.29
Sandwich panels	6.95	7.56	8.23	8.95
Heavy, FRP, over 8 oz.	8.84	10.45	12.40	14.65
Glass panels	24.35	30.75	39.00	49.50
Projected greenhouse	50.00	56.00	63.00	70.00
Log, up to 10" diameter	20.10	26.00	33.75	43.75
Deluxe, hand-hewn or oversized	29.75	36.75	45.25	56.00
Plywood, boards or siding,				
On steel frame	8.23	9.82	11.75	14.00
On wood frame	7.35	8.82	10.60	12.70
Stucco on baled straw	16.55	19.85	23.80	28.50
Stucco on wood frame	8.34	9.67	11.20	13.00
Syn. plaster on rigid insul.,				
(EIFS) on steel frame	12.10	14.15	16.60	19.45
Wood shingles on wood frame	8.59	10.00	11.65	13.55
Add for exterior sheathing, per layer	1.24	1.41	1.61	1.83
Add for interior sheathing or liner,				
finished	2.13	2.51	2.97	3.50
Polylaminated panel (FRP)	2.90	3.40	3.99	4.68
Add for stud wall backing	.79	.94	1.13	1.35
Add for insulation	.75	.90	1.09	1.31
Vinyl faced, exposed	1.01	1.11	1.23	1.35
Rigid board, faced	1.27	1.66	2.17	2.83
Add for air infiltration wrap	.21	.27	.34	.43

Wood or Steel Stud Walls

Aluminum or steel siding, horizontal	\$17.45	\$20.30	\$23.65	\$27.50
Sheet panels	15.75	18.55	21.85	25.75
Asphalt siding	15.25	17.65	20.40	23.60
Cement fiber siding or shingles,				
Horizontal	17.05	19.85	23.15	27.00
Sheet, embossed	15.95	18.40	21.20	24.45
Hardboard, siding or shingles,				
Horizontal	16.45	19.00	21.90	25.25
Sheet, embossed	15.65	18.05	20.80	24.00
Plywood, textured	15.55	17.95	20.70	23.90
Deluxe, redwood, cedar, etc.	17.35	20.05	23.15	26.75
Shingles or shakes, wood	17.70	20.60	24.05	28.00
Stucco	17.35	20.25	23.60	27.50
Synthetic plaster on rigid				
insulation (EIFS)	20.35	23.80	27.75	32.50
Deluxe, textured or aggregate	23.90	28.00	32.75	38.25
Vinyl siding or shingles	17.35	20.15	23.45	27.25
Wood siding	16.50	19.10	22.05	25.50
Deluxe, redwood, cedar, etc.	18.45	21.55	25.25	29.50
Log veneer siding	20.50	24.80	30.00	36.25
Deluxe, half round, full corners	28.50	32.25	36.50	41.25
Veneer, face block or concrete brick	21.50	24.80	28.50	33.00
Common brick	21.80	25.25	29.50	34.25
Face brick	24.90	28.75	33.25	38.25
Mortarless brick	25.00	28.50	32.75	37.50
Stone, ashlar veneer	38.25	44.50	52.00	60.00
Rubble or rustic	31.00	36.25	42.25	49.25
Synthetic veneer or panel	22.60	27.25	33.00	40.00
Thin veneer on rigid insulation	26.50	30.50	35.25	40.75

Wood or Steel Stud Walls (Continued)

	1	2	3	4
Add for sheathing	\$1.02	\$1.24	\$1.50	\$1.82
Add for seismic/wind bracing	.53	.65	.79	.96
Add for insulation	.72	.87	1.05	1.27
Add for air infiltration wrap	.23	.29	.38	.48
Add for air space wrap	.71	.80	.91	1.03
Add for double-stud walls	1.58	1.89	2.25	2.69
Add for wood stressskin sandwich panels	4.68	5.52	6.51	7.67

EXTERIOR, BASEMENT AND TOWER STAIRS – Per riser.

Concrete	\$195	\$270	\$375	\$515
Steel pans or prefab. concrete on steel	215	290	390	530
Steel or aluminum grating	250	330	430	565
Wood	76	115	180	270

For fire escapes, see Section UIP 5.

BASEMENT WALLS – Apply to basement wall area.

Basement Walls

Concrete block, reinforced, 6"	\$11.35	\$12.80	\$14.50	\$16.35
8"	12.80	14.45	16.25	18.35
12"	15.75	17.75	20.05	22.60
For each additional 4" of block, add	3.03	3.36	3.74	4.15
Concrete, reinforced, 6"	13.55	15.30	17.35	19.60
8"	15.35	17.25	19.40	21.80
12"	18.70	20.95	23.45	26.25
16"	22.10	24.75	27.75	31.00
For each additional 4" of concrete, add	3.44	3.76	4.12	4.51
Masonry, brick, 8"	19.00	21.35	24.00	27.00
Stone, 12"	27.00	31.25	36.00	41.75
For each 4" variation in thickness, add or deduct	5.84	6.46	7.14	7.90
Wood, treated	10.85	13.25	16.10	19.65
Add for stay in place forming	.70	1.02	1.49	2.17
Add for waterproofing	1.06	1.31	1.63	2.02
Earth sheltered structures	1.31	1.93	2.84	4.19
Add for insulation	.81	1.15	1.63	2.31
Earth sheltered structures	1.27	1.87	2.74	4.03

For specific earth sheltered waterproofing, see Section UIP 1.

OFFICES, BANKS AND HOSPITALS

SECTION SEG 5

(SEGREGATED COST METHOD)

WALL ORNAMENTATION – Apply to ornamented area.

	1	2	3	4
Brick, split face,				
Roman or Norman	\$ 11.45	\$ 13.25	\$ 15.35	\$ 17.80
Face, standard size	12.55	14.60	17.00	19.80
Mortarless brick	13.25	15.20	17.45	20.00
Select common	11.20	13.00	15.05	17.45
Used	12.20	14.05	16.20	18.70
Simulated veneer or panel,				
1/4" – 3/8"	10.15	12.35	15.00	18.25
Thin veneer on rigid insulation	13.00	14.60	16.40	18.45
Add for pictorial carved artwork	160.00	185.00	210.00	240.00
Cement fiber siding	3.56	4.36	5.35	6.56
Concrete, ornamental cast stone	25.75	30.75	37.00	44.25
Concrete block, imitation flagstone	10.15	11.90	13.95	16.35
Solar screen	11.00	12.90	15.15	17.80
Ornamental face, slump, fluted,				
Split or ground	10.95	12.65	14.55	16.80
Glazed one side, add	6.56	7.34	8.21	9.18
Cut stone, carved	105.00	155.00	230.00	335.00
Glass block, white or aqua ...	40.75	45.25	50.00	56.00
Colors or solar reflective ...	57.00	62.00	68.00	74.00
Granite, ashlar or panel	53.00	62.00	71.00	83.00
Limestone, ashlar or panel ...	39.00	45.75	54.00	63.00
Local stone, ashlar veneer or panel	33.75	39.50	46.25	54.00
Rubble or rustic	25.25	30.25	36.25	43.25
Imitation precast stone	11.90	15.45	20.05	26.00
Marble, panels	44.00	51.00	60.00	70.00
Metal panels, screens, louvers	19.10	24.95	32.50	42.50
Preformed wall panels	3.74	6.74	11.20	17.90
Add for curved panels	1.07	1.50	2.11	2.97
Ornamental doorways	72.00	140.00	240.00	390.00
Slate, panels	36.50	42.25	49.25	57.00
Stucco	4.15	4.65	5.21	5.84
On masonry	3.32	3.77	4.28	4.86
Add for synthetic on rigid				
insulation, (EIFS)	2.67	3.40	4.33	5.51
*Built-up (EIFS) panel relief	5.67	7.24	9.24	11.80
Terra Cotta	30.00	35.50	42.00	49.75
Tile, ceramic	14.65	16.75	19.15	21.90
*Mosaics	21.70	26.25	32.00	38.75
Hand painted tiles	120.00	165.00	235.00	325.00
*Note - For pictorial artwork, add	11.60	16.25	22.70	31.75
Vinyl siding	3.56	4.25	5.08	6.06
Vitrolite (structural glass)	24.25	28.25	33.25	38.75
Wood, plywood	2.84	3.57	4.48	5.63
Shingles	3.93	4.66	5.52	6.55
Siding	3.51	4.36	5.42	6.73
Ornamented molding or trim	10.30	14.45	20.30	28.50
Add for treated wood .....	.52	0.64	0.78	.96

STAINED GLASS – Apply to art glass in window, dome or skylight area. These costs vary greatly, and the following typical cost ranges should be used with caution. See Section UIP 6 for complete description and detailed costs. For residential straight seams or simple bevel, deduct 50% from the Low Cost. For ceiling domes, use low-cost range for plastic, average for stock glass and high-cost for custom stained glass.

	1	2	3	4
Low cost, plain, min. work or				
detailed bevel etched	\$ 73	\$100	\$140	\$ 190
Average, simple figures and				
scenes	235	315	425	570
High cost, highly detailed work				
(including domes)	510	705	970	1,340

MISCELLANEOUS – Apply to total square feet of lined area if required.

Secure compartmentalization,				
layered drywall	\$ 5.73	\$ 6.54	\$ 7.46	\$ 8.51
Metal shielding, radio frequency	24.35	33.00	45.00	61.00
Radiation protection	13.65	17.35	22.05	28.00
Ballistic shielding, fiberglass panels	22.60	32.75	47.50	69.00
Cold storage	1.83	2.44	3.25	4.33
For each inch over 2", add .	.31	.45	.65	.95

EXTERIOR BALCONIES – Apply to balcony area.

Concrete	\$20.50	\$26.50	\$34.25	\$44.25
Steel	19.25	26.25	35.50	48.25
Wood	16.65	22.20	29.50	39.50
Add for ornate finishes,				
balustrades	17.80	21.85	26.75	33.00

OFFICES, BANKS AND HOSPITALS

SECTION SEG 5 (SEGREGATED COST METHOD)

ROOF STRUCTURE – Apply to roof area.

	1	2	3	4
Concrete joists, slab	\$11.90	\$13.55	\$15.50	\$ 17.65
Lift slab	10.65	12.10	13.70	15.55
Pan or waffle slab and joists	11.00	12.45	14.10	16.00
Precast joists and deck	10.40	11.80	13.40	15.20
Precast joists, wood deck	8.21	9.29	10.50	11.90
Cored plank on bearing walls	9.16	10.40	11.75	13.35
Thin shell	18.10	21.65	26.00	31.00
Concrete dome, cast in place	38.00	42.00	46.25	51.00
Thin shell	25.25	28.50	32.50	36.75
Fabric roof, air supported	39.75	43.25	47.00	51.00
Tension supported	45.25	51.00	57.00	64.00
Add for thermal liner	3.92	4.76	5.79	7.04
Steel joists, concrete slab	13.45	15.45	17.70	20.30
Gypsum on formboard	6.96	8.80	11.10	14.05
Precast deck	11.70	13.35	15.20	17.35
Steel deck	7.46	9.55	12.25	15.65
Light-gauge truss joists	6.13	7.93	10.25	13.25
Steel deck, gypsum or concrete	9.55	11.95	14.90	18.60
Wood or composition deck	6.13	7.87	10.10	12.95
Light-gauge truss joists	5.21	6.76	8.78	11.40
Open steel system for corrugated metal	3.04	4.47	6.58	9.67
Light purlin supports only	1.44	1.87	2.43	3.16
Steel space frame and sheathing three dimensional	22.65	29.00	37.00	47.50
Architectural exclusive of glazing	34.25	52.00	80.00	120.00
Metal dome and cover	29.25	34.00	39.25	45.50
Glazed or translucent panels	68.00	82.00	99.00	120.00
Wood joists, wood or composition deck	4.98	6.51	8.50	11.10
Exposed rafters, 2" T&G sheathing	7.23	9.09	11.40	14.35
Prefab. panels (exclusive of girders)	1.98	2.44	3.00	3.70
Stresskin sandwich panels (exclusive of purlins)	7.18	9.18	11.75	15.00
Add for snow roof, furred sheathing layer	2.02	2.24	2.48	2.75
Open wood system for corrugated metal	1.78	3.20	5.32	8.48
Light purlin supports only for metal, wood or fiberglass . . . . .	.81	1.08	1.43	1.90
Wood dome and deck	20.90	25.50	31.25	38.00
Add for seismic/hurricane truss ties . . . . .	.37	.45	.54	.65
Add for monitor roof	60%	50%	40%	40%
Add for sawtooth roof	40%	35%	35%	25%
Add for complex roof, turrets, ornate trim	70%	55%	45%	35%

For treated wood, increase costs by 10% to 20%.

ROOF COVER – Apply to roof area.

	1	2	3	4
Aluminum or steel, corr., crimped or tile panels, preformed, light, to 26 gauge	\$ 2.14	\$ 2.73	\$ 3.49	\$ 4.45
Heavy, under 26 gauge	4.45	5.01	5.63	6.34
Formed seam, flat or standing	5.67	6.93	8.47	10.35
Batten seam	6.61	8.02	9.73	11.80
Sandwich panels, pre-engineered	9.06	11.25	13.95	17.35
Shingles	4.33	5.14	6.09	7.23
Aggregate finish	5.56	6.65	7.95	9.50
Thatch	18.15	19.70	21.35	23.15
Add for interior metal liner	1.90	2.19	2.52	2.90
Plastic	1.73	2.00	2.31	2.67
Add for porcelain enamel finish	2.97	3.50	4.12	4.86
Add for stainless steel or Textured (Galbestos)	3.32	3.94	4.68	5.56
Asphalt, corrugated	1.74	1.99	2.28	2.61
Atrium skylight, frame and glazing	35.75	47.00	62.00	81.00
Built-up composition	2.05	2.55	3.16	3.93
Cement fiber, shingles	4.51	5.49	6.67	8.12
Corrugated or sheet (Transite)	4.15	5.72	7.88	10.85
Composition, roll, mineral surface	1.09	1.29	1.53	1.81
Composition shingles, light, to 235 lb.	1.82	2.04	2.28	2.55
Heavy, over 235 lb. or laminated	2.47	3.06	3.79	4.70
Copper, flat or standing seam	11.80	13.65	15.85	18.35
Batten seam	12.70	14.70	17.00	19.70
Shingles	11.70	12.55	13.45	14.45
Elastomeric or modified bitumen, single ply	3.50	4.54	5.88	7.62
Reinforced sheet or spray fluid coat	6.00	6.91	7.97	9.18
Fiberglass, corrugated or sheet, light	2.14	2.48	2.87	3.32
Sandwich panels	3.61	4.07	4.58	5.16
Heavy, FRP, over 8 oz.	4.33	5.32	6.53	8.01
Slate	8.29	9.74	11.45	13.45
Red	15.75	18.65	22.15	26.25
Composite, reinforced fiber	6.00	7.08	8.34	9.84
Terne, flat or standing seam	11.35	13.10	15.10	17.45
Batten seam	12.35	14.25	16.40	18.90
Tile, clay	7.62	9.53	11.90	14.90
Concrete	5.40	6.23	7.19	8.29
Plastic or rubber	4.68	5.38	6.18	7.11
Add for custom coloring or glazing	1.30	1.65	2.10	2.67
Wood, shakes	3.86	4.40	5.01	5.71
Shingles	3.51	4.06	4.71	5.45
Fiber shingles	2.43	2.86	3.37	3.97
Add for fire-resistant finish . . . . .	.52	.64	.78	.96
Add for roof insulation . . . . .	.95	1.50	2.32	3.54
Earth sheltered structures	1.57	2.41	3.68	5.56
Add for earth sheltered waterproofing	1.41	2.07	3.04	4.47

NOTE: For underroof insulation and supporting structures, see Ceiling Extras on Page 2. For specific earth-sheltered waterproofing, see Section UIP 1. For earthen roof cover, see Fill costs on Page 1. See Section UIP 13 for top dressing, sod and/or sprinklers.

OFFICES, BANKS AND HOSPITALS

SECTION SEG 5 (SEGREGATED COST METHOD)

ROfoot of horizontal roofed area.

Rise :	Run	Multiplier	Rise :	Run	Multiplier
6'	12'	1.12	12'	12'	1.42
8'	12'	1.20	18'	12'	1.80

TRUSSES AND GIRDERS – Apply to area supported.

	1	2	3	4
Steel trusses or longspan girders	\$2.69	\$3.40	\$4.29	\$5.42
Timber trusses	2.99	3.77	4.76	6.00
Glued, laminated trusses or girders	2.75	3.43	4.29	5.35

CANOPIES OR MARQUEES – Apply to horizontal area. For light false-mansard structures, deduct 50% to 60%. For greater detail, see Section UIP 4 or 6.

Wood frame	\$25.25	\$31.25	\$39.00	\$48.25
Steel frame	30.75	38.75	49.00	62.00

CUPOLA STRUCTURES, CLOCKS, etc. – See Section UIP 4. For clock or bell towers, see notes in Section SEG 6.

ELEVATORS – Apply against area served if detailed costs from Section UIP 7 are not used.

Banks, branch,				
Classes A and B	\$3.77	\$5.47	\$7.93	----
Classes C, D and S	----	2.36	3.88	\$ 6.44
Central office, Classes A and B	----	5.36	7.83	11.40
Classes C, D and S	----	2.15	3.52	5.83
Convalescent hospitals,				
Classes A and B	----	3.77	5.36	----
Governmental buildings,				
Classes A and B	----	5.50	7.93	11.40
Hospitals (incl. dumbwaiters),				
Classes A and B	3.77	5.52	8.10	12.00
Classes C, D and S	----	2.43	3.85	6.10
Medical office buildings,				
Classes A and B	3.68	5.38	7.83	11.40
Classes C, D and S	----	2.20	3.61	5.88
Office buildings,				
Classes A and B	3.61	5.28	7.71	11.30
Classes C, D and S	----	2.06	3.44	5.71
Public libraries,				
Classes A and B	----	2.15	3.68	----
Veterinary hospitals,				
Classes A and B	----	3.82	----	----

NUMBER OF STORIES MULTIPLIER

To allow for the cost of hoisting materials, increased labor costs, and miscellaneous costs due to high-rise construction, multiply the total Segregated Costs of aboveground portions of the building by 100% plus .25% for each story over three.

Example: Twenty-three story building: Multiplier = 1.050

ATRIUM HVAC

To price the heating and cooling of large atrium areas, simply refine the appropriate square foot system cost to be applied to the ground floor area by 100% plus 3% for each foot over the 12-foot average story height adjustment found on Page 4.

Example: Multistory building, atrium height of 52': Multiplier = 2.20

COMPLETION OF BUILDING VALUATION

Contractors' overhead and profit, sales taxes, permit fees, and insurance during construction are included in the above costs. Interest on interim construction financing is also included, but not financing costs, real estate taxes, or brokers' commissions.

Architects' fees are not included and should be added from Appendix C.

Depreciation suggestions are given in Appendix A.

County Multiplier which bring the base costs up to date for each locality are found in Appendix D.

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THEATERS AND AUDITORIUMS

SECTION SEG 6

(SEGREGATED COST METHOD)

Theaters, auditoriums, bowling alleys and other large recreational buildings are characterized by their large capacity for seating, wide clear spans, high ceilings and relatively few partitions. If any of these buildings is part of a building designed for other purposes, price the church, theater, auditorium, etc., from this section, and the balance of the building from the appropriate section. However, ancillary offices, projection rooms or booths, etc., which are normal to the uses included in this section, are included in the interior construction costs. For descriptions of buildings included in this section, see the Calculator Section.

Foundations for Class A and B auditorium type structures can be priced quite accurately on a square foot of floor area basis. However, with light Class C, D and S buildings, a perimeter foundation or footings may carry most or all of the load, and the cost is generally proportional to the perimeter. Such costs may be better computed on the linear foot of bearing wall basis, with costs of column footings added if interior columns support a roof or floor load above.

Marquees, stepped balconies, galleries and mezzanines should be priced separately from the building shell. Stage costs are listed separately from the other interior costs.

Fixtures which are included in the Interior costs are those permanently attached as part of the real property, including projection rooms, asbestos curtains, fly galleries, etc. Not included are draperies, scenery, movable wings, seating, counters, kitchen/snack bar equipment or the alleys and pinsetters in a bowling alley. Prices of such items may be found in Section UIP 12.

Electrical costs include all house lights, outlets, fixtures and switchboards. Movable lights, spots, border lights and cables are considered equipment and are not included. The normal criteria, is whether the item is usually included as part of the general building contract.

Stained-glass windows are not included in the wall costs but should be priced in detail from Section UIP 6

SEGREGATED COSTS

(For explanation of the rating numbers see Introduction to SEG Method.)

EXCAVATION AND SITE PREPARATION

	1	2	3	4
Excavation (per cu. ft.)	\$.36	\$.48	\$.65	\$.87
Seismic, dry moat (per cu. ft.) . . . . .	.57	.70	.86	1.05
Fill (per cu. ft. of compacted earth) . . . . .	.39	.49	.61	.76
Site preparation (per sq. ft. of site) . . . . .	.32	.40	.51	.64

FOUNDATION – Table I gives complete average costs per square foot of floor area. If a more detailed estimate is desired for Class C, D or S buildings with bearing walls, use Tables II and III as appropriate.

TABLE I. CONCRETE FOUNDATIONS – Apply to total floor area, including basements but excluding mezzanines or balconies.

Concrete foundations for:				
Class A	\$2.94	\$3.80	\$4.91	\$ 6.35
Class B	3.15	4.03	5.17	6.62
Class C, bearing wall	2.69	3.51	4.57	5.96
Nonbearing wall	2.58	3.36	4.37	5.68
Class D, masonry veneer	2.47	3.23	4.23	5.53
Siding or stucco	2.16	2.83	3.70	4.85
Pole frame construction	2.02	2.63	3.43	4.46
Class S	2.12	2.80	3.69	4.86
Class C, D and S light perimeter foundation for large open shell-type structures . . . . .	.83	1.08	1.40	1.81
Add for perimeter insulation, ground floor area only . . . . .	.11	.18	.28	.43
Earth sheltered structures . . . . .	.16	.26	.41	.63
Add for seismic, base isolators	4.81	6.91	9.93	14.26
dampening devices	1.98	2.66	3.58	4.81

TABLE II. ALTERNATE METHOD – Apply to linear feet of continuous footings or foundation walls if Table I is not used. See discussion above.

Heavy grade beam or stem footing				
Class C	\$35.50	\$48.00	\$65.00	\$88.00
Class D, masonry veneer	33.00	45.00	61.25	83.25
Siding or stucco	29.00	39.50	53.50	72.75
Class S	28.25	38.75	53.25	73.25
Light, reinforced grade beam, Classes C, D and S	21.75	30.25	42.05	58.50
Add for perimeter insulation	1.02	2.21	3.98	6.63
Earth sheltered structures	1.45	3.20	5.80	9.70
Add for perim. radon control matting	2.95	3.48	4.11	4.86
Add for perim. raised floor skirting	8.75	10.22	11.94	13.94

TABLE III. CONCRETE COLUMN FOOTINGS – Apply to total number of columns if Table I is not used. Costs apply to one-story buildings. For others, add 20% for each story over one.

	1	2	3	4
Concrete columns	\$63.00	\$110.00	\$180.00	\$285.00
Steel columns	58.00	103.00	170.00	270.00
Light pre-engineered frame	44.50	58.75	77.75	103.00
Light tubular/pipe frame	33.75	47.50	66.75	94.00
Wood columns	52.00	83.00	129.25	198.50
Light pole-frame	35.50	49.50	69.00	96.00
Piers, precast footing	13.15	20.70	32.00	48.90
Formed in place	44.50	53.00	63.25	75.50

FOUNDATION ADJUSTMENTS – Apply to base cost used.

Add 2% for each foot over 16' average story height. Deduct 2% for each foot under 16' average story height. For multistory buildings deduct .8% for each story over one, aboveground. For one story buildings with light perimeter-grade beam or foundations and footings formed and poured monolithically with floor slabs, use 60% of the above costs, for that floor only. Add for pilings from Section UIP 1. If foundations are brick or stone instead of concrete, increase costs by 20%. For concrete block, reduce costs by 8%.

FRAME – Apply to total floor area including framed basements, but excluding mezzanines.

Brg. walls, wd./stl floor sup. only	\$1.77	\$2.08	\$2.44	\$2.87
masonry supports only	2.50	2.95	3.47	4.09
Steel, fireproofed, Class A	18.15	22.05	26.80	32.55
Composite conc. steel, Class B	16.60	19.70	23.40	27.80
Concrete, reinforced, Class B	16.25	19.60	23.70	28.60
precast, post-tensioned	15.50	18.50	22.00	26.25
Steel, Classes C and D	6.64	8.32	10.42	13.05
Class S	6.18	7.76	9.74	12.23
Light pre-engineered frame	3.89	4.88	6.11	7.66
Light tubular/pipe frame	2.43	3.18	4.15	5.43
Add for fireproofing . . . . .	.90	1.45	2.26	3.48
Steel columns, wood beams	4.50	5.88	7.68	10.03
Wood, A-frame construction	5.45	6.61	8.02	9.73
Laminated bents and arches	6.21	7.48	9.01	10.85
Light arch rib construction	3.96	4.85	5.94	7.28
Mill-type (hvy timber) const.	6.43	7.78	9.41	11.38
Hvy timber/log construction, arch.	13.35	16.75	21.00	26.30
Post and beam construction	4.46	5.41	6.57	7.97
Light pole type construction	2.67	3.36	4.23	5.32
Add for seismic/wind bracing, Classes A and B	3.21	4.59	6.56	9.37
Open Classes C, D and S frames . . . . .	.86	1.07	1.33	1.66
dampening devices	1.30	1.72	2.27	3.00

FRAME ADJUSTMENTS – Apply to base cost used.

Add 4% for each foot of average story height over 16' base height. Deduct 4% for each foot of average story height under 16' base height. For multistory buildings, add 4% for each story over one to apply against the total floor area. For partially framed structures, see Section UIP 1.

THEATERS AND AUDITORIUMS

SECTION SEG 6

(SEGREGATED COST METHOD)

FLOOR STRUCTURE – Apply to area of described floor or mezzanine. For stepped balconies, see table below.

	1	2	3	4
Asphalt on ground, including base	\$ 3.52	\$ 4.20	\$ 5.00	\$ 5.96
Concrete: on ground excluding				
vapor barrier	4.17	5.01	6.01	7.22
Stepped incline	5.46	6.49	7.70	9.15
Lift slab	11.65	13.20	14.95	16.90
Elevated flat slab and joists	13.15	14.95	17.00	19.30
Pan or waffle slab and joists	12.05	13.60	15.40	17.40
Precast joists and deck	11.45	12.95	14.65	16.55
Precast joists, wood sheathing	8.93	10.10	11.42	12.92
Cored plank on bearing walls	10.03	11.35	12.85	14.54
Steel joists: flat slab	14.45	16.65	19.20	22.15
Corrugated deck and concrete	11.95	14.25	17.00	20.25
Cellular deck and concrete	-----	17.00	20.25	24.40
Precast deck	12.55	14.30	16.35	18.65
Wood sheathing	6.95	8.85	11.26	14.33
Light-gauge truss joists	6.28	7.99	10.16	12.92
Wood: joists and sheathing	6.09	7.77	9.91	12.64
Joists and bridging only	4.68	6.16	8.12	10.69

For treated wood, increase costs by 10% to 20%.

FLOOR EXTRAS – Add to floor structure costs.

Vapor barrier	\$.73	\$1.03	\$1.45	\$2.05
Each inch of slab on grade over 10", add	.48	.56	.65	.75
Each inch of sheathing over 1", add	1.33	1.49	1.68	1.88
Foamed concrete surfacing, 1½" to 2"	1.07	1.30	1.57	1.91
Acoustical floating slab, incl. pads, 3" to 5"	5.58	5.96	6.37	6.80
Floor insulation, add	.74	.92	1.14	1.42
Cold storage (ice rink)	1.56	1.96	2.46	3.08
For each inch over 2", add	.31	.45	.65	.95

STAGES AND PERMANENT STAGE FIXTURES – Apply to stage area.

Live performance	\$57.00	\$68.00	\$80.00	\$95.00
Motion picture only	28.00	35.50	44.75	56.75
Speaker's platform	16.85	21.35	27.00	34.20

STEPPED BALCONY STRUCTURES – Apply to horizontal area of balcony. Add for soffit finish, floor covering and electrical for complete balcony cost.

Wood	\$17.85	\$21.25	\$25.25	\$30.05
Concrete	23.70	27.50	31.95	37.10
Structural steel and concrete	26.75	31.00	35.75	41.50
Structural steel and wood	21.50	24.90	28.85	33.40
Add for stadium support structure	9.53	13.20	18.27	25.30

BALCONIES (INTERIOR CONSTRUCTION) – Apply to open balcony or mezzanine area. (Cost of miscellaneous items such as rail, stairs, etc.)

	\$3.17	\$3.76	\$4.47	\$5.31
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CATWALKS – Apply to linear footage of walkway.

Catwalks, steel	\$101.00	\$117.00	\$136.00	\$158.00
Wood	43.25	51.25	60.50	71.75
Ladders, steel	16.05	21.30	28.30	37.60
Wood	14.15	18.85	25.10	33.40

MISCELLANEOUS – Apply to total square footage of surface area. These costs vary greatly, and the following typical cost ranges should be used with caution. Built-in equipment which is normally included under the general contract is included in the interior construction costs.

Swimming pools, recreational	\$ 52.00	\$ 70.00	\$ 94.00	\$126.25
Competition, Olympic size	110.00	135.00	165.00	205.00
Ice skating rinks, complete incl. refrigeration	42.00	47.00	52.75	59.00

FLOOR COVER – Apply to area of described floor.

	1	2	3	4
Access (computer) floor, on stanchions	\$19.50	\$23.15	\$27.45	\$32.60
Asphalt tile	2.26	2.64	3.09	3.61
Bamboo, laminated plank	10.95	13.10	15.65	18.75
Brick pavers, in concrete	10.55	12.60	15.10	18.05
Carpet and pad	2.83	4.53	7.06	10.84
Custom carpet and pad	9.92	16.62	26.62	41.56
Indoor/outdoor	2.07	2.76	3.69	4.92
Color, concrete	1.05	1.34	1.70	2.17
Cork	5.90	6.88	8.03	9.36
Diato, magnesite, etc.	7.64	8.89	10.35	12.05
Flagstone, random local stone, In concrete	14.15	16.80	19.95	23.70
Hardener and sealer, concrete heavy duty	.87	1.19	1.62	2.22
Aggregate topping, 1/2" to 1"	2.00	2.47	3.04	3.75
*Hardwood	5.38	7.08	9.32	12.26
Sports gym floors on resilient sleepers	8.87	11.61	15.21	19.91
Leather	9.70	11.95	14.73	18.15
Linoleum	42.50	47.75	53.50	60.00
Marble or granite	3.73	4.52	5.47	6.63
Cast tile	26.20	36.45	50.70	70.50
Melamine laminated tile or sheet Deluxe	15.60	18.40	21.70	25.60
Plastic tile, interlocking	3.39	4.59	6.22	8.42
Rubber fabric tile	7.69	9.06	10.67	12.57
Rubber tile or sheet	7.25	8.12	9.10	10.19
Seamless plastic, epoxy, urethane, neoprene, 1/32" - 1/16" thincoat	10.03	11.70	13.66	15.94
1/8" - 3/8"	4.40	6.04	8.28	11.36
Add for colored chips or glitter	4.01	5.01	6.25	7.81
Slate, grouted	6.58	8.22	10.28	12.84
Softwood	1.81	2.22	2.72	3.33
Stone Plank	15.85	18.80	22.35	26.55
Synthetic sports surfacing	6.71	8.08	9.72	11.70
Terrazzo (exclusive of base slab)	16.95	19.95	23.45	27.60
Tile	7.96	9.86	12.22	15.15
Tile, ceramic or quarry	11.35	14.00	17.30	21.40
Custom tile	20.95	23.95	27.40	31.30
*Wood over concrete, hardwood Parquet block, prefinished, In mastic	11.35	14.35	18.10	22.85
Softwood	25.70	31.00	37.35	45.00
Vinyl composition tile or sheet	10.24	13.16	16.93	21.76
Vinyl sheet	10.19	13.98	19.17	26.30
Vinyl tile	7.68	9.17	10.95	13.07
*Add for custom wood floors	2.15	2.80	3.64	4.74
For pictorial artwork, add	3.61	4.96	6.81	9.36
For pool decking, see Section UIP 16.	3.84	5.59	8.13	11.84
	6.78	13.71	24.05	39.51
	10.36	14.59	20.54	28.93

THEATERS AND AUDITORIUMS

SECTION SEG 6

(SEGREGATED COST METHOD)

CEILING – Apply to area of described ceiling. To convert costs to floor area for high-pitched ceilings, use the roof slope multipliers on Page 8.

	1	2	3	4
Acoustical ceilings, tile or panels:				
Metal panels, incl. pads and suspension system	\$7.41	\$9.24	\$11.52	\$14.36
Mineral fiber, fiberglass, panels only	1.78	2.49	3.49	4.88
Organic fiber, wood or cane, panels only 2.11	2.46	2.87	3.35	
Embossed metal	6.35	8.52	11.44	15.36
Fiber sports court panel with suspension system	6.02	7.32	8.91	10.84
Gypsum board, taped and painted spray on texture	2.09	2.32	2.58	2.86
Mirror faced panels	2.03	2.21	2.40	2.61
Paint or stain, bottom of roof or floor .73 .94	1.22	1.57		
Plaster on lath: acoustical	4.29	4.80	5.38	6.02
Spray on, thincoat with texture on lath or drywall	3.11	3.42	3.75	4.12
Standard, add 20% for Keene's	3.73	4.21	4.76	5.38
Add for metal lath . . . . .	.50	.60	.72	.86
Plaster on masonry soffit: acoustical spray on, thincoat with texture	3.68	4.11	4.59	5.13
Standard, add 24% for Keene's	2.43	2.67	2.93	3.22
Standard, add 24% for Keene's	3.11	3.49	3.92	4.40
Plaster panels, decorative, panels only	13.85	15.30	16.95	18.75
Plastic panels, with suspension system, but excluding lighting	7.13	8.49	10.12	12.05
Plywood (softwood) or hardboard panels	3.37	3.90	4.51	5.22
Hardwood	4.85	5.84	7.04	8.48
Coffered or vaulted panel with molding	10.60	14.35	19.45	26.35
Custom woods, site-built	26.10	30.70	36.05	42.40
Poly laminated panels (FRP)	3.33	3.73	4.18	4.69
Insulated panels	4.81	5.50	6.29	7.19
Wood, boards or T & G, softwood	3.19	3.76	4.43	5.22
Hardwood	5.22	6.14	7.21	8.48
Carved, decorative	10.07	14.32	20.37	28.98
CEILING EXTRAS – Add to ceiling costs. For special ornamentation, see Section UIP 2.				
Ceramic tile, add	\$14.15	\$18.00	\$22.95	\$29.20
Custom tile, decorative	29.00	35.25	43.00	52.25
Custom papers, stenciling, staff, add	13.85	18.85	25.70	35.00
Border or coving only	3.44	4.41	5.65	7.25
Extensive decor., custom plaster, Terra cotta, add	38.75	49.25	62.75	80.00
Wood furring	1.01	1.24	1.53	1.88
Metal furring	1.53	1.94	2.47	3.14
If ceiling structure is required which is not part of the roof or floor structure, add	1.57	1.98	2.51	3.17
Suspended ceiling, metal suspension sys., add	1.43	1.82	2.32	2.96
Fiberglass, FRP	2.37	2.82	3.35	3.98
Hardwood, decorative	3.96	5.44	7.48	10.29
For seismic supports, add . . . . .	.25	.33	.43	.56
Ceiling insulation, add . . . . .	.74	.94	1.19	1.51
Vinyl faced, exposed	1.02	1.19	1.40	1.64
Add for underdeck supporting bands . . . . .	.34	.40	.47	.56
Rigid board, faced	1.44	1.92	2.56	3.41
For ceiling domes, see stained glass, Page 7.				

INTERIOR CONSTRUCTION – Apply to total floor area. Costs do not include seating, organs, pulpits or interior equipment, or other decoration which is not normally included in the general contract. See Section UIP 12 for theater and bowling equipment costs, etc. Icemaking equipment and bleachers can be found in Section UIP 14. See Section UIP 2 for special interior decorating. Add for pools from Section UIP 13.

Add or deduct 5% for each foot of variation from 16' average story height.

	1	2	3	4
FRAME INTERIOR PARTITIONS:				
Arcade buildings	\$ 5.57	\$ 7.62	\$10.42	\$14.26
Auditoriums	17.50	23.15	30.60	40.50
Bowling centers (excluding alleys and equip.)	4.48	6.54	9.55	13.94
Casinos	20.75	27.60	36.75	48.90
Churches, with Sunday School	20.85	26.65	34.10	43.65
Without Sunday School	24.50	31.80	41.30	53.65
Educational wings	20.15	24.40	29.55	35.75
Fellowship halls	16.05	21.85	29.75	40.50
Foyers/narthexes	11.85	15.05	19.05	24.20
Community recreation centers (excl. pools/rinks)	25.90	32.15	39.85	49.45
Convention centers	26.25	30.50	35.25	40.75
Fitness centers (excluding pools)	8.08	12.94	20.20	31.04
Fraternal buildings	20.30	26.70	35.15	46.30
Handball-racquetball clubs	13.55	19.50	28.10	40.50
Indoor tennis clubs	3.88	5.41	7.54	10.52
Museums	23.20	30.05	38.95	50.50
Pavilions	1.30	1.94	2.90	4.34
Skating rinks, ice excluding icemaking equip.	10.03	15.70	24.17	36.82
Roller rink	7.30	10.90	16.27	24.30
Theaters, live stage presentation	15.85	22.90	33.10	47.85
Cinema	14.25	18.60	24.35	31.80
Visitor centers	12.95	17.60	23.95	32.60
Finished basements, churches	13.55	16.40	19.85	24.00
Theaters	11.45	13.65	16.35	19.50

	1	2	3	4
MASONRY INTERIOR PARTITIONS:				
Arcade buildings	\$6.41	\$8.60	\$11.53	\$15.47
Auditoriums	18.95	24.80	32.40	42.35
Bowling centers excluding alleys and equip.	5.24	7.46	10.63	15.15
Casinos	22.20	29.30	38.65	51.00
Churches, with Sunday School	22.30	28.30	35.85	45.50
Without Sunday School	26.00	33.30	42.70	54.70
Educational wings	21.60	25.95	31.10	37.35
Fellowship halls	17.40	23.35	31.35	42.10
Foyers/narthexes	12.95	16.25	20.45	25.70
Community recreation centers (excl. pools/rinks)	27.25	33.50	41.50	51.00
Convention centers	28.00	32.25	37.00	42.50
Fitness centers (excluding pools)	9.14	14.11	21.53	32.61
Fraternal buildings	21.85	28.35	36.85	47.85
Handball racquetball clubs	14.85	21.00	29.75	42.10
Indoor tennis clubs	4.57	6.25	8.54	11.68
Museums	24.60	31.60	40.55	52.10
Pavilions	1.63	2.39	3.49	5.11
Skating rinks, ice excluding icemaking equipment	11.15	16.90	25.55	38.40
Roller rink	8.36	12.16	17.68	25.72
Theaters, live stage presentation	17.15	24.50	35.00	49.95
Cinema	15.45	19.95	25.70	33.15
Visitor centers	14.15	19.00	25.50	34.20
Finished basements, churches	14.95	17.85	21.30	25.40
Theaters	12.75	15.05	17.75	20.95

THEATERS AND AUDITORIUMS

SECTION SEG 6 (SEGREGATED COST METHOD)

PLUMBING – Apply to total floor area or use Section UIP 3 for cost per fixture. Balcony plumbing is included in the building costs. The following costs represent typical ranges only.

	1	2	3	4
Arcade buildings	\$1.90	\$ 3.97	\$ 7.06	\$11.68
Auditoriums	3.93	6.94	11.43	18.15
Bowling centers	2.33	2.88	3.57	4.41
Casinos	5.39	7.62	10.78	15.25
Churches, with Sunday School	3.99	7.13	11.82	18.83
Without Sunday School	3.21	5.80	9.68	15.47
Educational wings	3.70	5.12	7.09	9.81
Fellowship halls	2.77	4.43	6.92	10.63
Foyers/narthexes	7.25	10.59	15.48	22.62
Community recreation centers	5.32	7.33	10.11	13.94
Convention centers	4.39	6.05	8.33	11.47
Fitness centers	3.41	4.73	6.55	9.08
Fraternal buildings	3.95	6.53	10.39	16.15
Handball–racquetball clubs	3.40	4.40	5.68	7.35
Indoor tennis clubs	2.33	3.09	4.09	5.42
Museums	3.64	5.53	8.35	12.57
Pavilions	1.63	2.43	3.62	5.40
Skating rinks, ice	3.51	4.97	7.04	9.97
Roller rink	2.59	3.40	4.46	5.85
Theaters, live–stage presentation	6.74	8.83	11.57	15.15
Cinema	3.75	5.03	6.74	9.03
Visitor centers	6.85	8.92	11.63	15.15

ELECTRICAL AND LIGHTING – Apply to total floor area. Live stage presentation theaters and convention centers are listed by occupancy but are not included in the general tables.

Few Outlets:				
Nonmetallic	\$4.80	\$5.91	\$ 7.28	\$ 8.97
Armored cable (BX)	5.74	7.00	8.54	10.42
Flexible conduit	6.80	8.25	10.01	12.15
Rigid conduit	8.08	9.74	11.74	14.15
Average Number of Outlets:				
Nonmetallic	\$ 6.63	\$ 8.14	\$ 9.99	\$12.26
Armored cable (BX)	8.03	9.81	11.97	14.62
Flexible conduit	9.64	11.76	14.36	17.52
Rigid conduit	11.55	14.05	17.10	20.85
Many Outlets:				
Nonmetallic	\$ 9.14	\$11.20	\$13.73	\$16.83
Armored cable (BX)	11.15	13.65	16.75	20.50
Flexible conduit	13.55	16.65	20.45	25.10
Rigid conduit	16.60	20.40	25.05	30.75
Unfinished Areas:				
Nonmetallic	\$1.83	\$2.17	\$2.58	\$3.07
Armored cable (BX)	2.18	2.58	3.06	3.62
Flexible conduit	2.57	3.04	3.61	4.27
Rigid conduit	3.04	3.59	4.25	5.02

Typical costs for selected occupancies.

Arcade buildings	\$ 4.76	\$ 9.15	\$15.71	\$25.51
Auditoriums	5.97	11.22	19.06	30.77
Bowling centers	8.13	9.75	11.70	14.04
Casinos	13.85	20.15	29.30	42.60
Churches, with Sunday School	8.75	12.25	17.14	23.99
Without Sunday School	7.35	11.64	18.05	27.62
Educational wings	5.97	8.09	10.95	14.83
Fellowship halls	4.43	8.14	13.67	21.94
Foyers/narthexes	6.85	11.08	17.39	26.83
Community recreation centers	7.96	10.89	14.91	20.41
Convention centers	7.86	13.49	21.89	34.45
Fitness centers	5.45	7.78	11.09	15.83
Fraternal buildings	5.38	9.32	15.20	23.99
Handball/racquetball clubs	5.41	7.27	9.78	13.15
Indoor tennis clubs	4.82	6.60	9.03	12.36
Museums	11.55	17.00	25.00	36.80
Pavilions	6.24	9.26	13.75	20.41
Skating rinks, ice	6.02	8.68	12.51	18.04
Roller rinks	4.67	6.06	7.86	10.19
Theaters, live stage presentation	11.85	17.70	26.40	39.45
Cinema	9.75	13.26	18.03	24.51
Visitor centers	8.86	12.73	18.30	26.30

SPRINKLERS – Apply to sprinklered area. Costs include all piping and connections to main for light-hazard occupancies but do not include tanks. For double sprinkler systems with heads both above and below a ceiling, use sprinklered area and 1.6 times the listed cost.

	1	2	3	4
3,000 square feet	\$3.57	\$4.55	\$5.81	\$7.41
5,000	3.31	4.18	5.29	6.69
10,000	2.99	3.74	4.68	5.85
15,000	2.79	3.49	4.36	5.45
20,000	2.67	3.33	4.14	5.16
30,000	2.50	3.11	3.86	4.80
40,000	2.40	2.97	3.67	4.53
60,000	2.26	2.78	3.41	4.19
80,000	2.17	2.65	3.25	3.97
100,000	2.08	2.54	3.11	3.81
125,000	2.03	2.47	3.00	3.65
150,000	1.95	2.37	2.89	3.51
200,000	1.87	2.27	2.75	3.33
250,000	1.81	2.19	2.65	3.21
300,000	1.77	2.13	2.56	3.08
400,000	1.68	2.02	2.44	2.94
500,000	1.64	1.96	2.34	2.80

HEATING, COOLING AND VENTILATION – Apply to total floor area.

Add or deduct 3% for each foot of variation from 16' average story height. For high-arched ceilings, as in churches, use wall height plus 1/2 the height from eaves to ridge to determine effective height.

For ice rink refrigeration, see Section UIP 14.

Costs are given for gas-fired heating surfaces. Add or deduct as follows for other fuels.

Oil fired +7% Coal, stoker +7% Coal, hand fired -2%

Heating Only

Electric, cable or baseboard	\$3.68	\$4.88	\$ 6.47	\$ 8.58
Radiant panels	3.48	4.11	4.86	5.74
Electric wall heaters (including FWA)	1.76	2.14	2.59	3.15
Forced-air furnace	3.83	5.55	8.05	11.68
Hot water, baseboard or convectors	6.96	9.15	12.04	15.83
Radiant floor or ceiling	6.80	9.26	12.60	17.15
Radiant heat, gas, suspended	1.68	2.27	3.06	4.12
Space heaters, gas, with fan	1.37	1.89	2.61	3.60
Steam radiator, with boiler	6.46	8.43	11.00	14.36
Without boiler	5.32	7.15	9.62	12.94
Wall or floor furnace	1.83	2.27	2.81	3.48

Heating and Cooling

Zoned A.C., hot and chilled				
water (zoned)	\$16.85	\$21.95	\$28.65	\$37.35
Warm and cooled air (zoned)	10.14	14.21	19.90	27.88
Package heating and cooling,				
short ducts	6.80	9.50	13.26	18.52
Heat pump system	7.52	10.93	15.89	23.09
Add for ground loop heat source	1.68	2.50	3.71	5.51
Individual thru wall heat pumps	3.15	4.23	5.69	7.64

Cooling Only

Evaporative coolers	\$3.19	\$3.73	\$ 4.37	\$ 5.12
Refrigerated air conditioning only,				
Zoned system	6.13	7.91	10.20	13.15
Package unit, short ducts	4.52	5.73	7.25	9.19
Ventilation only, with ducts				
and blowers	1.27	1.68	2.22	2.94

THEATERS AND AUDITORIUMS SECTION SEG 6 (SEGREGATED COST METHOD)

EXTERIOR WALL – Apply to total wall area. Costs do not include stained glass. For tower costs, see Note on Page 7.

Concrete or Masonry Walls	1	2	3	4
Adobe or hollow clay block, 6"	\$21.95	\$24.35	\$27.00	\$29.95
8"	23.50	26.25	29.35	32.80
12"	26.75	29.75	33.00	36.75
14"	29.75	33.00	36.75	41.00
Adobe block, grouted or cavity				
22" - 24"	34.50	38.50	42.75	47.50
30" - 32"	36.75	41.00	45.75	51.00
Block, concrete, 6"	19.05	21.15	23.45	26.05
8"	20.65	22.80	25.20	27.85
12"	23.50	26.05	28.90	32.05
16"	26.50	29.25	32.50	36.00
For each additional 4" of block, add	2.86	3.15	3.46	3.81
Block, grouted or cavity, 10" - 12"	22.15	24.50	27.10	29.95
*Add for ornamented face block	1.44	2.14	3.17	4.71
Brick, block backup, 8"	24.80	27.50	30.50	33.85
12"	27.75	30.75	34.00	37.75
16"	30.50	33.75	37.50	41.75
Brick, common, 8"	27.75	30.75	34.00	37.75
12"	33.50	37.00	41.00	45.50
16"	39.00	43.25	48.00	53.25
For each additional 4" of brick, add	5.73	6.28	6.89	7.55
Brick, grouted or cavity, reinforced,				
9" - 10"	30.25	33.50	37.25	41.25
Block backup, 9" - 10"	27.25	30.25	33.75	37.50
Block backup, 12" - 14"	30.25	33.50	37.25	41.50
Brick, 6" SCR modular	21.15	23.60	26.35	29.45
8"	23.40	26.00	28.85	32.05
*Add for face brick	3.15	3.45	3.79	4.15
Concrete, reinforced, formed, 4"	21.85	24.20	26.80	29.70
6"	23.30	25.85	28.65	31.80
8"	24.70	27.45	30.45	33.85
12"	28.25	31.25	34.50	38.25
For each additional 4" of concrete, add	3.31	3.60	3.92	4.26
Precast panels, 2"	17.85	19.85	22.05	24.50
4"	19.05	21.15	23.45	26.05
6"	20.95	23.20	25.65	28.40
8"	23.20	25.55	28.15	31.00
12"	27.25	30.00	32.75	36.00
Tilt-up panels, 4"	17.85	19.90	22.15	24.70
6"	19.15	21.45	24.00	26.85
8"	20.75	23.25	26.05	29.20
10"	22.40	25.10	28.10	31.50
12"	24.15	27.05	30.25	33.85
Add for insulated sandwich	1.69	2.09	2.59	3.20
Add for brick or tile inserts	6.06	7.54	9.38	11.67
Glass block, white or aqua	48.00	51.00	54.00	57.25
Colors or reflective	64.00	67.00	71.00	75.00
Local stone, block backup,				
Ashlar veneer, 12"	44.50	50.00	56.50	63.50
Rubble or rustic, veneer, 12"	35.75	41.00	47.25	54.25
For each 4" variation in thickness	2.86	3.15	3.46	3.81
Local fieldstone, in mortar, 12"	32.50	36.25	40.25	45.00
For each 4" variation in thickness	2.75	3.17	3.65	4.20
Local stone, rough cut, solid, 12"	46.75	56.75	68.75	83.25
Granite	49.25	62.25	78.50	99.00
Limestone	52.00	63.00	77.00	93.00
For each 6" variation in thickness	21.30	25.15	29.75	35.15
Rammed earth, soil cement, 24"	24.15	27.50	31.35	35.70
Pneumatic build-up,				
formed one side	37.25	41.50	46.25	51.50
For each 6" variation in thickness	1.35	1.57	1.82	2.12
Tile, structural clay, 6"	20.65	23.10	25.85	28.90
10"	24.00	26.80	29.90	33.35

EXTERIOR WALL (Continued)

Concrete or Masonry Wall Extras	1	2	3	4
Concrete or Masonry Wall Extras				
Add for stay in place forming	\$ 1.17	\$ 1.53	\$ 2.00	\$ 2.62
Add for glazed block or tile, each side	6.35	7.11	7.97	8.93
Add for pilasters	1.21	1.47	1.78	2.15
Add for bond beams	1.27	1.52	1.82	2.17
Add for seismic reinforcement . . . . .	.51	.83	1.31	2.03
Add for synthetic plaster on rigid insulation (EIFS)	4.98	6.14	7.56	9.32
Deluxe textured or aggregate	8.11	9.76	11.74	14.12
Add for thin masonry on rigid insulation	12.65	14.10	15.75	17.55
Add for clay tile backup in lieu of block	2.13	2.51	2.95	3.47
Add for earth sheltered waterproofing . . . . .	.94	1.45	2.22	3.36
Add for insulation . . . . .	.78	1.11	1.58	2.24
Earth sheltered structures	1.26	1.85	2.72	4.00
For special stonework, see Section UIP 6.				

Buttresses – Apply to cubic foot of buttress wall area.

Concrete	\$24.50	\$27.40	\$30.60	\$34.20
Masonry	28.25	31.00	34.25	37.75
Local stone, ashlar veneer	52.00	57.75	64.25	71.50
Rubble or rustic veneer	38.75	44.00	50.00	56.75
Rough cut, solid, local stone	45.00	53.25	63.00	74.75
Granite	48.25	59.50	73.50	90.50
Limestone	47.75	57.25	68.50	82.00

Curtain Walls

Brick or tile panels	\$25.20	\$ 30.25	\$ 36.35	\$ 43.65
Concrete and glass panels,				
Precast	31.00	35.75	41.25	47.75
Glass fiber reinforced, molded	26.75	33.00	40.50	49.75
Metal and glass panels (ordinary)	34.25	40.50	48.00	56.75
Stainless steel or bronze and glass	50.25	57.75	66.75	76.75
Stone panels, local stone	45.50	50.00	54.75	60.00
Granite	49.75	56.50	64.00	72.50
Limestone or slate	46.75	51.25	56.50	62.00
Marble	46.00	52.75	60.50	69.50
Composite or aggregate panels	31.75	39.25	48.50	60.00
Structural glazed atrium including supports	79.00	106.00	141.00	189.00
Steel studs and stucco	18.25	21.45	25.25	29.70
synthetic plaster on rigid insulation (EIFS)	20.95	25.15	30.20	36.30
Deluxe textured or aggregate	24.50	29.15	34.70	41.30
Wood or aggregate board siding	18.50	22.70	27.85	34.20
Add for insulation to insulated area only	1.02	1.49	2.19	3.21

Pre-engineered Walls

Sandwich panels, alum. or steel, both sides	\$20.05	\$23.00	\$26.35	\$30.25
Cement fiber or shotcrete, two sides	15.35	18.35	22.00	26.30
Fiberglass panels, two sides	19.85	23.40	27.65	32.60
Glass exterior, metal interior	22.85	26.00	29.60	33.65
Add for stainless steel or textured (Galbestos)	3.22	3.83	4.56	5.43
Add for poly laminated (FRP) Interior . . . . .	.85	1.05	1.29	1.58
Deduct for gypsum or hardboard interior	-1.42	-1.54	-1.67	-1.81

***NOTE:** The additional cost on this page for ornamented face block or face brick is the difference between the cost of the face block or brick and standard block or common brick in place as part of a wall. For the cost of ornamented block veneer or face brick veneer, see Wall Ornamentation on Page 7.

THEATERS AND AUDITORIUMS

SECTION SEG 6

(SEGREGATED COST METHOD)

EXTERIOR WALL (Continued)

Single Wall Construction	1	2	3	4
Aluminum or steel, on steel frame	\$ 7.57	\$ 9.20	\$11.17	\$13.57
On wood frame	6.80	8.35	10.24	12.57
Add for porcelain enamel finish	2.83	3.36	3.99	4.74
Add for stainless steel or textured (Galbestos)	3.22	3.83	4.56	5.43
Cement fiber (transite),				
On steel frame	8.52	10.43	12.76	15.62
Sheet siding on wood frame	7.74	9.53	11.75	14.47
Siding or shingles on wood frame	8.36	10.19	12.43	15.15
Fiberglass, light panels,				
On steel frame	6.13	7.06	8.13	9.36
Sandwich panels	7.69	8.69	9.82	11.10
Heavy, (FRP), over 8 oz.	9.87	11.53	13.47	15.73
Light panels on wood frame	5.42	6.25	7.20	8.30
Sandwich panels	6.96	7.86	8.88	10.03
Heavy, (FRP), over 8 oz.	9.08	10.64	12.47	14.62
Glass panels	22.60	28.65	36.30	46.05
Projected greenhouse	47.50	53.25	60.00	67.25
Log, up to 10" diameter	18.75	24.35	31.60	41.05
Deluxe, hand hewn or oversized	28.00	34.50	42.50	52.50
Plywood, boards or siding,				
On steel frame	7.64	9.18	11.03	13.26
On wood frame	6.83	8.26	9.98	12.06
Stucco on baled straw	15.60	18.75	22.55	27.10
Stucco on wood frame	7.74	9.02	10.52	12.26
Syn. plaster on rigid insul.				
(EIFS),on steel frame	11.05	13.10	15.50	18.40
Wood shingles on wood frame	8.08	9.46	11.07	12.96
Add for exterior sheathing, per layer	1.17	1.34	1.54	1.76
Add for interior sheathing or liner, finished	2.04	2.41	2.84	3.35
Polylaminated panel (FRP)	2.77	3.29	3.91	4.64
Add for stud wall backing	.75	.91	1.10	1.33
Add for insulation	.73	.88	1.06	1.27
Vinyl faced, exposed	.95	1.06	1.19	1.33
Rigid board faced	1.24	1.62	2.11	2.76
Add for air infiltration wrap	.21	.27	.34	.43

EXTERIOR WALL (Continued)

Wood or Steel Stud Walls	1	2	3	4
Aluminum or steel siding,				
horizontal	\$16.75	\$19.40	\$22.50	\$26.10
Sheet panels	15.15	17.75	20.75	24.30
Asphalt siding	14.60	16.80	19.35	22.30
Cement fiber siding or shingles,				
horizontal	16.35	19.00	22.05	25.60
Sheet, embossed	15.25	17.55	20.15	23.20
Hardboard siding or shingles,				
horizontal	15.85	18.25	20.95	24.10
Sheet, embossed	15.05	17.25	19.80	22.70
Plywood, textured	14.95	17.15	19.70	22.60
Deluxe, redwood, cedar, etc.	16.60	19.15	22.05	25.40
Shingles or shakes, wood	16.95	19.70	22.85	26.55
Stucco	16.60	19.30	22.40	26.00
Synthetic plaster on rigid insulation (EIFS)	19.50	22.70	26.40	30.75
Deluxe, textured or aggregate	22.95	26.75	31.15	36.30
Vinyl siding or shingles	16.60	19.30	22.40	26.00
Wood siding	15.90	18.35	21.15	24.35
Deluxe redwood, cedar, etc.	17.75	20.65	24.00	27.90
Log veneer siding	19.60	23.55	28.25	33.95
Deluxe, half round, full corners	27.50	31.00	34.75	39.25
Veneer, face block or concrete brick	20.60	23.70	27.25	31.30
Common brick	20.95	24.20	28.00	32.35
Face brick	24.00	27.55	31.60	36.30
Mortarless brick	24.00	27.40	31.30	35.75
Stone, ashlar veneer	36.75	42.50	49.00	56.75
Rubble or rustic	29.50	34.25	40.00	46.50
Synthetic veneer or panel	21.60	26.00	31.25	37.60
Thin veneer on rigid insulation	25.20	29.00	33.35	38.40
Add for sheathing	.97	1.17	1.42	1.71
Add for seismic/wind bracing	.52	.78	.95	1.25
Add for insulation	.70	.85	1.03	1.25
Add for air infiltration wrap	.24	.30	.37	.46
Add for air space wrap	.69	.78	.87	.98
Add for double-stud walls	1.55	1.84	2.19	2.61
Add for wood stressskin sandwich panel	4.64	5.42	6.34	7.41

MISCELLANEOUS – Apply to total square footage of lined area.

Cold storage, insulation board	\$1.91	\$2.54	\$3.37	\$4.48
for eah inch over 2", add	.32	.47	.69	1.02

BASEMENT WALLS – Apply to basement wall area.

Concrete block, reinforced, 6"	\$10.90	\$12.45	\$14.20	\$16.25
8"	12.35	14.05	16.00	18.25
12"	15.15	17.20	19.55	22.20
For each additional 4" of block, add	2.95	3.22	3.52	3.84
Concrete, reinforced, 6"	13.15	15.00	17.10	19.50
8"	14.85	16.90	19.25	21.95
12"	18.15	20.50	23.20	26.20
16"	21.50	24.10	27.00	30.25
For each additional 4" of concrete, add	3.33	3.62	3.94	4.29
Masonry, brick, 8"	18.50	21.00	23.85	27.10
Stone, 12"	26.25	30.50	35.50	41.50
For each 4" in thickness	5.74	6.33	6.98	7.69
Wood, treated	10.29	12.80	15.92	19.81
Add for stay in place forming	.68	1.00	1.47	2.17
Add for waterproofing	1.05	1.30	1.62	2.01
Earth sheltered structures	1.29	1.91	2.82	4.17
Add for insulation	.77	1.11	1.60	2.31
Earth sheltered structures	1.25	1.85	2.73	4.03

For specific earth sheltered waterproofing, see Section UIP 1.

THEATERS AND AUDITORIUMS

SECTION SEG 6

(SEGREGATED COST METHOD)

WALL ORNAMENTATION – Apply to ornamented area.

	1	2	3	4
Brick, split face, Roman or Norman	\$ 11.15	\$ 12.75	\$ 14.65	\$ 16.75
Face, standard size	12.05	13.95	16.10	18.60
Mortarless	12.95	14.65	16.55	18.75
Select common	10.90	12.50	14.30	16.35
Used	11.85	13.50	15.45	17.60
Simulated veneer or panel, 1/4" - 3/8"	9.64	11.66	14.09	17.04
Thin veneer on rigid insulation	12.85	14.25	15.85	17.60
add for pictorial carved artwork	160.00	180.00	200.00	225.00
Cement fiber siding	3.22	3.83	4.56	5.43
Concrete, ornamental cast stone	25.20	29.75	35.15	41.55
Concrete block, imitation flagstone	9.92	11.45	13.21	15.25
Solar screen	10.65	12.40	14.40	16.75
Ornamented face, slump, fluted, Split or ground	10.55	12.10	13.90	15.95
Glazed one side, add	6.46	7.21	8.04	8.97
Cut stone, carved	100.00	144.00	208.00	300.00
Glass block, white or aqua	39.75	43.50	47.75	52.50
Colors or solar reflective	55.00	60.00	66.00	72.00
Granite, ashlar or panel	51.25	58.75	67.00	76.75
Limestone, ashlar or panel	38.25	44.25	51.00	59.00
Local stone, ashlar veneer or panel	33.25	38.50	44.25	51.25
Rubble or rustic	24.00	28.65	34.15	40.75
Imitation precast stone	11.35	14.50	18.55	23.70
Marble, panels	42.00	49.00	57.00	66.25
Metal panels, screens, louvers	18.40	23.65	30.35	38.95
Preformed wall panels	3.61	6.36	10.48	16.62
Add for curved panels	1.07	1.47	2.03	2.79
Ornamental doorways	69.00	131.00	224.00	363.00
Slate, panels	35.75	41.00	47.00	53.75
Stucco	3.96	4.43	4.95	5.53
On masonry	3.17	3.60	4.09	4.64
Add for synthetic on rigid Insulation (EIFS)	2.60	3.29	4.17	5.29
*Built-up (EIFS) panel relief	5.53	6.99	8.83	11.15
Terra cotta	28.75	33.75	39.75	46.75
Tile, ceramic	14.15	16.10	18.30	20.85
*Mosaics	21.05	25.25	30.25	36.30
Hand painted tiles	110.00	155.00	210.00	295.00
Vinyl siding	3.44	4.04	4.75	5.58
Vitrolite (structural glass)	23.30	27.00	31.30	36.30
Wood, plywood	2.78	3.44	4.26	5.27
Shingles	3.79	4.45	5.23	6.14
Siding	3.50	4.26	5.18	6.31
Ornamented molding or trim	9.90	13.94	19.64	27.66
Add for treated wood	.51	.62	.76	.92
*For pictorial artwork, add	11.10	15.50	21.65	30.25

STAINED GLASS – Apply to art glass for window, dome or skylight area. These costs vary greatly and the following typical cost ranges should be used with caution. See Section UIP 6 for complete description and detailed costs. For residential straight seams or simple bevel, deduct 50% from the Low Cost. For ceiling domes, use low-cost range for plastic, average for stock glass and high-cost for custom stained glass.

	1	2	3	4
Low cost, plain, min. work, detailed bevel etched	\$ 72	\$ 99	\$ 137	\$ 189
Average, simple figures and scenes	225	310	420	575
High cost, highly detailed work (including domes)	490	685	955	1,335

EXTERIOR, BASEMENT AND TOWER STAIRS – Per riser.

Concrete	\$200	\$270	\$370	\$505
Steel pans or prefab. concrete on steel	215	290	390	530
Steel or aluminum grating	250	330	430	565
Wood	76	118	180	274

For fire escapes, see Section UIP 5.

EXTERIOR BALCONIES – Apply to balcony area.

Concrete	\$21.05	\$27.10	\$34.95	\$45.00
Steel	19.85	26.75	36.10	48.65
Wood	17.05	22.85	30.65	41.10
Add for ornate finishes, balustrades	17.60	21.85	27.10	33.65

ROOF STRUCTURE – Apply to roof area.

Concrete joists, slab	\$ 11.95	\$13.65	\$ 15.60	\$ 17.85
Lift slab	10.70	12.15	13.80	15.70
Pan or waffle slab and joists	10.95	12.45	14.15	16.10
Precast joists and deck	10.45	11.85	13.45	15.30
Precast joists, wood deck	8.21	9.30	10.53	11.93
Cored plank on bearing walls	9.26	10.48	11.87	13.44
Thin shell	18.55	22.20	26.55	31.80
Concrete dome, cast-in-place	37.75	42.00	46.75	52.00
Thin shell	25.50	29.00	33.00	37.50
Fabric roof, air supported	40.50	44.00	47.75	51.75
Tension supported	45.50	50.75	56.75	63.50
Add for thermal liner	3.76	4.63	5.69	7.00
Steel joists, concrete slab	13.70	15.75	18.05	20.75
Gypsum on formboard	7.13	9.03	11.43	14.48
Precast deck	11.95	13.60	15.45	17.60
Steel deck	7.69	9.87	12.68	16.28
Light-gauge truss joists	6.35	8.25	10.73	13.95
Steel deck, gypsum or concrete	9.80	12.27	15.37	19.25
Wood or composition deck	6.24	8.04	10.37	13.37
Light gauge truss joists	5.34	6.98	9.13	11.93
Open steel system for				
Corrugated metal	3.12	4.61	6.82	10.08
Light purlin supports only	1.45	1.90	2.49	3.26
Steel space frame and sheathing				
three dimen.	22.85	29.30	37.60	48.25
Architectural (exclusive of glazing)	35.50	53.75	81.25	122.00
Metal dome and cover	31.00	36.25	42.25	49.25
Glazed or translucent panels	70.00	85.00	104.00	127.00

THEATERS AND AUDITORIUMS

SECTION SEG 6

(SEGREGATED COST METHOD)

ROOF STRUCTURE (Continued)

	1	2	3	4
Wood joists, wood or comp. deck	\$ 5.14	\$ 6.70	\$ 8.73	\$11.38
Exposed rafters, 2" T&G sheathing	7.45	9.34	11.72	14.70
prefab. panels (exclusive of girders)	2.05	2.51	3.07	3.76
Stresskin sandwich panels (exclusive of purlins)	7.73	9.72	12.23	15.38
Add for snow roof, furred sheathing layer	2.15	2.35	2.58	2.82
Open wood system for corrugated metal	1.81	3.28	5.48	8.77
Light purlin supports only for metal, wood or fiberglass	.89	1.16	1.51	1.97
Lamella	14.00	16.65	19.75	23.45
Wood dome and deck	21.60	26.50	32.45	39.80
Add for seismic/hurricane truss ties	.38	.45	.54	.64
Add for monitor roof	60%	50%	40%	40%
Add for sawtooth roof	40%	35%	35%	25%
Add for complex roof, turrets, ornate trim	70%	55%	45%	35%

For treated wood, increase costs by 10% to 20%.

ROOF COVER – Apply to roof area.

Aluminum or steel, corrugated, crimped or tile panels, preformed light, to 26 gauge	\$2.04	\$2.65	\$3.44	\$4.46
Heavy, under 26 gauge	4.18	4.86	5.66	6.58
Formed seam, flat or standing	5.38	6.75	8.47	10.63
Batten seam	6.24	7.75	9.62	11.94
Sandwich panels, pre-engineered	8.47	10.86	13.91	17.83
Shingles	4.01	4.92	6.04	7.41
Aggregate finish	5.31	6.46	7.87	9.58
Thatch	17.25	19.05	21.00	23.20
Add for interior liner, metal	1.90	2.19	2.52	2.90
Plastic	1.68	1.98	2.34	2.76
Add for porcelain enamel finish	2.83	3.36	3.99	4.74
Add for stainless steel or Textured (Galbestos)	3.22	3.83	4.56	5.43
Asphalt, corrugated	1.61	1.90	2.23	2.63
Atrium skylight, frame and glazing	33.50	45.25	61.25	83.00
Built-up composition	1.94	2.48	3.16	4.03
Cement fiber, shingles	4.24	5.29	6.61	8.25
Corrugated or sheet (Transite)	3.84	5.51	7.91	11.36
Composition, roll, mineral surface	1.02	1.24	1.51	1.83
Composition shingles, light, to 235#	1.71	1.96	2.24	2.56
Heavy, over 235# or laminated	2.29	2.93	3.76	4.82
Copper, flat or standing seam	11.10	13.15	15.60	18.50
Batten seam	11.95	14.15	16.70	19.75
Shingles	11.25	12.25	13.30	14.45
Elastomeric or modified bitumen, single ply	3.22	4.31	5.78	7.74
Reinforced sheet or spray fluid coat	5.58	6.59	7.78	9.19
Fiberglass, corrugated or sheet, light	2.00	2.38	2.84	3.39
Sandwich panels	3.44	3.96	4.57	5.26
Heavy, FRP, over 8 oz.	3.79	4.90	6.34	8.20
Slate	7.81	9.39	11.29	13.57
Red	14.95	18.05	21.80	26.30
Composite reinforced fiber	5.53	6.73	8.19	9.97
Terne, flat or standing seam	10.95	12.85	15.10	17.75
Batten seam	11.85	13.90	16.30	19.15
Tile, clay	7.13	9.19	11.84	15.25
Concrete	5.13	6.05	7.14	8.42
Plastic or rubber	4.47	5.24	6.14	7.19
Add for custom coloring or glazing	1.32	1.68	2.15	2.74

ROOF STRUCTURE (Continued)

	1	2	3	4
Wood, shakes	\$3.67	\$4.28	\$4.99	\$5.81
Shingles	3.43	4.00	4.66	5.44
Fiber shingles	2.22	2.70	3.28	3.98
Add for fire-resistant finish	.50	.62	.76	.94
Add for roof insulation	.93	1.47	2.29	3.50
Earth sheltered structures	1.51	2.37	3.66	5.58
Add for earth sheltered waterproofing	1.35	2.01	2.99	4.46

NOTE: For underroof insulation and supporting structures, see Ceiling Extras on Page 3. For specific earth sheltered waterproofing, see Section UIP 1. For earthen roof cover, see Fill costs on Page 1. See Section UIP 13 for top dressing, sod and/or sprinklers.

ROOF MODIFIERS – Use the following multipliers for sloping roofs to convert the unit costs to cost per square foot of horizontal roofed area.

	Rise	:	Run	Mult.	Rise	:	Run	Mult.
Less than	3'	:	12'	1.00	6'	:	12'	1.12
	3'	:	12'	1.03	8'	:	12'	1.20
	4'	:	12'	1.06	12'	:	12'	1.42
	5'	:	12'	1.08	15'	:	12'	1.60
					18'	:	12'	1.80

TRUSSES AND GIRDERS – Apply to area supported.

Steel trusses or longspan girders	\$2.65	\$3.40	\$4.35	\$5.58
Timber trusses	2.94	3.78	4.86	6.24
Glued, laminated trusses or girders	2.70	3.43	4.35	5.52

MARQUEES OR CANOPIES – Apply to horizontal area. For light false mansard structures, deduct 50% to 60%. For greater detail, see Section UIP 4 or 6.

Wood frame	\$25.20	\$31.15	\$38.50	\$47.60
Steel frame	30.75	38.75	49.00	62.00

MISCELLANEOUS

Bells, chimes and carillons	Section UIP 12
Built-in appliances, fireplaces	Section SEG 1
Elevators and escalators	Section UIP 7
Kitchen, snack bar equipment	Section UIP 12
Orchestra lifts	\$107,000 – \$207,000
Ornamental columns	Section UIP 6
Specialized interior ornament	Section UIP 2
Stained glass	Section UIP 6
Theater and auditorium seating	Section UIP 12

BELL/CLOCK TOWERS

Towers frequently start at ground level and extend above the roofline. They may be an integral part of the building, simply attached or entirely separate. When the base of the tower is large enough to be used as a room, perhaps a foyer or an office and is finished inside, that portion should be priced with the rest of the building on a square foot of floor and wall area basis. A tower cost would only apply to the unfinished portion above the roofline. If all of the tower from the ground up is unfinished inside, it should all be priced as a tower. Towers are priced on a square foot of vertical surface, adding 15% to 20% to the appropriate Exterior Wall cost.

THEATERS AND AUDITORIUMS

SECTION SEG 6

(SEGREGATED COST METHOD)

NUMBER OF STORIES MULTIPLIER

To allow for the cost of hoisting materials, increased labor costs, and miscellaneous costs due to high-rise construction, multiply the total Segregated Costs of aboveground portions of the building by 100% plus .25% for each story over three.

Example: Seven-story building: Multiplier = 1.010

SPECIAL HEIGHT MULTIPLIER – TALL BUILDINGS

To allow for the cost of hoisting materials, increased labor costs, and other increased costs due to great wall heights on major theaters or other tall single-story buildings, multiply the total Segregated Cost of these buildings by 100% plus .25% for each foot over 30 feet of wall height.

Example: Story height = 50 feet: Multiplier = 1.050

COMPLETION OF BUILDING VALUATION

Contractors' overhead and profit, sales taxes, permit fees and insurance during construction are included in the above costs. Interest on interim construction financing is also included, but not financing costs, real estate taxes or brokers' commissions.

Architects' fees are not included and should be added from Appendix C.

Depreciation suggestions are given in Appendix A.

County Multipliers, which bring the basic costs up to date for each locality, are found in Appendix D.

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SHEDS AND FARM BUILDINGS

SECTION SEG 7

(SEGREGATED COST METHOD)

Sheds include low cost, utilitarian buildings are generally found near industrial buildings and on farms and ranches. They are usually lighter than typical industrial or warehouse buildings.

Farm buildings ranging from simple sheds to major buildings and large general purpose barns may be priced from this section.

Grain elevators, silos, and grain and feed bins may be priced from CAL 399-400.

Greenhouses and lath houses may be priced from CAL 96-101.

The costs given include professional construction labor. Farm or ranch-built buildings must be graded according to the quality of workmanship, and sometimes the value of the labor is very low, bringing the end costs below those listed.

Foundations may be quite heavy for some large farm buildings, while in areas not under any building codes, they may be very light, or the buildings may be supported only by wood blocks or sills or column footings, where the cost is generally proportional to the perimeter.

Such costs for light shell-type structures may be better computed on the basis of linear footage of bearing wall, with costs of column footings added, if there are interior columns supporting a roof or floor load above. Basement or pit walls are not a part of the foundation, but of the basement or pit, which is computed separately. When basement walls replace part of the foundation, a lower cost rank should be considered, always including the cost for a foundation.

Interior construction costs include feed and storage bins, tackrooms, cow stanchions and stalls, conforming to the quality of the building, but do not include items normally classed as equipment such as cages, display boxes, machinery, conveyors, etc.

Exterior walls may contain doors and windows or vent panels, or they may have none at all. Therefore, the exterior wall costs vary widely, depending on the amount and quality of fenestration.

Roof structures and covers may be quite heavy, with good venting, skylights and guttering, or they may be very light, with no flashings or ancillary components.

SEGREGATED COSTS

(For explanation of the rating numbers see Introduction to SEG Method.)

EXCAVATION AND SITE PREPARATION

	1	2	3	4
Excavation, bulk (per cu. ft.) . .	\$.28	\$.39	\$.54	\$.74
Fill (per cu. ft. of compacted earth)	.30	.39	.50	.64
Site preparation (per sq. ft. of site)	.23	.31	.41	.55

FOUNDATION - Table I gives complete average costs per square foot of floor area. If a more detailed estimate is desired for Class C, D or S buildings with continuous or column footing foundations, use Tables II and/or III as appropriate.

TABLE I. CONCRETE FOUNDATIONS - Apply to total floor area including basements, but excluding mezzanines or lofts.

Continuous Foundations:

	1	2	3	4
Class A	\$1.94	\$2.66	\$3.65	\$5.00
Class B	2.05	2.80	3.81	5.20
Class C, bearing wall	1.78	2.45	3.38	4.65
Non-bearing wall	1.66	2.31	3.22	4.48
Class D, masonry veneer, concrete	1.56	2.18	3.04	4.24
Treated wood	1.62	2.10	2.71	3.51
Siding or stucco, concrete . .	1.34	1.88	2.63	3.68
Treated wood	1.17	1.53	2.00	2.62
Pole-frame construction . . .	1.28	1.77	2.46	3.40
Class S	1.36	1.93	2.75	3.91
Classes C, D and S light perimeter foundation				
for open shell type structures	.66	.93	1.31	1.85
Add for perimeter insulation, ground				
floor area only . . . . .	.11	.19	.31	.48
Earth sheltered structures . .	.13	.25	.43	.70

Column Footing Foundations Only:

	1	2	3	4
Steel columns, light pre-engineered				
frame	\$.21	\$.35	\$.55	\$.85
Light tubular/pipe frame . . .	.22	.32	.45	.65
Wood columns . . . . .	.35	.54	.81	1.23
Light pole frame . . . . .	.25	.34	.47	.65
Piers with concrete footings . .	.25	.64	1.21	2.07
Wood blocks or sills . . . . .	.30	.59	1.02	1.67

CONCRETE FOUNDATIONS (Continued) - ALTERNATE METHOD

TABLE II. CONCRETE FOUNDATIONS - Apply to linear footage of continuous footings or foundation walls if Table I is not used. See discussion above.

	1	2	3	4
Heavy grade beam or stem footing				
Class C	\$21.30	\$29.50	\$40.80	\$56.45
Class D, masonry veneer, concrete	18.70	26.25	36.80	51.65
Treated wood	20.10	26.00	33.60	43.40
Siding or stucco, concrete . .	16.50	23.15	32.55	45.70
Treated wood	14.50	18.95	24.75	32.30
Class S	17.05	24.10	34.10	48.25
Classes C, D and S, reinforced				
Light grade beam	12.90	18.45	26.30	37.60
Unreinforced grade beam . .	6.61	9.45	13.50	19.30
Wood, treated, sills	2.23	3.29	4.84	7.14
Add for perimeter insulation . . .	.93	1.92	3.40	5.61
Earth sheltered structures . .	1.40	2.88	5.10	8.41
Add for perimeter radon control				
matting	2.97	3.36	3.81	4.31
Add for perimeter raised floor				
skirting/knee wall	8.63	9.72	10.95	12.33

TABLE III. CONCRETE COLUMN FOOTINGS - Apply to total number of columns if Table I is not used.

	1	2	3	4
Concrete columns	\$47.00	\$80.25	\$129.75	\$203.75
Steel columns	43.25	75.75	124.25	196.50
Light pre-engineered frame	37.00	48.50	63.75	83.75
Light tubular/pipe frame . . .	28.00	39.25	54.75	76.50
Wood columns	39.00	62.75	98.00	150.75
Light pole frame	27.25	38.00	53.00	73.75
Piers, precast concrete footing . .	9.63	16.99	27.99	44.41
Formed in place	37.50	45.50	55.25	67.00

FOUNDATION ADJUSTMENTS - Apply to base cost used.

Add 1% for each foot of average story height over a 10' base height.
 Subtract 1% for each foot of average story height under a 10' base height.
 For one-story buildings with foundations and footings formed and poured monolithically with floor slabs, use 70% of costs above.
 Add for pilings from UIP 1. If foundations are brick or stone instead of concrete, increase costs by 20%. For concrete block, reduce costs by 8%.

SHEDS AND FARM BUILDINGS

SECTION SEG 7 (SEGREGATED COST METHOD)

FRAME - Apply to total floor area including basements, but excluding mezzanines or lofts.

	1	2	3	4
Bearing walls, wood or steel floor supports only	\$ 1.17	\$ 1.39	\$ 1.64	\$ 1.95
Masonry supports only	1.71	2.02	2.39	2.82
Steel, fireproofed, Class A	11.95	13.95	16.30	19.05
Composite concrete/steel, Class B	11.05	12.60	14.35	16.35
Concrete, reinforced, Class B	10.75	12.45	14.35	16.60
Precast, post-tensioned	10.45	11.95	13.60	15.55
Steel, Classes C and D	4.17	5.28	6.68	8.45
Class S	4.03	5.13	6.52	8.29
Light pre-engineered frame	2.55	3.23	4.08	5.16
Slant-wall frame	2.10	2.53	3.06	3.69
Light tubular/pipe frame	1.53	2.05	2.75	3.69
Hoop-arch frame	1.12	1.48	1.94	2.56
Add for fireproofing	.71	1.08	1.62	2.44
Steel columns, wood beams	2.79	3.72	4.95	6.60
Wood, A-frame construction	3.30	4.11	5.11	6.36
Laminated bents and arches	3.74	4.66	5.81	7.25
Light arch-rib construction	2.34	2.96	3.75	4.74
Mill-type (heavy timber) construction	3.90	4.87	6.07	7.58
Heavy timber/log construction, architectural	7.58	9.87	12.85	16.73
Post and beam construction	2.68	3.35	4.20	5.25
Light pole type construction	1.51	1.98	2.59	3.40
Add for seismic/wind bracing for open, Class C/D/S frames	.75	.97	1.25	1.62

FRAME ADJUSTMENTS - Apply to base cost used.

Add 2% for each foot of average story height over a 10' base height. Subtract 2% for each foot of average story height under a 10' base height. For partially framed structures, see UIP 1.

FLOOR STRUCTURE - Apply to area of described floor, mezzanine or loft.

Clay	\$.83	\$.98	\$ 1.15	\$ 1.35
Compacted earth	.23	.27	.33	.39
Gravel	.50	.59	.69	.81
Sand with crushed stone base	1.57	1.87	2.22	2.64
Asphalt, on ground, including base	1.89	2.39	3.02	3.82
Concrete: on ground exclusive of vapor barrier	3.10	3.76	4.57	5.54
Plain (unreinforced)	2.72	3.27	3.92	4.71
Lift slab	9.42	10.65	12.03	13.60
Elevated flat slab and joists	10.65	12.05	13.70	15.50
Pan or waffle slab and joists	9.86	11.11	12.53	14.12
Precast joists and deck	9.30	10.47	11.79	13.28
Precast joists, wood sheathing	7.31	8.23	9.26	10.42
Cored plank on bearing walls	8.09	9.13	10.30	11.62
Steel joists: flat slab	11.60	13.25	15.10	17.20
Corrugated deck and concrete	8.20	9.96	12.10	14.69
Cellular deck and concrete	-----	13.25	15.45	18.00
Ventilated deck and plenum assembly	9.77	11.43	13.36	15.63
Open metal grating	17.30	23.35	31.55	42.60
Precast deck	10.19	11.51	13.00	14.69
Wood sheathing	5.09	6.65	8.69	11.36
Light gauge truss joists	4.59	6.03	7.93	10.42
Wood: boards on ground or elevated (w/o supports)	1.12	1.43	1.83	2.34
Boards or plywood on ground with sleepers	1.34	1.74	2.27	2.95
Joists and sheathing	4.35	5.70	7.48	9.81
Joists and bridging only	3.23	4.38	5.93	8.04
For treated wood, increase costs by 10% to 20%.				

FLOOR EXTRAS - Add to floor structure costs.

	1	2	3	4
Vapor barrier	\$.64	\$.89	\$ 1.25	\$ 1.74
Each inch of slab on grade over 8", add	.47	.55	.64	.74
Each inch of sheathing or boards over 1", add	1.12	1.30	1.50	1.74
Slotted floors (excluding floor supports), concrete	6.09	6.72	7.42	8.19
Metal or plastic	3.46	4.50	5.85	7.61
Wood	2.62	3.34	4.25	5.41
Manure gutter, gutter area only (w/o grating)	4.82	5.33	5.88	6.50
Foamed concrete surfacing, 1½" - 2"	.92	1.14	1.41	1.74
Floor insulation, add	.67	.83	1.04	1.29
Cold storage	1.40	1.76	2.22	2.80
For each inch over 2", add	.28	.41	.59	.86

FLOOR COVER - Apply to area of described floor.

Asphalt tile	\$ 1.96	\$ 2.31	\$ 2.71	\$ 3.19
Block, wood, treated	6.17	7.32	8.69	10.31
Brick, common, in mortar	7.84	9.26	10.93	12.91
Brick pavers, in concrete	9.19	10.99	13.14	15.71
Carpet and pad	1.91	3.07	4.81	7.40
Indoor/outdoor	1.84	2.36	3.02	3.87
Color, concrete	.89	1.12	1.42	1.79
Cork	5.27	6.13	7.13	8.30
Diato, magnesite, etc.	6.73	7.84	9.14	10.65
Gratings, plastic	9.19	14.94	23.53	36.37
Steel or aluminum	9.87	15.37	23.58	35.84
Stainless steel	43.75	61.50	86.25	121.25
Hardener and sealer, concrete	.67	.92	1.27	1.74
Heavy duty	1.57	1.99	2.52	3.19
Aggregate topping	4.60	5.98	7.77	10.09
Hardwood	7.18	9.42	12.37	16.23
Leather	33.75	39.50	46.00	53.75
Linoleum	3.25	3.92	4.73	5.71
Melamine laminated tile or sheet	2.52	3.48	4.79	6.61
Deluxe	6.73	7.92	9.32	10.96
Plastic tile, interlocking	6.73	7.47	8.28	9.19
Rubber fabric tile	8.85	10.32	12.03	14.02
Rubber tile or sheet	3.53	4.80	6.51	8.85
Seamless plastic, epoxy, urethane, neoprene,				
1/32" - 1/16" thin-coat	3.42	4.24	5.25	6.50
1/8" - 3/8"	5.61	6.95	8.60	10.65
Add for colored chips or glitter	1.45	1.82	2.28	2.86
Softwood	5.95	7.12	8.52	10.20
Stone Plank	12.90	15.65	18.95	23.00
Terrazzo (exclusive of base slab)	9.64	11.92	14.75	18.24
Tile, ceramic or quarry	9.41	11.91	15.07	19.08
Wood over concrete, hardwood	8.52	10.92	13.99	17.92
Parquet block, prefinished, in mastic	7.84	10.75	14.73	20.19
Softwood	6.84	8.13	9.67	11.49
Vinyl composition, tile or sheet	1.79	2.22	2.76	3.42
Vinyl sheet	2.86	3.89	5.28	7.18
Vinyl tile	2.97	4.31	6.26	9.08

CEILING - Apply to area of described ceiling. To convert costs to floor area for high-pitched ceilings, use the roof slope multipliers found on Page 8 of this section.

Acoustical ceilings, tile or panels:				
Mineral fiber, fiberglass, panels only	\$ 1.12	\$ 1.62	\$ 2.33	\$ 3.36
Organic fiber, wood or cane, panels only	1.74	2.05	2.42	2.86
Gypsum board, taped and painted	1.91	2.11	2.33	2.58
Spray on texture	1.79	1.98	2.18	2.41
Paint or stain, bottom of roof or floor	.53	.71	.96	1.29

SHEDS AND FARM BUILDINGS

SECTION SEG 7 (SEGREGATED COST METHOD)

CEILING (Continued)

	1	2	3	4
Plaster on lath				
spray on, thin coat with texture				
on lath or drywall	\$2.69	\$3.01	\$3.36	\$3.75
Standard, add 20% for Keene's	3.25	3.68	4.16	4.71
Add for metal lath . . . . .	.47	.55	.64	.74
Plaster on masonry soffit:				
Spray on, thin coat with texture	2.18	2.42	2.68	2.97
Standard, add 24% for Keene's	2.69	3.06	3.49	3.97
Plastic panels, with suspension system,				
but excluding lighting	5.61	6.80	8.23	9.97
Plywood (softwood) or hardboard				
panels	2.64	3.15	3.76	4.48
Unfinished	1.35	1.50	1.66	1.84
Hardwood	3.87	4.73	5.78	7.06
Plylaminated panels (FRP)	2.86	3.21	3.60	4.04
Insulated panel	4.37	4.93	5.56	6.27
Wood, boards or T&G, softwood	2.52	3.04	3.67	4.43
Hardwood	4.31	5.11	6.06	7.18

CEILING EXTRAS - Add to area of described ceiling. To convert costs to floor area for high-pitched ceilings, use the roof slope multipliers found on Page 8 of this section.

Ceramic tile	\$11.25	\$14.75	\$19.30	\$25.25
Wood furring . . . . .	.86	1.06	1.31	1.62
Metal furring	1.35	1.70	2.14	2.69
If ceiling structure is required which is no				
part of the roof or floor structure,				
add	1.35	1.70	2.14	2.69
Suspended ceiling, metal				
suspension sys. add	1.18	1.52	1.96	2.52
Fiberglass, FRP	1.91	2.32	2.82	3.42
Hardwood, decorative	3.25	4.44	6.07	8.30
Seismic supports, add . . . . .	.23	.29	.38	.48
Ceiling insulation, add . . . . .	.64	.81	1.02	1.29
Vinyl faced, exposed . . . . .	.94	1.09	1.25	1.45
Add for underdeck supporting				
Bands . . . . .	.30	.36	.42	.50
Rigid board, faced	1.29	1.68	2.19	2.86
Cold storage	1.91	2.57	3.46	4.65
For each inch over 2", add . . . . .	.28	.41	.60	.87
Vapor barrier, plastic . . . . .	.13	.18	.26	.36

For specific cold storage insulation, see Section 58.

INTERIOR CONSTRUCTION - See UIP 2 or 5 for detailed costs.

TABLE I. Apply to total floor area. Partition heights and materials should be considered in selecting the cost column. Costs do not include items normally classed as equipment. See UIP 7 for cold storage costs.

FRAME INTERIOR PARTITIONS:

Arenas	\$5.58	\$2.49	\$5.34	\$9.60
Lean-tos	1.23	2.95	5.53	9.37
Barns, free stall	1.39	1.70	2.09	2.56
Confinement . . . . .	.89	1.23	1.70	2.34
General purpose . . . . .	.98	1.90	3.29	5.35
Special purpose	4.13	4.96	5.95	7.14
Boat storage (including racks)	8.25	11.54	16.14	22.57
Calving barns . . . . .	.65	1.11	1.81	2.84
Commodity barns and sheds	1.39	2.61	4.42	7.14
Commodity warehouse . . . . .	.27	.64	1.18	2.00
Cotton gins (including tunnels)	20.65	29.10	41.05	57.85

INTERIOR CONSTRUCTION (Continued)

FRAME INTERIOR PARTITIONS:

	1	2	3	4
Dairies and milking parlors	3.18	4.39	6.06	8.37
Dehydrator buildings	15.60	17.55	19.80	22.30
Equipment buildings, sheds and				
shops, commercial . . . . .	.25	.50	.88	1.45
Farm implement . . . . .	.22	.32	.47	.68
Farm cold storage . . . . .	.09	.63	1.43	2.62
Controlled atmosphere	2.28	3.13	4.30	5.91
Feed handling and mixing buildings	.42	.51	.61	.74
Feeder barns and sheds, cattle,				
sheep . . . . .	.22	.30	.42	.58
Fertilizer storage, bag	1.62	1.97	2.39	2.90
Bulk	6.14	6.72	7.35	8.04
Fruit packing	3.74	4.61	5.69	7.02
Golf cart storage	8.14	9.01	9.98	11.05
Golf starter booths	15.35	18.60	22.55	27.35
Grain storage, granary				
(including bins and ducts)	4.30	4.78	5.32	5.91
Hog barns (excluding crates),				
breeding/gestation . . . . .	.94	1.71	2.86	4.58
Farrowing	1.28	2.28	3.78	6.02
Ffinishing/growing . . . . .	.80	1.17	1.71	2.51
Nursery	1.90	3.17	5.08	7.92
Sheds . . . . .	.80	.99	1.22	1.51
Modified sheds . . . . .	.89	1.13	1.44	1.84
Labor dormitories . . . . .	.73	2.02	3.94	6.81
Lumber storage (including racks)	1.67	2.34	3.27	4.58
Milk houses and sheds . . . . .	.30	.86	1.70	2.95
Potato storage	1.51	4.14	8.08	13.95
Poultry, cage houses, enclosed,				
(excluding cages) . . . . .	.92	1.52	2.41	3.74
Screened . . . . .	.11	.54	1.17	2.12
Floor operations, breeder houses	.12	.32	.62	1.07
Broiler houses . . . . .	.05	.13	.26	.45
Seed processing storage	2.07	2.52	3.07	3.74
Shed office structures	14.50	16.15	18.05	20.10
Sheep barns . . . . .	.71	1.06	1.57	2.34
Sheds . . . . .	.48	.69	1.00	1.45
Stables	2.23	3.98	6.58	10.48
High-value (estate)	10.50	17.45	27.85	43.40
Tobacco barns (including racks),				
air curing	2.40	2.88	3.45	4.13
Flue curing	2.90	3.55	4.33	5.30
Transient labor cabins . . . . .	.68	1.15	1.85	2.90
Turkey barns . . . . .	.09	.22	.42	.72
Utility buildings, commercial . . . . .	.15	.36	.66	1.12
Manufacturing . . . . .	.60	1.36	2.49	4.18
Vegetable buildings, environmental	8.25	9.19	10.24	11.41
Add for masonry partitions	15%	13%	11%	10%

MEZZANINES - Apply to open mezzanine or loft area. (Cost of miscellaneous items such as rail, stairs, etc.). For stepped balcony structures, see SEG 6.

Mezzanine, finished	\$1.79	\$2.11	\$2.50	\$2.95
Barn loft, unfinished . . . . .	.13	.20	.30	.45

MISCELLANEOUS - Apply to linear footage of walkway.

Catwalks, steel	\$103.00	\$120.00	\$139.00	\$161.00
Wood	40.75	48.25	57.00	67.25
Ladders, steel	16.20	21.55	28.70	38.20
Wood	12.55	16.90	22.80	30.75

SHEDS AND FARM BUILDINGS

SECTION SEG 7

(SEGREGATED COST METHOD)

TABLE II. - ALTERNATE METHOD - Apply to square footage of partition area. Do not use these costs if Table I is used. Costs do not include doors, cabinetry or other interior items. For unfinished pen wall partitions, deduct 20%. For treated wood, increase costs by 10%.

	1	2	3	4
Wood frame, unfinished board on				
One side	\$2.62	\$3.13	\$3.74	\$4.46
Two sides	3.63	4.38	5.28	6.36
Each inch of board over 1", add	1.17	1.33	1.52	1.73
Deduct for spaced boards	-.48	-.59	-.72	-.89
Add for metal panels	.09	.12	.17	.23
Add for finished wood or gypsum board, per side	.65	.75	.87	1.01
Add for poly laminated panel, per side	1.39	1.60	1.84	2.12
Add for concrete curb, per linear foot	3.07	3.94	5.05	6.47
Masonry partitions, unfinished, block	6.58	7.46	8.46	9.60
Concrete	7.48	8.69	10.09	11.72
Add for plaster finish, each side	.44	.51	.58	.67
Steel rods pens	3.85	3.96	4.07	4.18
For treated wood, increase costs by 10%.				

PLUMBING - Use UIP 3 if more detailed costs are desired. See Apply to total floor area.

Arenas	\$.13	\$.70	\$1.54	\$2.80
Lean-tos	.19	1.12	2.52	4.60
Shelters	.12	.24	.41	.67
Barns, free stall and confinement	.16	.43	.84	1.45
General purpose and sheep	.19	.55	1.10	1.91
Special purpose	1.57	2.83	4.70	7.51
Calving barns	.17	.42	.79	1.35
Commodity warehouse	.51	.71	.98	1.35
Cotton gins	.81	1.17	1.68	2.41
Dairies and milking parlors	1.29	3.11	5.82	9.87
Dehydrator buildings	4.14	4.55	5.00	5.49
Equipment buildings, sheds and shops, commercial	.71	.97	1.32	1.79
Farm implement	.17	.39	.73	1.23
Farm cold storage	.32	1.11	2.28	4.04
Feed handling and mixing buildings	.23	.37	.58	.90
Feeder barns	.17	.21	.25	.30
Fertilizer storage, bulk	.92	1.11	1.34	1.62
Fruit packing	.39	1.08	2.11	3.65
Golf cart storage	.95	1.23	1.60	2.08
Golf starter booths	4.43	5.81	7.61	9.97
Greenhouses	.22	.29	.37	.48
Hog barns, breeding, farrowing and finishing	.61	.92	1.39	2.08
Nursery	.93	1.38	2.04	3.03
Hog and sheep sheds	.22	.31	.43	.61
Modified sheds	.30	.57	.97	1.57
Labor dormitories	.57	1.40	2.63	4.48
Milk houses and sheds	2.86	3.65	4.66	5.95
Potato, controlled atmosphere and vegetable storage	.14	.23	.36	.55
Poultry, cage houses, enclosed and screened	.51	1.07	1.90	3.14
Floor operations and turkey barns	.21	.32	.49	.75
Seed processing storage	.19	.42	.77	1.29
Shed office structures	2.97	3.90	5.12	6.73
Stables	.16	1.13	2.59	4.76
High-value (estate)	4.93	6.59	8.80	11.75
Storage buildings and sheds; boat, lumber, material	.22	.32	.46	.67
Tobacco barns	.21	.57	1.11	1.91
Transient labor cabins and shelters	1.40	1.89	2.54	3.42
Utility buildings, commercial	.50	.67	.91	1.23
Farm buildings and lean-tos	.17	.38	.70	1.18
Manufacturing	.76	1.24	1.96	3.03

SPRINKLERS - Apply to sprinklered area. Costs include all piping and meters but do not include tanks and pumps. For fly control assemblies, deduct 50% to 75%.

	1	2	3	4
1,000 square feet	\$3.36	\$4.37	\$5.69	\$7.40
2,500	2.91	3.74	4.80	6.17
5,000	2.64	3.36	4.27	5.44
7,500	2.47	3.12	3.95	4.99
10,000	2.35	2.96	3.74	4.71
15,000	2.18	2.76	3.50	4.43
20,000	2.13	2.66	3.32	4.14
40,000	1.91	2.37	2.94	3.65
60,000	1.79	2.21	2.72	3.36
80,000	1.69	2.10	2.61	3.25
100,000	1.62	2.01	2.49	3.08
125,000	1.57	1.94	2.40	2.97
150,000	1.52	1.88	2.32	2.86

HEATING, COOLING AND VENTILATION - Apply to heated or cooled area or see UIP 3. Add or deduct 3% for each foot of deviation from a 10' base height.

Costs are given for gas fired heating surfaces. Add or deduct as follows for oil fired +7%

Heating Only

Electric cable or baseboard	\$2.18	\$2.69	\$3.32	\$4.09
Radiant panels	2.08	2.37	2.70	3.08
Electric wall heaters (inc. FWA)	1.12	1.30	1.50	1.74
Forced air, ducted	2.30	2.90	3.65	4.60
Heaters or furnace, vented	.66	.83	1.03	1.29
Hot water, baseboard or radiators	3.87	4.97	6.37	8.18
Radiant floor	3.53	4.71	6.30	8.41
Boiler, piping only	2.18	2.70	3.34	4.14
Radiant heat, gas, suspended	1.23	1.59	2.05	2.64
Solar heat, active air	2.30	2.50	2.73	2.97
Space heaters, gas, with fan	.90	1.22	1.66	2.25
Steam coil, with boiler	1.69	2.06	2.52	3.08
Without boiler	1.12	1.42	1.81	2.30
Add for fan-jet duct distribution	.42	.55	.71	.93
Steam, radiator, with boiler	3.75	4.68	5.84	7.28
Without boiler	3.08	3.93	5.01	6.39
Wall or floor furnace	1.18	1.43	1.72	2.08

Heating and Cooling

Zoned A.C., hot and chilled water	\$9.75	\$12.13	\$15.08	\$18.76
warm and cooled air	5.95	7.46	9.37	11.75
Package heating and cooling, short ducts	4.04	5.29	6.93	9.08
Heat pump system	4.43	5.87	7.78	10.31
Add for ground loop heat source	1.29	1.69	2.22	2.91
Individual thru wall heat pumps	2.13	2.85	3.81	5.10

Cooling Only

Evaporative coolers, short ducts	\$2.08	\$2.48	\$2.96	\$3.53
Coolers only	1.40	1.64	1.92	2.25
Refrigerated air conditioning only,				
Zoned system	4.14	5.10	6.28	7.74
Package unit, short ducts	2.80	3.60	4.63	5.95
Cooling units only	1.84	2.50	3.39	4.60
Ventilation only, with ducts and				
Blowers	.73	.88	1.07	1.29
Fans only	.33	.39	.46	.54
Controlled-atmosphere, environmental buildings				
livestock, air/air exchanger	2.13	2.41	2.72	3.08
Earth-tube	4.43	4.97	5.58	6.27
Nonenvironmental buildings, potato/fruit packing, etc.				
Conditioned air	2.01	2.55	3.23	4.09
Cooled air	5.54	6.86	8.51	10.54

SHEDS AND FARM BUILDINGS

SECTION SEG 7

(SEGREGATED COST METHOD)

ELECTRICAL AND LIGHTING - Apply to total floor area. See UIP 3 for detailed costs of service panels and costs per outlet.

	1	2	3	4
Finished buildings:				
Non-metallic	\$2.58	\$3.84	\$5.72	\$8.52
Armored cable (BX)	3.08	4.57	6.79	10.09
Flexible conduit	3.65	5.44	8.10	12.07
Rigid conduit	4.31	6.43	9.58	14.28
Exposed circuits:				
Non-metallic	1.10	1.44	1.89	2.47
Armored cable (BX)	1.35	1.74	2.25	2.91
Flexible conduit	1.69	2.13	2.67	3.36
Rigid conduit	2.13	2.62	3.23	3.97

Typical costs for some finished and unfinished occupancies.

Arenas	\$.19	\$ 1.10	\$2.45	\$ 4.48
Lean-tos	.31	.94	1.89	3.31
Shelters	.21	.59	1.16	2.01
Barns, free stall and confinement	.21	.51	.95	1.62
General purpose and sheep	.22	.61	1.20	2.08
Special purpose	1.84	2.68	3.91	5.71
Bulk oil storage	1.57	1.98	2.49	3.14
Calving barns	.28	.68	1.28	2.18
Commodity warehouses	.22	.62	1.23	2.13
Cotton gins	1.08	1.54	2.20	3.14
Dairies and milking parlors	1.62	2.77	4.49	7.06
Dehydrator buildings	25.25	27.80	30.65	33.75
Equipment buildings, sheds and shops,				
Commercial	.78	1.18	1.79	2.69
Farm implement	.23	.62	1.21	2.08
Farm cold storage & controlled-atmosphere buildings	1.62	2.60	4.07	6.27
Feed handling and mixing	.77	.99	1.26	1.62
Feeder barns	.21	.35	.55	.86
Fertilizer storage, bag	1.57	1.98	2.49	3.14
Bulk	1.74	2.42	3.38	4.71
Flathouse storage	.37	.59	.91	1.40
Fruit packing	1.74	2.42	3.38	4.71
Golf cart storage	2.41	3.26	4.40	5.95
Golf starter booths	3.14	4.14	5.45	7.18
Greenhouses	.22	.66	1.32	2.30
Hog barns, breeding/gestation	.86	1.40	2.21	3.42
Farrowing	1.12	1.78	2.78	4.26
Finishing/growing	.75	1.01	1.36	1.84
Nursery	1.57	2.40	3.64	5.49
Hog and sheep sheds	.31	.45	.65	.94
Labor dormitories	1.12	1.80	2.80	4.31
Milk houses and sheds	2.52	3.59	5.11	7.28
Potato storage	.19	.56	1.12	1.96
Poultry, cage operation, enclosed				
houses	1.08	1.65	2.49	3.75
Screened houses	.87	1.40	2.18	3.36
Floor operations and turkey barns	.31	.55	.91	1.45
Seed processing storage	1.45	1.92	2.54	3.36
Shed office structures	2.30	3.05	4.05	5.38
Stables	.31	1.03	2.10	3.70
High value (estate)	3.75	5.92	9.17	14.02
Storage buildings, boat and material	.93	1.57	2.53	3.97
Lumber	.39	.83	1.49	2.47
Storage sheds and shelters	.22	.51	.93	1.57
Tobacco barns, air curing	.21	.37	.61	.96
Flue curing	.92	1.10	1.31	1.57
Transient labor cabins and shelters	.69	1.13	1.78	2.75
Utility buildings, commercial/commodity				
Warehouses	.21	.57	1.11	1.91
Farm buildings, corncribs, toolsheds and lean-tos	.19	.33	.55	.87
Manufacturing	1.52	2.93	5.03	8.18
Vegetable storage buildings	.78	1.72	3.12	5.21

EXTERIOR WALL- Apply to total wall area.

Concrete or Masonry Walls

Adobe or hollow clay block, 6"	\$17.20	\$19.45	\$22.00	\$24.90
8"	18.30	20.80	23.65	26.85
12"	20.80	23.65	26.85	30.50
14"	22.95	26.10	29.75	33.85
Adobe block, grouted or cavity,				
22" - 24"	26.25	30.00	34.00	38.75
30" - 32"	29.00	33.00	37.25	42.25
Block, concrete, 6"	14.95	16.90	19.10	21.60
8"	16.05	18.15	20.60	23.30
12"	18.30	20.70	23.45	26.55
16"	20.45	23.20	26.35	29.95
For each additional 4" of block, add	2.32	2.61	2.95	3.32
Block, grouted or cavity, 10" - 12"	17.45	19.70	22.30	25.20
*Add for ornamented face block	1.33	2.02	3.05	4.59
Brick, block backup, 8"	19.10	21.75	24.75	28.15
12"	21.60	24.50	27.80	31.50
16"	23.80	27.05	30.70	34.90
Brick common, 8"	21.60	24.35	27.50	31.00
12"	26.75	30.25	34.00	38.25
16"	32.00	36.00	40.25	45.25
For each additional 4" of brick, add	5.31	5.88	6.51	7.20
Brick, grouted or cavity, reinforced,				
9" - 10"	23.80	26.90	30.45	34.40
Block backup, 9" - 10"	21.30	24.15	27.35	31.00
Block backup, 12" - 14"	23.55	26.70	30.30	34.40
Brick, 6" SCR modular	16.05	18.40	21.05	24.10
8"	18.00	20.50	23.30	26.55
*Add for face brick	2.77	3.04	3.34	3.66
Concrete, reinforced, formed,				
4"	\$16.60	\$18.85	\$21.45	\$24.40
6"	18.00	20.45	23.20	26.30
8"	19.65	22.15	24.95	28.15
12"	22.45	25.30	28.45	32.05
For each additional 4" of concrete, add	2.88	3.12	3.38	3.66
Precast panels, 2"	13.85	15.70	17.80	20.20
4"	14.95	16.90	19.10	21.60
6"	16.35	18.55	21.00	23.80
8"	18.30	20.60	23.15	26.05
12"	21.60	24.25	27.20	30.50
tilt-up panels, 4"	13.60	15.60	17.85	20.45
6"	14.70	16.80	19.15	21.90
8"	15.80	18.10	20.75	23.80
10"	16.90	19.45	22.40	25.75
12"	18.30	21.00	24.05	27.60
Add for insulated sandwich	1.44	1.81	2.29	2.88
Add for brick or tile inserts	5.76	7.02	8.55	10.42
Glass block, white or aqua	42.75	45.75	48.75	52.00
Colors or reflective	56.00	60.00	64.00	69.00
Local stone, block backup, ashlar				
Veneer, 12"	33.75	38.75	44.75	51.50
Rubble or rustic, veneer, 12"	26.75	31.25	36.50	42.75
For each 4" variation in thickness	2.32	2.61	2.95	3.32
Local fieldstone, in mortar, 12"	25.75	29.40	33.55	38.30
For each 4" variation in thickness	2.27	2.65	3.09	3.60
Local stone, rough cut, solid, 12"	43.25	50.00	57.75	66.75
Granite	44.75	53.25	63.25	75.00
Limestone	48.75	56.00	64.50	74.00
For each 6" variation in thickness	19.95	23.80	28.40	33.85
Rammed earth, soil cement, 24"	18.00	20.90	24.25	28.15
Pneumatic build-up, formed one side	29.00	33.00	37.50	42.75
For each 6" variation in thickness	1.17	1.37	1.61	1.89
Tile, structural clay, 6"	15.80	18.05	20.60	23.55
10"	18.55	21.10	24.05	27.35

***NOTE:** - The additional cost for face block or brick is the difference between the cost of face block or brick and standard block or common brick in place as part of a wall. For the cost of ornamented, face or synthetic masonry veneer, see wall ornamentation on Page 7 of this section.

SHEDS AND FARM BUILDINGS

SECTION SEG 7 (SEGREGATED COST METHOD)

EXTERIOR WALL (Continued)

	1	2	3	4
Masonry Wall Extras				
Add for stay in place forming . . .	\$.97	\$1.31	\$1.77	\$2.39
Add for glazed block or tile, each side	5.88	6.48	7.14	7.87
Add for pilasters	1.03	1.26	1.54	1.89
Add for bond beams	1.10	1.33	1.61	1.94
Add for seismic reinforcement . . .	.47	.78	1.25	1.94
Add for synthetic plaster on rigid insulation (EIFS)	4.71	5.77	7.06	8.64
Deluxe, textured or aggregate	7.87	9.37	11.15	13.28
Add for thin masonry on rigid insulation	11.35	12.75	14.30	16.05
Add for clay tile back up in lieu of block	1.89	2.28	2.75	3.32
Add for earth sheltered waterproofing	.84	1.25	1.86	2.77
Add for insulation . . . . .	.69	.99	1.43	2.05
Earth sheltered structures . . .	1.10	1.62	2.38	3.49
Deduct for plain shed type walls . .	-4.76	-5.58	-6.53	-7.65

Buttresses - Apply to cubic footage of buttress wall area.

Concrete	\$18.85	\$21.85	\$25.40	\$29.45
Masonry	23.30	26.40	29.90	33.85
Local stone, ashlar veneer	41.00	46.75	53.25	60.50
Rubble or rustic veneer	29.50	34.75	40.75	47.75
Rough cut, solid, local stone	32.00	39.25	48.50	59.50

Curtain Walls

Brick or tile panels	\$22.15	\$26.40	\$31.40	\$37.40
Concrete and glass panels, precast	28.00	32.25	37.25	42.75
Glass fiber reinforced, molded	23.00	28.15	34.45	42.15
Metal and glass panels (ordinary)	30.25	35.50	41.75	49.25
Stainless steel or bronze and glass	45.25	52.25	60.25	69.50
Stone panels, local stone	42.75	46.75	51.00	55.75
Granite	45.25	51.00	57.75	65.25
Limestone or slate	43.25	47.75	52.50	58.00
Marble	43.25	49.00	55.75	63.25
Composite or aggregate panels	27.00	33.50	41.50	51.25
Structural glazed atrium including supports	64.00	86.00	117.00	158.00
Steel studs and stucco	16.25	19.00	22.25	26.05
Synthetic plaster on rigid insulation (EIFS)	18.25	21.85	26.20	31.35
Deluxe, textured or aggregate	21.55	25.55	30.25	35.85
wood or aggregate board siding	15.70	19.30	23.75	29.25
Add for insulation, insulated areas only	.94	1.36	1.97	2.86

Pre-engineered Walls

Sandwich panels, alum. or steel,				
both sides	\$17.05	\$20.05	\$23.60	\$27.75
Cold storage, metal both sides	21.30	24.35	27.80	31.80
Cement fiber or shotcrete,				
two sides	11.90	14.80	18.45	23.00
Fiberglass panels, two sides	16.15	19.60	23.80	28.85
Glass exterior, metal interior . .	19.05	22.45	26.50	31.25
Add for stainless steel or textured (Galbestos)	2.95	3.55	4.28	5.16
Add for poly laminated (FRP) interior	.75	.94	1.18	1.48
Deduct for gypsum or hardboard interior	-1.25	-1.40	-1.57	-1.76
Prefabricated building panels				
Aluminum or steel and glass panels	25.80	28.50	31.45	34.75
Add for porcelain enamel finish	2.55	3.07	3.69	4.43
Add for block backup	5.39	6.08	6.85	7.72
Stucco on steel panel	27.25	30.75	34.50	39.00
Veneer, block or brick,				
On steel panel	31.25	35.75	40.75	46.50
Stone, rubble or rustic	41.00	45.25	49.75	55.00

EXTERIOR WALL (Continued)

Fabric covers, see Page 8.

Single Wall Construction

	1	2	3	4
Aluminum or steel, on steel frame	\$4.60	\$6.00	\$7.82	\$10.20
On wood frame	4.04	5.31	6.99	9.19
Add for porcelain enamel finish	2.52	3.04	3.67	4.43
Add for stainless steel or textured (Galbestos)	2.97	3.54	4.23	5.05
Asphalt siding, on wood frame	3.97	4.91	6.07	7.51
Cement fiber (Transite), on steel frame	5.10	6.40	8.04	10.09
Sheet siding on wood frame	4.54	5.74	7.26	9.19
Siding or shingles on wood frame	5.05	6.29	7.83	9.75
Fiberglass light panels on steel frame	4.31	4.94	5.67	6.50
sandwich panels	5.61	6.33	7.15	8.07
Heavy, FRP, over 8 oz	5.83	7.05	8.53	10.31
Light panels on wood frame	3.82	4.34	4.94	5.61
Sandwich panels	5.15	5.75	6.43	7.18
Heavy, FRP, over 8 oz	5.32	6.43	7.78	9.41
Glass panels	12.05	16.65	23.05	31.90
Projected greenhouse	29.25	34.75	41.50	49.25
Log, up to 10" diameter	12.90	17.15	22.80	30.30
Deluxe, hand-hewn or oversized	19.85	25.25	32.10	40.85
Plywood, boards or siding,				
On steel frame	4.82	6.17	7.89	10.09
On wood frame	4.31	5.55	7.14	9.19
Deduct for spaced boards	-.61	-.94	-1.44	-2.18
Stucco, on baled straw	12.35	14.80	17.75	21.30
Stucco, on wood frame	5.21	6.42	7.91	9.75
Synthetic plaster on rigid insul. (EIFS), on steel frame	7.84	9.63	11.84	14.55
Wire mesh on wood frame	3.14	3.78	4.56	5.49
Wood shingles on wood frame	5.44	6.73	8.33	10.31
Deduct for light farm grade panels	-1.52	-2.08	-2.83	-3.87
Deduct for shed walls without openings	-.57	-.91	-1.42	-2.18
Add for ext. sheathing or unfin. shed splash boards . . . . .	.89	1.08	1.30	1.57
Add for interior sheathing or liner, finished	1.52	1.88	2.32	2.86
Poly laminated panel (FRP)	2.47	2.89	3.39	3.97
Each inch of board or sheathing over 1", add	1.23	1.39	1.58	1.79
Add for stud wall backing . . . . .	.61	.77	.97	1.23
Add for insulation . . . . .	.65	.79	.97	1.18
Vinyl faced, exposed . . . . .	.89	.99	1.10	1.23
Rigid board, faced	1.12	1.48	1.95	2.58
Baled straw insulation . . . . .	.35	.45	.58	.74
Add for air infiltration wrap . . . . .	.17	.22	.29	.38

For earthen sidewalls, see Fill or Excavation costs on Page 1. For treated wood, add 10%.

Wood or Steel Stud Wall

Aluminum or steel siding, horizontal	\$11.40	\$13.65	\$16.30	\$19.50
Sheet panels	10.15	12.26	14.80	17.87
Asphalt siding	10.15	12.05	14.31	16.99
Cement fiber siding or shingles,				
horizontal	11.15	13.30	15.90	18.95
Sheet, embossed	10.70	12.60	14.90	17.55
Hardboard siding or shingles,				
horizontal	11.05	13.10	15.50	18.40
Sheet, embossed	10.60	12.55	14.85	17.55
Plywood, textured	10.50	12.40	14.65	17.30
Deluxe, redwood, cedar, etc.	11.70	13.80	16.30	19.25
Shingles or shakes, wood	11.40	13.70	16.45	19.80
Stucco	11.40	13.65	16.30	19.50
Synthetic plaster on rigid insulation (EIFS)	13.10	15.80	19.00	22.90
Deluxe, textured or aggregate	15.60	18.75	22.55	27.10
Vinyl siding	11.40	13.65	16.30	19.50

SHEDS AND FARM BUILDINGS

SECTION SEG 7

(SEGREGATED COST METHOD)

EXTERIOR WALL (Continued)

	1	2	3	4
Wood or Steel Stud Wall				
Wood siding	\$11.15	\$13.25	\$15.75	\$18.70
Deluxe, redwood, cedar, etc.	12.00	14.45	17.35	20.90
Log veneer siding	12.30	15.45	19.35	24.30
Deluxe, half round, full corners	20.65	23.70	27.20	31.25
Veneer, face block or concrete brick	14.20	16.90	20.10	23.95
Common brick	14.50	17.30	20.60	24.55
Face brick	16.75	19.80	23.40	27.65
Mortarless brick	17.00	19.90	23.35	27.35
Stone, ashlar veneer	25.35	30.20	35.95	42.85
Rubble or rustic	20.10	24.10	28.85	34.60
Synthetic veneer or panel ...	13.40	16.85	21.15	26.60
Thin veneer on rigid insulation	17.85	21.10	24.90	29.45
Add for sheathing .....	.83	1.01	1.24	1.51
Add for seismic/wind bracing ...	.45	.55	.68	.84
Add for insulation .....	.59	.73	.90	1.12
Add for air infiltration wrap .....	.22	.27	.32	.39
Add for air space wrap .....	.60	.67	.75	.84
Add for double stud walls	1.08	1.39	1.78	2.28
Add for wood stressskin sandwich panel	4.07	4.83	5.74	6.81
Deduct for single wall	-4.51	-5.17	-5.94	-6.81

MISCELLANEOUS - Apply to total square footage of lined area.

Cold storage, insulation board ..	\$1.74	\$2.30	\$3.05	\$4.04
For each inch over 2", add ..	.28	.41	.61	.89

WALL ORNAMENTATION - Apply to ornamented area.

Brick, split face, Roman or Norman	\$ 9.42	\$ 10.92	\$ 12.66	\$ 14.68
face, standard size	10.30	11.94	13.84	16.04
Mortarless brick	10.95	12.60	14.45	16.60
Select common	9.30	10.76	12.46	14.42
Used	10.19	11.72	13.49	15.52
Simulated veneer or panel,				
1/4" - 3/8"	8.31	10.10	12.29	14.94
Thin veneer on rigid insulation	11.35	12.65	14.15	15.80
Add for pictorial carved artwork	130.00	150.00	175.00	200.00
Cement fiber siding	2.60	3.16	3.83	4.65
Concrete, ornamental cast stone	20.50	24.65	29.60	35.55
Concrete block, imitation flagstone	8.31	9.71	11.35	13.27
solar screen	8.98	10.52	12.31	14.42
Ornamented face, slump, fluted,				
Split or ground	9.08	10.45	12.03	13.85
Glazed one side, add	5.76	6.36	7.02	7.75
Cut stone, carved	89.00	131.00	192.00	282.00
Glass block, white or aqua	35.50	39.25	43.50	48.00
Colors or solar reflective	50.00	54.75	60.00	65.75
Granite, ashlar or panel	43.75	50.75	58.75	68.00
Limestone, ashlar or panel	32.25	37.75	44.00	51.50
Local stone, ashlar veneer or panel	27.75	32.50	38.25	45.00
rubble or rustic	19.65	23.65	28.45	34.20
Imitation precast stone	8.75	11.29	14.57	18.81
Marble panels	35.50	41.50	48.50	56.50
Metal panels, screens, louvers ...	15.50	19.65	24.90	31.60
Preformed metal panels	2.00	3.73	6.32	10.19
Add for curved panels .....	.83	1.19	1.70	2.43
Ornamental doorways	52.00	106.25	187.25	308.25
Slate panels	30.50	35.25	40.75	47.00
Stucco	3.59	4.00	4.47	4.98
On masonry	2.82	3.19	3.62	4.10
Add for synthetic on rigid insulation				
(EIFS)	1.93	2.49	3.22	4.15
*Built-up (EIFS) panel relief .	4.32	5.49	6.97	8.86
Terra cotta	23.85	28.45	33.95	40.50
Tile, ceramic	12.45	14.15	16.10	18.30
*Mosaics	17.20	20.85	25.25	30.55
Hand-Painted tiles	87.00	124.00	176.00	251.00

EXTERIOR WALL (Continued)

	1	2	3	4
WALL ORNAMENTATION - Apply to ornamented area.				
Vinyl siding	2.77	3.32	3.98	4.77
Vitrolite (structural glass)	19.65	23.00	26.95	31.60
Wood, plywood	2.12	2.66	3.33	4.18
Shingles	3.12	3.72	4.44	5.30
Siding	2.74	3.39	4.19	5.19
Ornamented molding or trim	8.37	11.70	16.36	22.88
Add for treated wood .....	.45	.55	.68	.84
*Note - For pictorial artwork, add	9.64	13.48	18.85	26.35

EXTERIOR BALCONIES - Apply to balcony area.

Concrete	\$16.80	\$21.95	\$28.65	\$37.40
Steel	15.15	20.90	28.85	39.80
Wood	13.20	18.05	24.70	33.75
Add for ornate finishes, balustrades	14.00	17.75	22.45	28.45

BASEMENT WALL - Apply to basement wall area.

Concrete block, reinforced, 6" ..	\$8.75	\$9.99	\$11.40	\$13.01
8"	9.85	11.25	12.85	14.68
12"	11.90	13.60	15.50	17.70
For each additional 4" of block, add	2.27	2.58	2.92	3.32
deduct for plain, unreinforced walls	.43	.59	.81	1.11
Concrete, reinforced, 6"	10.41	11.89	13.59	15.52
8"	11.90	13.60	15.50	17.70
12"	14.70	16.55	18.70	21.05
16"	17.45	19.65	22.10	24.90
For each additional 4" of concrete,				
add	2.88	3.12	3.38	3.66
Deduct for plain, unreinforced walls	-.68	-.92	-1.23	-1.66
Masonry, brick, 8"	14.70	16.70	19.00	21.60
Stone, 12"	20.20	23.70	27.80	32.65
For each 4" variation in thickness	5.32	5.91	6.58	7.31
Wood, treated	7.75	9.94	12.75	16.35
Add for stay in place forming ...	.52	.81	1.24	1.88
Add for waterproofing .....	.87	1.10	1.40	1.78
Earth sheltered structures ..	1.16	1.70	2.50	3.66
Add for insulation .....	.68	.95	1.32	1.83
Earth sheltered structures ..	1.10	1.62	2.38	3.49
For specific earth sheltered waterproofing, see UIP 1.				

EXTERIOR AND BASEMENT STAIRS - Per riser. For fire escapes, see UIP 5.

Concrete	\$170	\$225	\$305	\$405
Steel pans or prefab. concrete				
on steel	185	245	320	425
Steel or aluminum grating	215	280	360	465
Wood	61	91	135	200

ROOF STRUCTURE - Apply to roof area. See pg. 8 for roof modifiers.

Concrete joists, slab	\$9.97	\$11.34	\$12.91	\$14.69
Lift slab	9.09	10.25	11.55	13.02
Pan or waffle slab and joists	9.20	10.40	11.75	13.28
Precast joists and deck	8.75	9.92	11.25	12.76
Precast joists, wood deck ...	6.98	7.89	8.92	10.09
Cored plank on bearing walls	7.75	8.80	10.00	11.36
Thin shell	14.10	17.00	20.45	24.65
Concrete dome, cast-in-place ..	35.00	38.25	41.50	45.25
Thin shell	22.95	25.50	28.35	31.50

SHEDS AND FARM BUILDINGS

SECTION SEG 7 (SEGREGATED COST METHOD)

ROOF STRUCTURE - Apply to roof area.

	1	2	3	4
Steel joists, concrete slab	\$11.15	\$12.90	\$14.95	\$17.35
Gypsum on formboard	4.89	6.41	8.42	11.04
Precast deck	9.77	11.21	12.86	14.75
Steel deck	5.12	6.84	9.14	12.22
Light-gauge truss joists	4.09	5.55	7.54	10.23
Steel deck, gypsum or concrete	6.94	8.92	11.47	14.75
Wood or composition deck	4.09	5.51	7.42	9.99
Light gauge truss joists	3.35	4.61	6.35	8.75
Open steel system for				
corrugated metal	2.39	3.46	5.02	7.27
Light purlin supports only for				
metal or fiberglass	1.20	1.53	1.96	2.50
Steel space frame and sheathing	18.20	23.65	30.70	39.85
Metal dome and cover	26.10	30.45	35.55	41.45
Wood joists, wood or				
composition deck	3.02	4.24	5.96	8.37
Exposed rafters, 2" T&G sheathing	4.97	6.56	8.65	11.41
Prefab. panels (exclusive of girders)	1.62	2.02	2.51	3.12
Stresskin sandwich panel				
(exclusive of purlins)	5.69	7.36	9.51	12.29
Add for snow roof, furred				
sheathing layer	1.84	2.04	2.26	2.51
Open wood system for				
Corrugated metal	1.67	2.62	4.03	6.14
Light purlin supports only for				
metal, wood or fiberglass	.56	.80	1.14	1.62
Wood dome and deck	17.55	21.50	26.35	32.30
Add for seismic/hurricane truss ties	.32	.39	.46	.56
Add for complex roof, turrets,				
ornate trim	70%	55%	45%	35%
For treated wood, increase costs by 10% to 20%.				

ROOF COVER - Apply to roof area.

Aluminum or steel, corr., crimped or tile panels,				
Preformed light, to 26 gauge	\$1.57	\$2.10	\$2.81	\$3.75
Heavy, under 26 gauge	3.48	4.13	4.91	5.83
Formed seam, flat or standing	3.92	5.14	6.75	8.85
Batten seam	4.71	6.07	7.83	10.09
Sandwich panels, pre-engineered	6.17	8.21	10.93	14.55
Cold storage	16.25	18.90	21.95	25.50
Shingles	3.19	4.00	5.01	6.27
Aggregate finish	4.14	5.22	6.58	8.30
Thatch	15.40	17.40	19.60	22.15
Add for interior liner, metal	1.57	1.84	2.15	2.52
Plastic	1.45	1.72	2.03	2.41
Add for porcelain enamel finish	2.52	3.04	3.67	4.43
Add for stainless steel or textured				
(Galbestos)	2.97	3.54	4.23	5.05
Asphalt, corrugated	1.35	1.60	1.90	2.25
Atrium skylight, frame and glazing	22.15	31.75	45.55	65.35
Built-up composition	1.45	1.91	2.51	3.31
Cement fiber shingles	3.19	4.11	5.30	6.84
Corrugated or sheet (Transite)	2.80	3.64	4.74	6.17
Composition roll, mineral surface	.83	1.03	1.27	1.57
Composition shingles, to 235#	1.45	1.70	2.00	2.35
Over 235# or laminated	1.79	2.35	3.08	4.04
Copper, flat or standing seam	9.97	11.80	13.98	16.55
Batten seam	10.85	12.75	15.00	17.65
Shingles	10.31	11.11	11.98	12.91
Elastomeric or modified bitumen,				
Single ply	2.47	3.37	4.60	6.27
Reinforced sheet or spray-fluid coat	4.65	5.59	6.72	8.07
Fiberglass, corrugated or sheet, light	1.57	1.92	2.34	2.86
Sandwich panels.	3.03	3.44	3.90	4.43
Heavy, FRP, over 8 oz.	3.19	4.09	5.25	6.73
Shade cover, light plastic netting	.25	.31	.39	.48
Heavy fabric or canvas	.74	.88	1.04	1.23

ROOF COVER (Continuation)

	1	2	3	4
Slate	\$ 6.17	\$ 7.72	\$ 9.65	\$12.07
Red	12.05	14.95	18.55	23.00
Composite reinforced fiber	4.43	5.51	6.85	8.52
Terne, flat or standing seam	9.19	10.99	13.14	15.71
Batten seam	9.87	11.79	14.08	16.81
Tile, clay	5.10	7.00	9.60	13.18
Concrete	4.21	5.05	6.07	7.28
Plastic or rubber	3.70	4.41	5.26	6.27
Add for custom coloring or glazing	1.10	1.40	1.77	2.25
Wood, boards or siding	1.74	2.17	2.70	3.36
Plywood sheets	1.18	1.36	1.56	1.79
Shakes	3.08	3.67	4.37	5.21
Shingle	2.80	3.36	4.02	4.82
Fiber shingles	1.79	2.23	2.79	3.48
Add for fire-resistant finish	.48	.59	.72	.89
Add for roof insulation	.84	1.29	1.96	2.97
Earth sheltered structures	1.12	1.83	2.89	4.48
Baled straw insulation	.37	.50	.66	.89
Add for earth sheltered waterproofing	.96	1.50	2.32	3.53

NOTE - For underroof insulation supporting structures, see Ceiling Extras on Page 3. For earthen roof cover, see Fill costs on Page 1. See UIP 13 for top dressing, sod and/or sprinklers. For specific earth-sheltered waterproofing, see UIP 1.

ROOF MODIFIERS - Use the following multipliers for sloping roofs to convert the unit costs to cost per square foot of horizontal roofed area.

Less than	Rise	:	Run	Mult.	Rise	:	Run	Mult.
	3'	:	12'	1.00	6'	:	12'	1.12
	3'	:	12'	1.03	8'	:	12'	1.20
	4'	:	12'	1.06	12'	:	12'	1.42
	5'	:	12'	1.08	15'	:	12'	1.60
					18'	:	12'	1.80

TRUSSES AND GIRDERS - Apply to area supported.

Steel trusses or longspan girders	\$2.18	\$2.76	\$3.50	\$4.43
Timber trusses	2.35	3.01	3.85	4.93
Glued, laminated trusses or girders	2.18	2.76	3.50	4.43

CANOPIES - Apply to horizontal area.

Wood frame	\$4.76	\$6.00	\$7.56	\$ 9.53
Steel frame	4.93	6.28	8.00	10.20

CUPOLAS - Costs are given per square foot of external surface, where no dimension shall be considered as less than 2 feet.

Wood or fiberglass	\$ 16.80	\$ 20.35	\$ 24.60	\$ 29.80
Aluminum or steel	37.00	50.25	68.25	92.75
Copper or terne	45.75	63.25	87.50	121.25
Add for weather vanes, each	195.00	415.00	745.00	1,235.00

SHEDS AND FARM BUILDINGS

SECTION SEG 7 (SEGREGATED COST METHOD)

FALSE MANSARD FASCIAS - See UIP 4 Roofs.

DORMERS - See UIP 4; solar rooms and greenhouses, see UIP 11.

ARCHITECTURAL COLUMNS - See UIP 6.

FIREPLACES AND BUILT-IN APPLIANCES - See SEG 2.

MISCELLANEOUS

Range fencing	UIP 13
Personnel man-lifts	UIP 7
Water well drilling	UIP 3

COMPLETION OF BUILDING VALUATION

Contractors' overhead and profit, sales taxes, permit fees, and insurance during construction are included in the above costs. Interest on interim construction financing is also included, but not financing costs, real estate taxes, or broker's commissions.

Architects' fees are not included and should be added from Appendix C.

Depreciation suggestions are given in Appendix A.

County Multipliers which bring the basic costs up to date for each locality are found in Appendix D.

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SCHOOL BUILDINGS

SECTION SEG 8

(SEGREGATED COST METHOD)

School buildings comprise a wide range of buildings, from the small neighborhood bungalow classroom to the multi-story university structure and large field house. Within each group, certain segregated costs may vary greatly.

Interior construction in most of these buildings usually can be priced very well on a square foot basis; however, in buildings such as classrooms with large open areas, it may be advisable to check by the built up cost method in UIP 2. Not included are seating, audio visual, kitchen or athletic equipment. Prices of these items may be found in UIP 12.

Stepped balconies and mezzanines should be priced separately

from the building shell. Stage costs are listed separately from the other interior costs.

Miscellaneous interior additives include special items found in some buildings, which are not usually included in the general contract for the building but are a necessary part of the occupancy.

Mixed occupancies should be valued by separating the areas and pricing each occupancy individually.

Plumbing costs are given on the basis of floor area; however, it may be better in many cases to make an actual count of fixtures and price them from UIP 3.

SEGREGATED COSTS

(For explanation of the rating numbers see Introduction to SEG Method.)

EXCAVATION AND SITE PREPARATION

	1	2	3	4
Excavation, bulk (per cu. ft.) . . .	\$.34	\$.46	\$.62	\$.84
Seismic, dry moat (per cu. ft.) .	.54	.66	.81	1.00
Fill (per cu. ft. of compacted earth)	.38	.47	.59	.73
Site preparation (per sq. ft. of site)	.31	.39	.49	.61

FOUNDATION - Apply to total floor area including basements, but excluding mezzanines.

Continuous Foundations:

Class A	\$2.83	\$3.64	\$4.69	\$6.03
Class B	2.91	3.73	4.78	6.12
Class C, bearing wall	2.53	3.28	4.25	5.50
Nonbearing wall	2.41	3.14	4.08	5.31
Class D, masonry veneer	2.27	2.96	3.86	5.04
Siding or stucco	2.02	2.62	3.40	4.42
Pole frame construction	1.90	2.45	3.16	4.08
Class S.	2.04	2.66	3.46	4.51
Classes C, D and S light perimeter foundation for large, open shell-type Structures . . . . .	.79	1.02	1.32	1.71
Add for perimeter insulation, Ground floor area only . . . . .	.11	.18	.27	.42
Earth sheltered structures . . . . .	.14	.24	.38	.59
Add for seismic, base isolators	4.84	7.02	10.19	14.79
Damping devices	1.99	2.68	3.60	4.84

FOUNDATION ADJUSTMENTS - Apply to base cost used.

Add 1% for each foot of average story height over a 10' base height.
 Subtract 1% for each foot of average story height under a 10' base height.
 For one story buildings with foundations and footings formed and poured monolithically with floor slabs, use 70% of costs above.
 Add for pilings from UIP 1. If foundations are brick or stone instead of concrete, increase costs by 20%. For concrete block, reduce costs by 8%.

FRAME - Apply to total floor area including basements, but excluding mezzanines.

Bearing walls, wood or steel floor supports only	\$ 1.51	\$ 1.77	\$ 2.08	\$ 2.45
Masonry supports only	2.16	2.55	3.00	3.54
Steel, fireproofed, Class A	15.45	18.80	22.85	27.75
Composite concrete steel, Class B.	14.30	16.95	20.10	23.85
Concrete, reinforced, Class B	13.95	16.85	20.30	24.50
Precast, post tensioned	13.35	15.85	18.80	22.30
Steel, Classes C and D	5.75	7.19	8.99	11.25
Class S	5.40	6.78	8.51	10.68
Light pre-engineered frame	3.46	4.30	5.35	6.66
Light tubular/pipe frame	2.15	2.80	3.65	4.76

FRAME (Continuation)

	1	2	3	4
Add for fireproofing	\$.91	\$ 1.43	\$ 2.21	\$ 3.38
Steel columns, wood beams	3.76	4.90	6.39	8.34
Wood, A-frame construction	4.65	5.63	6.82	8.26
Laminated bents and arches	5.26	6.34	7.64	9.20
Light arch rib construction	3.29	4.06	5.00	6.17
mill-type (heavy timber) const.	5.52	6.66	8.04	9.70
Heavy timber/log construction, architectural	11.30	14.20	17.85	22.45
Post and beam construction	3.84	4.64	5.60	6.77
Light pole type construction	2.29	2.88	3.62	4.55
Add for seismic/wind bracing, Class A/B	3.16	4.56	6.58	9.49
Open Class C,D and S frames . . . . .	.83	1.06	1.34	1.71
Damping devices	1.26	1.69	2.26	3.03

FRAME ADJUSTMENTS - Apply to base cost used.

Add 3% for each foot of average story height over a 10-foot base height.
 Deduct 3% for each foot under the 10-foot base.
 For multistory buildings, add 2% for each story over one, aboveground, to apply against the total floor area, up to 30 stories; over 30, add 1% for each additional story. For partially framed structures, see UIP 1.

FLOOR STRUCTURE - Apply to area of described floor or mezzanine. For stepped balconies, see table below:

Asphalt on ground, including base	\$ 3.55	\$ 4.22	\$ 5.02	\$ 5.97
Concrete: on ground exclusive of vapor barrier	4.26	5.10	6.12	7.33
Stepped incline	5.60	6.64	7.87	9.33
Lift slab	11.90	13.45	15.25	17.25
Elevated flat slab and joists	13.45	15.25	17.35	19.70
Pan or waffle slab and joist	12.35	13.95	15.75	17.80
Precast joists and deck.	11.75	13.30	15.05	17.00
Precast joists, wood sheathing	9.10	10.28	11.61	13.12
Cored plank on bearing walls	10.22	11.60	13.16	14.93
Steel joists: flat slab	14.80	17.05	19.65	22.60
Corrugated deck and concrete	12.50	14.75	17.40	20.50
Cellular deck and concrete	-----	17.30	20.70	24.75
Precast deck	12.95	14.75	16.75	19.05
Wood sheathing	7.25	9.14	11.54	14.55
Light gauge truss joists	6.39	8.12	10.33	13.13
Wood joists and sheathing	6.18	7.86	10.00	12.73
Joists and bridging only	4.72	6.20	8.15	10.71

For treated wood, increase costs by 10% to 20%.

SCHOOL BUILDINGS

SECTION SEG 8 (SEGREGATED COST METHOD)

FLOOR EXTRAS - Add to floor structure costs.

	1	2	3	4
Vapor barrier	\$.73	\$1.01	\$1.41	\$1.96
Each inch of slab on grade over 10", add . . . . .	.49	.56	.64	.74
Each inch of sheathing over 1", add	1.34	1.50	1.69	1.89
Foamed concrete surfacing, 1½" - 2"	1.03	1.27	1.58	1.95
Floor insulation, add . . . . .	.76	.94	1.15	1.42
Cold storage (ice rink)	1.58	1.98	2.48	3.10
For each inch over 2", add . . . . .	.32	.46	.66	.94

STEPPED BALCONY STRUCTURES - Apply to horizontal area of balcony. Add for soffit finish, floor covering and electrical for complete balcony cost.

Wood	\$17.95	\$21.40	\$25.55	\$30.45
Concrete	24.00	27.85	32.35	37.55
Structural steel and concrete	26.85	31.30	36.50	42.60
Structural steel and wood	21.30	24.85	29.00	33.80

FLOOR COVER - Apply to area of described floor.

Access (computer) floor, on stanchions	20.45	24.05	28.30	33.25
Full classroom building floors	13.35	15.45	17.90	20.75
Asphalt tile	2.45	2.80	3.19	3.64
Bamboo, laminated plank	11.45	13.65	16.25	19.35
Block, wood, treated	7.51	8.92	10.59	12.58
Brick, common, in mortar	9.38	10.99	12.87	15.07
Brick, industrial, acidproof	18.00	22.25	27.45	33.90
Brick pavers, in concrete	10.90	13.00	15.45	18.40
Carpet and pad	2.95	4.62	7.12	10.86
Custom carpet and pad	10.17	16.95	27.09	42.23
Indoor/outdoor	2.22	2.92	3.84	5.05
Color, concrete	1.08	1.37	1.75	2.22
Cork	6.19	7.08	8.10	9.26
Diato, magnesite, etc.	7.90	9.16	10.63	12.33
Flagstone, random local stone, in concrete	14.80	17.40	20.45	24.00
Gratings, plastic	11.45	18.30	28.60	43.90
Steel or aluminum	12.75	18.95	28.15	41.85
Hardener and sealer, concrete Heavy duty . . . . .	.91	1.24	1.68	2.28
.	2.10	2.56	3.12	3.81
*Hardwood	9.62	12.51	16.28	21.17
Sports/gym floors on resilient sleepers	10.35	12.59	15.32	18.64
Leather	39.50	45.75	53.25	61.75
Linoleum	3.98	4.74	5.64	6.71
Marble or granite	27.25	37.75	52.00	72.00
Cast tile	16.25	19.05	22.35	26.25
Melamine laminated tile or sheet	3.52	4.76	6.43	8.69
Deluxe	8.07	9.42	11.00	12.85
Plastic tile, interlocking	7.62	8.44	9.35	10.35
Rubber fabric tile	10.40	12.10	14.07	16.37
Rubber tile or sheet	4.60	6.25	8.49	11.54
Seamless plastic, epoxy, urethane, neoprene, 1/32" - 1/16" thincoat	4.26	5.27	6.52	8.07
1/8" - 3/8"	6.76	8.41	10.46	13.02
Add for colored chips or glitter	1.88	2.29	2.80	3.41

FLOOR COVER (Continuation)

	1	2	3	4
Slate, grouted	\$16.95	\$19.85	\$23.25	\$27.25
Softwood	7.29	8.68	10.33	12.30
Stone Plank	15.50	18.85	22.90	27.85
Synthetic sports surfacing	8.36	10.27	12.63	15.52
Terrazzo (exclusive of base slab) tile	11.85	14.55	17.90	22.00
.	21.65	24.75	28.35	32.40
Tile, ceramic or quarry	11.85	14.85	18.55	23.25
Custom tile	26.70	32.00	38.40	46.05
*Wood over concrete, hardwood Parquet block, prefinished, In mastic	11.10	14.15	18.00	22.90
.	10.46	14.30	19.54	26.71
Softwood	8.43	9.93	11.70	13.78
Vinyl composition tile or sheet	2.28	2.91	3.70	4.72
Vinyl sheet	3.81	5.20	7.08	9.66
Vinyl tile	4.09	5.86	8.38	12.00
*Add for custom wood floors	7.22	14.44	25.22	41.33
Add for pictorial artwork	10.75	15.05	21.00	29.40
Add 15% for conductive floor coverings. For pool decking, see Section 66.				

CEILING - Apply to area of described ceiling. To convert costs to floor area for high-pitched ceilings, use the roof slope multipliers on Page 9.

Acoustic ceilings, tile or panels: metal panels, incl. pads & suspension system	\$ 7.73	\$ 9.61	\$11.93	\$14.83
Clean room panels, incl. suspension system	12.35	13.55	14.90	16.35
Mineral fiber, fiberglass, panels only	1.76	2.48	3.51	4.95
Organic fiber, wood or cane, panels only	2.16	2.49	2.86	3.29
Embossed metal	6.54	8.73	11.66	15.57
Fiber sports court panel with suspension system	6.26	7.59	9.19	11.14
Gypsum board, taped and painted Spray on texture	2.10	2.35	2.63	2.95
.	2.05	2.24	2.44	2.67
Mirror faced panels	20.75	22.95	25.40	28.10
Paint or stain, bottom of roof or floor Plaster on lath: acoustical . . . . .	.74	.95	1.23	1.59
.	4.43	4.97	5.58	6.26
Spray on, thincoat with texture on Lath or drywall	3.07	3.41	3.79	4.21
Standard, add 20% for Keene's Add for metal lath	3.81	4.31	4.88	5.52
. . . . .	.57	.67	.78	.91
Plaster on masonry soffit: acoustical Spray on, thincoat with texture Standard, add 24% for Keene's	3.69	4.16	4.69	5.29
.	2.50	2.73	2.97	3.24
.	3.12	3.54	4.01	4.55
Plaster panels, decorative, panels only	14.35	15.90	17.65	19.55
Plastic panels, with suspension system, but excluding lighting Plywood (softwood) or hardboard panels	7.28	8.68	10.34	12.33
.	3.64	4.15	4.74	5.41
Hardwood	5.18	6.23	7.48	8.99
Coffered or vaulted panel with molding	11.05	15.15	20.75	28.40
Custom woods, site-built	27.00	32.00	37.75	44.75
Poly laminated panels (FRP)	3.47	3.83	4.22	4.66
Insulated panel	5.12	5.77	6.50	7.33
Wood, board or T&G, softwood Hardwood	3.53	4.07	4.69	5.41
.	5.69	6.61	7.69	8.94
Carved, decorative	9.96	14.50	21.11	30.74

SCHOOL BUILDINGS

SECTION SEG 8 (SEGREGATED COST METHOD)

CEILING EXTRAS - Add to ceiling costs. For special ornamentation, see UIP 2.

	1	2	3	4
Ceramic tile, add	\$14.75	\$18.70	\$23.65	\$29.95
Custom tile, decorative.	30.50	36.75	44.00	53.00
Custom papers, stenciling, staff, add	14.50	19.50	26.20	35.25
Border or coving only	3.58	4.55	5.78	7.34
Ext. decorating, custom plaster, terra cotta, add	40.50	51.25	64.50	81.50
Wood furring	1.07	1.32	1.62	2.00
Metal furring	1.58	1.99	2.51	3.16
If ceiling structure which is not part of the roof or floor structure is required, add	1.64	2.05	2.57	3.22
Suspended ceiling, metal suspension sys. add	1.52	1.90	2.39	2.99
Fiberglass, FRP	2.45	2.89	3.41	4.02
Hardwood, decorative	4.30	5.90	8.08	11.08
For seismic supports, add . . . . .	.27	.34	.43	.55
Ceiling insulation, add . . . . .	.76	.96	1.21	1.52
Vinyl faced, exposed	1.06	1.23	1.42	1.64
Add for underdeck supporting bands . . . . .	.34	.41	.49	.58
Rigid board, faced	1.51	1.98	2.60	3.42

For ceiling domes, see stained glass, Page 7.

INTERIOR CONSTRUCTION - Apply to total floor area. See UIP 2 for detailed costs.

Add or deduct 5% for each foot of variation from the 10-foot average story height. Add for fixed seating from UIP 12 and pools from UIP 13, or see Miscellaneous costs below.

FRAME INTERIOR PARTITIONS

Administration Building	\$21.15	\$27.50	\$35.75	\$46.50
Bookstores	11.25	15.45	21.20	29.15
Day-care centers	26.25	30.80	36.15	42.45
Field houses	5.32	11.51	20.76	34.57
Gymnasiums (excluding pools)	15.25	20.25	26.85	35.60
Libraries (excl. book stacks), academic, college	27.00	32.00	38.00	45.25
Elementary and secondary (media centers)	21.30	25.25	29.95	35.50
Maintenance buildings . . . . .	.33	.58	.94	1.49
Natoriums (excluding pools)	17.50	20.15	23.15	26.65
Physical education (excluding pools)	19.35	25.35	33.15	43.40
Restroom buildings	24.80	30.45	37.40	45.95
Shower room buildings	29.75	32.00	34.25	36.75
Schools, elementary: entire school	32.00	38.75	47.25	57.25
secondary; intermediate	33.00	35.75	38.75	42.00
High schools	31.75	35.50	39.50	44.25
Alternative schools	27.00	33.75	42.25	52.75
Classrooms	26.40	29.95	33.95	38.50
Laboratory (excluding equip.)	27.75	33.00	39.25	46.75
Lecture (excluding fixed seating)	25.15	30.75	37.55	45.90
Special education	27.25	33.00	40.00	48.25
Fine arts	27.25	31.50	36.75	42.50
Manual arts	18.25	21.75	25.95	30.90
Multipurpose	23.50	27.65	32.50	38.25

FRAME INTERIOR PARTITIONS (Continuation)

	1	2	3	4
Schools, college level:				
Entire school	\$37.25	\$44.50	\$53.25	\$63.50
Arts and crafts	24.70	32.10	41.65	54.10
Classrooms	31.50	36.25	42.00	48.50
Commons	39.75	48.00	57.75	69.50
Lecture halls (excluding fixed seating)	30.25	34.25	38.50	43.50
Science buildings (excluding fixed equipment)	28.25	30.00	31.75	33.50
Technical trades	18.65	22.80	27.90	34.10
Schools, vocational: entire school	22.10	26.15	31.00	36.70

MASONRY INTERIOR PARTITIONS

Administration buildings	23.30	29.95	38.55	49.60
Bookstores	12.70	17.20	23.25	31.50
Day-care centers	28.50	33.25	39.00	45.50
Field houses	6.17	12.76	22.60	37.31
Gymnasiums (excluding pools)	16.95	22.25	29.20	38.35
Libraries (excl. book stacks), academic, college	29.25	34.50	41.00	48.50
Elementary and secondary (media centers)	23.45	27.60	32.45	38.20
Maintenance buildings . . . . .	.39	.67	1.10	1.73
Natoriums (excluding pools)	19.40	22.20	25.40	29.05
Physical education (excluding pools)	21.40	27.75	35.95	46.55
Restroom buildings	27.25	33.25	40.50	49.25
Shower room buildings	32.50	34.75	37.00	39.50
Schools, elementary: entire school	34.75	41.75	50.50	60.75
secondary; intermediate	35.75	38.50	41.75	45.00
High schools	34.50	38.25	42.50	47.25
Alternative schools	29.25	36.25	45.00	56.00
Classrooms	28.75	32.50	36.50	41.25
Laboratory (excluding fixed equipment)	30.50	36.00	42.25	49.75
Lecture (excluding fixed seating)	27.50	33.25	40.50	49.00
Special education	29.50	35.50	42.75	51.25
Fine arts	29.75	34.25	39.50	45.50
Manual arts	20.20	23.90	28.25	33.45
multipurpose	25.80	30.15	35.20	41.10
Schools, college level:				
Entire school	40.00	47.50	56.50	67.00
Arts and crafts	27.00	34.75	44.75	57.50
Classrooms	33.75	39.00	45.00	51.75
Commons	42.75	51.00	61.00	72.75
Lecture halls (excluding fixed seating)	33.00	37.00	41.75	46.75
Science buildings (excluding equipment)	30.75	32.50	34.25	36.25
Technical trades	20.65	25.05	30.40	36.90
Schools, vocational: entire school	24.25	28.55	33.60	39.55

BALCONIES - Apply to open balcony or mezzanine area. (Cost of miscellaneous items such as rail, stairs, etc.)

	3.41	3.95	4.57	5.29
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STAGES AND PERMANENT STAGE FIXTURES - Apply to stage area.

Live performance	57.00	68.00	81.00	97.00
Practice only (band)	27.75	35.00	44.25	56.00
Speaker's platform	17.60	22.20	27.95	35.25

SCHOOL BUILDINGS

SECTION SEG 8 (SEGREGATED COST METHOD)

STORAGE VAULTS - Per square foot of vault area, excluding doors. Add or deduct 2% for each foot of height variation from the 10 foot standard. For more detailed costs see UIP 2.

	1	2	3	4
Record storage	\$70.00	\$78.00	\$86.00	\$96.00
Modular vault systems, insulated/ record storage	46.50	57.00	69.75	85.25

MISCELLANEOUS - Apply to total square footage of building area, if required. These costs vary greatly, and the following typical cost ranges should be used with caution. Built-in equipment which is normally included under the general contract is included in the interior construction costs.

	1	2	3	4
College commons kitchen equipment	\$ 7.62	\$ 9.15	\$10.99	\$13.19
Lecture halls, fixed seating ...	1.48	1.86	2.34	2.95
Library equipment, bookstacks, etc.	12.45	17.25	23.95	33.25
Natoriums, swimming pools .	14.50	20.35	28.60	40.15
Science, fixed laboratory equipment	14.50	18.95	24.80	32.45

SPRINKLERS - Apply to sprinklered area. Costs include all piping and connections to main for light-hazard occupancies but do not include tanks. For double-sprinkler systems with heads both above and below a ceiling, use sprinklered area and 1.6 times the listed cost.

	1	2	3	4
3,000 square feet	\$3.63	\$4.65	\$5.95	\$7.62
5,000	3.37	4.28	5.44	6.91
10,000	3.03	3.82	4.80	6.05
15,000	2.84	3.56	4.46	5.59
20,000	2.70	3.38	4.23	5.29
30,000	2.55	3.17	3.94	4.90
50,000	2.36	2.92	3.60	4.45
75,000	2.24	2.75	3.37	4.13
100,000	2.14	2.61	3.19	3.90
125,000	2.06	2.52	3.07	3.75
150,000	2.02	2.45	2.97	3.61
200,000	1.93	2.33	2.82	3.41
250,000	1.87	2.25	2.71	3.27
300,000	1.80	2.17	2.62	3.16
400,000	1.73	2.08	2.49	2.99
500,000	1.67	2.00	2.40	2.87

PLUMBING - Apply to total floor area or use UIP 3 for cost per fixture. The following costs represent typical ranges only.

	1	2	3	4
Administration buildings	\$4.74	\$7.64	\$11.96	\$18.42
Bookstores	3.64	5.27	7.64	11.06
Day-care centers	5.90	8.69	12.80	18.86
Field houses	2.33	5.58	10.44	17.70
Gymnasiums	6.59	9.00	12.30	16.81
Libraries, academic, college ..	4.85	7.34	11.06	16.62
Elementary and secondary (media centers)	5.37	7.41	10.23	14.13
Maintenance buildings .....	.54	.79	1.17	1.72
Natoriums	7.90	10.61	14.26	19.16
Physical education	7.33	9.93	13.46	18.23
Restroom buildings	18.40	24.80	33.45	45.10
Shower room buildings	26.65	31.95	38.35	46.00
Shower/locker room buildings	10.52	14.75	20.69	29.01
Schools, elementary: entire school	6.46	9.20	13.11	18.67
secondary; intermediate ..	6.17	8.80	12.56	17.92

PLUMBING (Continuation)

	1	2	3	4
High schools	7.13	9.91	13.78	19.16
Alternative schools	6.66	9.54	13.67	19.58
Classrooms	5.72	8.46	12.50	18.48
Laboratory	6.68	10.07	15.13	22.70
Lecture	6.31	8.82	12.34	17.25
Special education	6.48	9.38	13.59	19.68
Fine arts	5.44	8.02	11.81	17.41
Manual arts	5.67	8.30	12.16	17.80
Multipurpose	6.21	9.10	13.33	19.54
Schools, college level: entire school	5.63	8.97	13.95	21.40
Arts and crafts	5.88	8.46	12.16	17.49
Classrooms	6.18	9.25	13.84	20.69
Commons	7.12	9.96	13.94	19.51
Lecture halls	5.44	7.84	11.29	16.26
Science buildings	8.33	13.41	21.00	32.34
Technical trades	5.75	8.41	12.30	17.99
Schools, vocational: entire school	6.36	9.41	13.93	20.61

HEATING, COOLING AND VENTILATING - Apply to total floor area.
Add or deduct 3% for each foot of variation in average story height from a 10 foot base.

Costs are given for gas fired heating surfaces. Add or deduct as follows for other fuels.

Oil fired +7% Coal, stoker +7% Coal, hand fired -2%

For College Science Buildings use costs on CAL 315.

Heating Only

	1	2	3	4
Electric cable or baseboard ..	\$ 4.45	\$ 6.06	\$ 8.26	\$11.25
Radiant panels	4.20	5.06	6.10	7.36
Electric wall heaters	1.94	2.33	2.80	3.37
Forced air	4.85	6.71	9.29	12.85
Hot water, baseboard or radiators	8.21	10.80	14.20	18.67
Radiant floor	8.02	10.69	14.25	19.00
Radiant heat, gas, suspended	1.61	2.25	3.15	4.40
Space heaters, gas, with fan ..	1.22	1.78	2.61	3.81
Steam coil, with boiler	2.33	3.06	4.02	5.29
Without boiler	1.61	2.24	3.12	4.34
Add for fanjet duct distribution	.45	.59	.78	1.03
Steam radiator, with boiler ...	7.54	9.85	12.86	16.80
Without boiler	6.53	8.67	11.52	15.30
Wall or floor furnace	1.99	2.40	2.89	3.49

Heating and Cooling

Zoned A.C., hot and chilled water	19.05	23.65	29.40	36.55
warm and cooled air	12.45	15.35	18.95	23.40
Package heating and cooling, short ducts	6.86	8.86	11.45	14.80
Heat pump system	8.46	11.68	16.14	22.29
Add for ground loop heat source	4.20	4.93	5.78	6.78
Individual thru wall heat pumps	3.37	4.51	6.03	8.07

Cooling Only

Evaporative coolers	3.16	3.69	4.31	5.03
Refrigerated air conditioning only, zoned system	6.78	8.52	10.70	13.45
Package unit, short ducts ..	5.03	6.19	7.62	9.37
Ventilation only, with ducts and blowers	1.30	1.73	2.32	3.09

SCHOOL BUILDINGS

SECTION SEG 8 (SEGREGATED COST METHOD)

ELECTRICAL AND LIGHTING - Apply to total floor area.

	1	2	3	4
Few Outlets:				
Nonmetallic	\$ 5.43	\$ 6.77	\$ 8.44	\$10.53
Armored cable (BX)	6.51	8.12	10.14	12.65
Flexible conduit	7.81	9.75	12.17	15.19
Rigid conduit	9.37	11.70	14.60	18.22
Average Number of Outlets:				
Nonmetallic	7.60	9.47	11.80	14.70
Armored cable (BX)	9.23	11.54	14.44	18.06
Flexible conduit	11.25	14.10	17.70	22.20
Rigid conduit	13.70	17.25	21.70	27.30
Many Outlets:				
Nonmetallic	10.59	13.20	16.44	20.49
Armored cable (BX)	13.05	16.40	20.55	25.80
Flexible conduit	16.10	20.35	25.70	32.50
Rigid conduit	19.90	25.30	32.20	40.95
Unfinished Areas:				
Nonmetallic	2.12	2.47	2.89	3.37
Armored cable (BX)	2.50	2.91	3.39	3.94
Flexible conduit	2.96	3.44	3.99	4.64
Rigid conduit	3.49	4.06	4.71	5.48

Typical costs for some occupancies.

Administration buildings	\$ 8.88	\$13.29	\$19.88	\$29.73
Bookstores	8.45	11.54	15.75	21.50
Day-care centers	7.24	12.26	19.77	30.98
Field houses	4.81	9.54	16.60	27.15
Gymnasiums	5.62	9.05	14.18	21.84
Libraries, academic, college elementary and secondary (media centers)	14.35 9.79	19.60 13.46	26.80 18.52	36.65 25.47
Maintenance buildings	2.26	3.30	4.82	7.03
Natoriums	8.01	11.99	17.94	26.82
Physical education	8.84	12.31	17.15	23.88
Restroom buildings	6.51	10.85	17.33	27.02
Shower room buildings	5.04	8.15	12.79	19.72
Schools, elementary: entire school secondary; intermediate High schools Alternative schools	10.29 10.45 11.75 12.50	14.18 13.92 15.60 16.65	19.54 18.53 20.75 22.20	26.93 24.68 27.55 29.55
Classrooms	10.45	14.64	20.50	28.72
Laboratory	11.50	17.65	26.90	40.65
Lecture	11.45	17.00	25.25	37.45
Special education	11.35	17.20	25.90	38.95
Fine arts	9.92	13.88	19.41	27.15
Manual arts	9.30	12.76	17.51	24.03
Multipurpose	9.17	12.73	17.68	24.54
Schools, college level: entire school Arts and crafts Classrooms Commons Lecture halls Science buildings Technical trades Schools, vocational: entire school	10.31 10.70 9.97 9.08 10.32 11.35 10.85 10.95	15.01 15.92 14.76 13.57 16.49 16.90 14.70 15.80	21.85 23.67 21.86 20.27 25.71 25.20 19.95 22.80	31.81 35.21 32.36 30.28 39.49 37.55 27.05 32.85

EXTERIOR WALL - Apply to total wall area.

Concrete or Masonry Walls	1	2	3	4
Adobe or hollow clay block, 6"	23.15	25.85	28.90	32.25
8"	24.95	28.00	31.40	35.25
12"	28.25	31.75	35.50	39.75
14"	31.25	35.00	39.25	44.00
Adobe block, grouted or cavity, 22" - 24"	36.00	40.50	45.50	51.25
30" - 32"	39.00	43.75	49.00	54.75
Block, concrete, 6"	20.35	22.65	25.25	28.10
8"	21.80	24.35	27.15	30.30
12"	24.75	27.60	30.80	34.35
16"	27.75	31.00	34.50	38.50
For each additional 4" of block, add	2.98	3.32	3.70	4.13
Block, grouted or cavity, 10" - 12"	23.40	26.05	29.05	32.35
*Add for ornamented face block	1.41	2.16	3.29	4.97
Brick, block backup, 8"	26.30	29.40	32.80	36.65
12"	29.00	32.50	36.50	40.75
16"	32.25	36.00	40.00	44.75
Brick common, 8"	29.75	33.00	36.50	40.50
12"	35.50	39.50	43.75	48.50
16"	41.50	46.00	51.00	56.50
For each additional 4" of brick, add	5.86	6.50	7.22	8.01
Brick, grouted or cavity, reinforced, 9" - 10"	32.00	35.75	39.75	44.25
Block backup, 9" - 10"	29.00	32.25	36.00	40.00
Block backup, 12" - 14"	31.75	35.50	39.50	44.25
Brick, 6" SCR modular	22.35	25.15	28.25	31.80
8"	24.75	27.65	30.95	34.60
*Add for face brick	3.27	3.56	3.88	4.23
Concrete, reinforced, formed, 4"	22.95	25.65	28.65	32.00
6"	24.75	27.60	30.75	34.30
8"	26.45	29.45	32.80	36.50
12"	30.00	33.25	36.75	40.75
For each additional 4" of concrete, add	3.44	3.78	4.16	4.57
Precast panels, 2"	18.85	21.10	23.65	26.45
4"	20.10	22.45	25.10	28.05
6"	21.95	24.55	27.40	30.65
8"	24.30	27.05	30.05	33.45
12"	28.25	31.25	34.75	38.50
Tilt-up panels, 4"	18.90	21.25	23.90	26.85
6"	20.30	22.90	25.80	29.05
8"	21.90	24.70	27.80	31.35
10"	23.60	26.65	30.05	33.90
12"	25.40	28.70	32.40	36.60
Add for insulated sandwich	1.70	2.14	2.69	3.39
Add for brick or tile inserts	6.32	7.89	9.86	12.31
Glass block, white or aqua	51.00	54.00	57.25	60.50
Colors or reflective	67.00	71.00	75.00	79.00
Local stone, block backup, Ashlar veneer, 12"	48.00	54.25	61.25	69.00
Rubble or rustic, veneer, 12"	38.50	44.00	50.50	57.75
For each 4" variation in thickness	3.11	3.37	3.65	3.95

***NOTE:** The additional cost for face block or brick is the difference between the cost of face block or brick and standard block or common brick in place as part of a wall. For the cost of ornamented, face or synthetic masonry veneer, see Wall Ornamentation on page 7.

SCHOOL BUILDINGS

SECTION SEG 8 (SEGREGATED COST METHOD)

EXTERIOR WALL - Apply to total wall area.

Concrete or Masonry Walls	1	2	3	4
Local fieldstone, in mortar, 12"	34.50	38.50	43.25	48.25
For each 4" variation in thickness	2.77	3.29	3.90	4.63
Local stone, rough cut, solid, 12"	49.25	60.25	74.00	90.50
Granite	51.75	66.00	84.00	107.25
Limestone	55.00	67.00	82.00	100.00
For each 6" variation in thickness	22.25	26.55	31.70	37.80
Rammed earth, soil cement, 24" pneumatic build-up, formed	\$25.95	\$29.55	\$33.70	\$38.40
One side	39.50	44.25	49.50	55.50
for each 6" variation in thickness	1.46	1.69	1.95	2.25
Tile, structural clay, 6" 10"	21.70	24.45	27.55	31.00
	25.35	28.50	32.05	36.00

Concrete or Masonry Wall Extras

Add for stay in place forming	\$ 1.23	\$ 1.61	\$ 2.11	\$ 2.76
Add for glazed block or tile, each side	6.66	7.45	8.33	9.32
Add for pilasters	1.30	1.57	1.89	2.28
Add for bond beams	1.36	1.63	1.95	2.33
Add for seismic reinforcement	.56	.89	1.39	2.14
Add for synthetic plaster on rigid insulation (EIFS) deluxe textured or aggregate	5.25	6.44	7.91	9.71
	8.52	10.23	12.27	14.73
Add for thin masonry on rigid insulation	13.20	14.80	16.55	18.55
Add for clay tile backup in lieu of block	2.25	2.65	3.11	3.66
Add for earth sheltered waterproofing	1.00	1.54	2.34	3.53
Add for insulation earth sheltered structures	.83	1.18	1.67	2.37
	1.40	2.02	2.92	4.21

Buttresses - Apply to cubic footage of buttress wall area.

Concrete	\$24.85	\$27.85	\$31.20	\$35.00
Masonry	28.75	31.75	35.00	38.50
Local stone, ashlar veneer	54.00	60.00	66.00	73.00
rubble or rustic veneer	39.50	45.00	51.25	58.25
Rough cut, solid, local stone	45.50	53.75	63.75	75.25
Granite	48.00	59.50	73.75	91.50
Limestone	49.75	59.00	70.00	83.00

Curtain Walls

Brick or tile panels	\$26.45	\$31.90	\$38.40	\$46.30
Concrete and glass panels, precast glass fiber reinforced, molded	32.75	38.00	44.00	51.00
	28.00	34.50	42.50	52.25
Metal and glass panels (ordinary)	36.50	43.00	50.75	60.00
Stainless steel or bronze and glass	52.25	60.75	70.50	81.75
Stone panels, local stone	47.00	52.00	57.50	63.75
Granite	51.75	59.00	67.25	76.50
Limestone or slate	48.75	53.75	59.25	65.50
Marble	49.00	56.00	63.75	72.75
Composite or aggregate panels	33.75	42.00	52.00	64.50
Structural glazed atrium including supports	84.00	113.00	151.00	202.00
Steel studs and stucco synthetic plaster on rigid insulation (EIFS)	19.10	22.50	26.50	31.25
	22.20	26.60	31.90	38.25
Deluxe textured or aggregate	25.90	30.85	36.80	43.85
Wood or aggregate board siding	20.00	24.65	30.35	37.40
Add for insulation, insulated area only	1.08	1.57	2.27	3.29

EXTERIOR WALL (Continued)

	1	2	3	4
Pre-engineered Walls				
Sandwich panels, aluminum or steel, both sides	21.75	25.05	28.85	33.25
Cold storage, metal both sides	26.20	29.35	32.85	36.80
Cement fiber or shotcrete, Two sides	16.85	20.10	24.00	28.65
Fiberglass panels, two sides	21.75	25.55	30.05	35.30
Glass exterior, metal interior	24.60	28.15	32.20	36.80
Add for stainless steel or textured (Galbestos)	3.47	4.13	4.92	5.86
Add for poly laminated (FRP) interior	.91	1.12	1.39	1.71
Deduct for gypsum or hardboard interior	1.53	1.67	1.82	1.99
Prefabricated building panels				
Aluminum or steel and glass panels	28.75	31.50	34.50	37.75
Add for porcelain enamel finish	2.95	3.50	4.16	4.94
Add for block backup	5.96	6.73	7.59	8.57
Stucco on steel panel	32.50	35.75	39.25	43.00
Veneer, block or brick, On steel panel	37.75	42.00	46.50	51.75
Stone, rubble or rustic	47.00	51.00	55.50	60.25
Single-Wall Construction				
Aluminum or steel on steel frame	8.21	9.92	12.00	14.50
On wood frame	7.62	9.27	11.27	13.70
Add for porcelain enamel finish	2.96	3.53	4.20	5.00
Add for stainless steel or Textured (Galbestos)	3.40	4.03	4.79	5.68
Cement fiber (Transite), on steel frame	9.23	11.21	13.61	16.52
Sheet siding on wood frame	8.45	10.32	12.60	15.39
Siding or shingles on wood frame	9.07	10.99	13.31	16.13
Fiberglass light panels on steel frame	6.31	7.16	8.12	9.21
sandwich panels	7.56	8.27	9.05	9.90
Heavy, (FRP), over 8 oz.	9.72	11.32	13.18	15.35
Light panels on wood frame	5.62	6.34	7.15	8.07
sandwich panels	6.76	7.37	8.03	8.76
Heavy, (FRP), over 8 oz.	8.86	10.40	12.21	14.33
Glass panels	23.90	30.45	38.85	49.50
Projected greenhouse	51.00	56.75	63.00	70.00
Log, up to 10" diameter	20.20	26.15	33.85	43.80
Deluxe, hand hewn or oversized	30.00	37.00	45.50	56.00
Plywood, boards or siding,				
On steel frame	8.29	9.87	11.76	14.01
On wood frame	7.69	9.21	11.02	13.20
Stucco, on baled straw	16.80	20.10	24.05	28.75
Stucco, on wood frame	8.40	9.71	11.22	12.96
Synthetic plaster on rigid insul. (EIFS), on steel frame	12.15	14.20	16.65	19.45
Wood shingles, on wood frame	9.00	10.49	12.23	14.25
Add for exterior sheathing, per layer	1.26	1.43	1.63	1.86
Add for interior sheathing or liner, finished.	2.15	2.53	2.99	3.52
Poly laminated panel (FRP)	2.90	3.41	4.01	4.72
Add for stud wall backing	.80	.95	1.14	1.36
Add for insulation	.76	.92	1.10	1.33
Vinyl faced, exposed	1.01	1.12	1.23	1.36
Rigid board, faced	1.30	1.69	2.21	2.88
Add for air infiltration wrap	.21	.27	.35	.45

SCHOOL BUILDINGS

SECTION SEG 8

(SEGREGATED COST METHOD)

EXTERIOR WALL (Continued)	1	2	3	4	EXTERIOR, BASEMENT AND TOWER STAIRS - Per Riser. Fire escapes, see UIP 5.	1	2	3	4
Wood or Steel Stud Walls									
Aluminum or steel siding, horizontal	\$16.80	\$19.50	\$22.65	\$26.30	Concrete	\$205	\$280	\$380	\$520
Sheet panels	15.25	17.85	20.90	24.45	Steel pans or prefab. concrete				
Asphalt siding	14.65	16.90	19.50	22.50	on steel	220	295	400	535
Cement fiber siding or shingles,					Steel or aluminum grating	260	340	440	575
Horizontal	16.40	19.05	22.15	25.75	Wood	78	120	184	278
Sheet, embossed	15.30	17.60	20.30	23.35					
Hardboard siding or shingles,					WALL ORNAMENTATION - Apply to ornamented area.				
horizontal	15.95	18.35	21.05	24.20	Brick, split face, Roman or Norman	11.30	13.05	15.15	17.50
Sheet, embossed	15.15	17.40	19.95	22.90	face, standard size	12.30	14.30	16.65	19.35
Plywood, textured	15.35	17.65	20.30	23.35	Mortarless brick	13.15	15.00	17.15	19.60
Deluxe, redwood, cedar, etc.	17.15	19.80	22.80	26.30	Select common	10.95	12.70	14.70	17.05
Shingles or shakes, wood	17.45	20.30	23.55	27.40	Used	12.00	13.85	15.95	18.40
Stucco	16.65	19.35	22.50	26.15	Simulated veneer or panel,				
Synthetic plaster on rigid insulation					1/4" - 3/8"	9.78	11.96	14.63	17.90
(EIFS)	19.60	22.85	26.60	31.00	Thin veneer on rigid insulation	13.10	14.65	16.35	18.25
Deluxe, textured or aggregate	23.00	26.85	31.40	36.65	Add for pictorial carved artwork	160.00	180.00	205.00	235.00
Vinyl siding or shingles	16.70	19.40	22.50	26.10	Cement fiber siding	3.19	3.83	4.60	5.52
Wood siding	16.60	19.15	22.05	25.40	Concrete, ornamental cast stone	25.00	29.95	35.85	42.95
Deluxe, redwood, cedar, etc.	18.30	21.30	24.80	28.85	Concrete block, imitation flagstone	10.00	11.72	13.73	16.09
Log veneer siding	18.20	22.50	27.90	34.50	Solar screen	10.69	12.56	14.75	17.33
Deluxe, half round, full corners	31.50	33.75	36.25	39.00	Ornamented face, slump, fluted,				
Veneer, face block or concrete brick	20.70	23.85	27.45	31.60	Split or ground	10.69	12.36	14.30	16.54
Common brick	21.05	24.35	28.10	32.50	Glazed one side, add	6.59	7.35	8.20	9.15
Face brick	23.90	27.50	31.65	36.40	Cut stone, carved	102.00	149.00	217.00	316.00
Mortarless brick	24.15	27.55	31.40	35.80	Glass block, white or aqua	40.25	44.50	49.25	54.50
Stone, ashlar veneer	37.00	42.75	49.75	57.50	Colors or solar reflective	56.00	61.00	67.00	73.00
Rubble or rustic	29.75	34.50	40.25	46.75	Granite, ashlar or panel	51.50	59.75	69.25	80.50
Synthetic veneer or panel	21.75	26.25	31.65	38.15	Limestone, ashlar or panel	38.00	44.75	52.50	61.75
Thin veneer on rigid insulation	25.60	29.35	33.70	38.65	Local stone, ashlar veneer or panel	33.25	39.00	45.75	53.75
Add for sheathing	.98	1.18	1.43	1.73	Rubble or rustic	24.45	29.30	35.10	42.05
Add for seismic/hurricane bracing	.54	.64	.76	.91	Imitation precast stone	11.55	14.95	19.35	25.05
Add for insulation	.71	.85	1.01	1.21	Marble, panels	42.50	50.00	58.50	68.75
Add for air infiltration wrap	.23	.29	.37	.46	Metal panels, screens, louvers	18.30	24.00	31.50	41.35
Add for air space wrap	.73	.83	.94	1.06	Preformed wall panels	3.52	6.41	10.72	17.17
Add for double-stud walls	1.53	1.84	2.22	2.67	Add for curved panels	1.02	1.44	2.05	2.90
Add for wood stressskin					Ornamental doorways	71.00	137.00	236.00	384.00
sandwich panels	4.61	5.44	6.42	7.58	Slate, panels	36.25	42.00	48.50	56.25
BASEMENT WALLS - Apply to basement wall area					Stucco	3.86	4.39	5.00	5.69
Concrete block, reinforced, 6"	11.40	12.80	14.40	16.15	On masonry	3.12	3.58	4.11	4.72
8"	12.80	14.40	16.15	18.15	Add for synthetic on rigid				
12"	15.70	17.60	19.75	22.15	Insulation (EIFS)	2.62	3.34	4.27	5.45
For each additional 4" of block, add	2.89	3.24	3.64	4.09	*Built-up (EIFS) panel relief	5.45	7.00	8.99	11.54
Concrete, reinforced, 6"	13.65	15.40	17.35	19.55	*For pictorial artwork, add	11.25	15.80	22.25	31.25
8"	15.45	17.35	19.45	21.85	Terra Cotta	29.00	34.50	41.00	48.75
12"	18.75	21.00	23.50	26.30	Tile, ceramic	14.55	16.55	18.90	21.50
16"	22.10	24.65	27.45	30.60	*Mosaics	21.20	25.65	31.05	37.55
For each additional 4" of concrete,					Hand painted tiles	115.00	160.00	225.00	310.00
add	3.40	3.71	4.05	4.42	Vinyl siding	3.64	4.32	5.13	6.09
Masonry, brick, 8"	19.10	21.45	24.05	27.00	Vitrolite (structural glass)	23.30	27.45	32.35	38.10
Stone, 12"	27.00	31.25	36.00	41.50	Wood, plywood	2.45	3.19	4.15	5.41
For each 4" variation in thickness	5.79	6.40	7.08	7.83	Shingles	3.64	4.45	5.45	6.66
Wood, treated	11.20	13.75	16.85	20.70	Siding	3.53	4.37	5.42	6.71
Add for stay in place forming	.70	1.02	1.49	2.18	Ornamented molding or trim	10.30	14.56	20.58	29.09
Add for waterproofing	1.07	1.32	1.64	2.03	Add for treated wood	.49	.62	.77	.97
Earth sheltered structures	1.31	1.93	2.85	4.21	*Note - For pictorial artwork, add	11.15	15.80	22.40	31.80
Add for insulation	.80	1.14	1.62	2.31					
Earth sheltered structures	1.26	1.86	2.74	4.04					
For specific earth sheltered waterproofing, see UIP 1.									

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SCHOOL BUILDINGS

SECTION SEG 8 (SEGREGATED COST METHOD)

STAINED GLASS - Apply to art glass for window, dome or skylight area. These costs vary greatly, and the following typical cost ranges should be used with caution. See UIP 6 for details. For residential straight seams or simple bevel, deduct 50% from the Low Cost. For ceiling domes, use low cost range for plastic, average for stock glass and high cost for custom stained glass.

	1	2	3	4
Low cost, plain, min. work or detailed bevel etched	\$ 75	\$102	\$138	\$ 187
Average, simple figures and scenes	235	320	430	585
High cost, highly detailed work (including domes)	490	690	970	1,365

MISCELLANEOUS - Apply to total square footage of lined area if required.

Metal shielding, radio frequency	25.00	34.00	46.20	62.85
Radiation protection	13.65	17.50	22.40	28.70
Ballistic shielding, fiberglass panels	22.75	33.00	47.85	69.35
Cold storage, insulation board	1.88	2.47	3.24	4.26
For each inch over 2", add . . . . .	.30	.44	.65	.96

ROOF STRUCTURE - Apply to roof area.

Concrete joists, slab	12.35	14.05	16.00	18.25
Lift slab	11.15	12.60	14.20	16.05
Pan or waffle slab and joists	11.35	12.85	14.55	16.45
Precast joists and deck	10.80	12.25	13.85	15.70
Precast joists, wood deck	8.62	9.73	10.98	12.40
Cored plank on bearing walls	9.55	10.79	12.19	13.78
Thin shell	18.55	22.30	26.85	32.30
Concrete dome, cast-in-place	39.25	43.50	48.25	53.50
Thin shell	26.10	29.60	33.60	38.15
Fabric roof, air supported	41.25	45.00	49.25	53.75
Tension supported	47.00	52.75	59.00	66.25
Add for thermal liner	3.91	4.81	5.92	7.28
Steel joist, concrete slab	13.95	16.00	18.30	21.00
Gypsum on formboard	7.52	9.36	11.66	14.51
Precast deck	12.10	13.75	15.70	17.85
Steel deck	8.08	10.29	13.11	16.69
Light-gauge truss joist	6.74	8.66	11.13	14.30
Steel deck, gypsum or concrete	10.22	12.73	15.87	19.77
Wood or composition deck	6.64	8.47	10.80	13.78
Light gauge truss joists	5.66	7.33	9.49	12.29
Open steel system for corrugated metal	3.22	4.72	6.91	10.12
Light purlin supports only	1.50	1.95	2.53	3.28
Steel space frame and sheathing				
3 dimensional	23.90	30.50	38.95	49.75
Architectural exclusive of glazing	35.75	54.50	82.25	124.00
Metal dome and cover	31.00	35.75	41.00	47.25
Glazed or translucent panels	71.00	86.00	105.00	128.00
Wood joists, wood or				
Composition deck	5.13	6.68	8.69	11.31
Exposed rafters, 2" T&G sheathing	7.22	9.07	11.40	14.33
Prefab. panels (exclusive of girders)	1.97	2.43	3.01	3.72
Stresskin sandwich panels (exclusive of purlins)	7.06	9.11	11.77	15.19
Add for snow roof, furred sheathing layer	2.03	2.25	2.49	2.76

ROOF STRUCTURE (Continued)

	1	2	3	4
Open wood system for corrugated metal	1.78	3.22	5.37	8.59
Light purlin supports only for metal, wood or fiberglass . . . . .	.80	1.07	1.42	1.90
Wood dome and deck	21.65	26.40	32.20	39.25
Add for seismic/hurricane truss ties	.39	.46	.54	.64
Add for monitor roof . . . . .	.69	.69	.69	.69
Add for sawtooth roof . . . . .	.45	.45	.45	.45
Add for complex roof, turrets, ornate trim . . . . .	.79	.79	.79	.79
For treated wood, increase costs by 10% to 20%.				

ROOF COVER - Apply to roof area.

Aluminum or steel, corrugated, crimped or tile panels, preformed light, to 26 gauge	2.19	2.80	3.58	4.57
Heavy, under 26 gauge	4.49	5.13	5.85	6.68
Formed seam, flat or standing	5.67	7.05	8.76	10.89
Batten seam	6.68	8.19	10.03	12.29
Sandwich panels, pre-engineered	8.92	11.31	14.34	18.18
Cold storage	19.65	22.25	25.15	28.45
Shingles	4.26	5.17	6.28	7.63
Aggregate finish	5.72	6.87	8.26	9.93
Thatch	18.05	19.90	21.90	24.10
Add for interior metal liner	2.03	2.30	2.62	2.97
plastic	1.88	2.13	2.41	2.73
Add for porcelain enamel finish	2.95	3.52	4.19	5.00
Add for stainless steel or textured (Galbestos)	3.41	4.04	4.80	5.69
Asphalt, corrugated	1.71	1.98	2.30	2.67
Atrium skylight, frame and glazing	35.25	47.25	63.50	85.25
Built-up composition	2.10	2.62	3.28	4.09
Cement fiber shingles	4.49	5.52	6.80	8.36
Corrugated or sheet (Transite)	4.15	5.81	8.13	11.37
Composition, roll, mineral surface	1.09	1.30	1.56	1.86
Composition shingles, light to 235#	1.85	2.07	2.33	2.61
Heavy, over 235# or laminated	2.44	3.07	3.86	4.85
Copper, flat or standing seam	11.70	13.75	16.10	18.90
Batten seam	12.75	14.85	17.35	20.20
Shingles	11.80	12.75	13.80	14.90
Elastomeric or modified bitumen, Single ply	3.47	4.56	5.98	7.85
Reinforced sheet or				
Spray fluid coat	6.02	6.98	8.09	9.38
Fiberglass, corrugated or sheet, light	2.16	2.53	2.96	3.47
Sandwich panels.	3.64	4.11	4.63	5.23
Heavy, FRP, over 8 oz.	4.09	5.17	6.52	8.24
Slate	8.24	9.80	11.66	13.87
Red	15.80	18.80	22.40	26.70
Composite reinforced fiber	5.80	6.98	8.41	10.12
Terne, flat or standing seam	11.55	13.40	15.60	18.10
Batten seam	12.55	14.55	16.85	19.50
Tile, clay	7.62	9.65	12.22	15.47
Concrete	5.45	6.34	7.36	8.56
Plastic or rubber	4.72	5.47	6.33	7.33
Add for custom coloring or glazing	1.36	1.70	2.13	2.67
Wood, shakes	4.10	4.69	5.37	6.15
Shingles	3.64	4.21	4.86	5.62
Fiber shingles	2.45	2.91	3.45	4.09
Add for fire-resistant finish . . . . .	.54	.65	.79	.96
Add for roof insulation . . . . .	.96	1.52	2.35	3.60
Earth sheltered structures	1.61	2.47	3.75	5.67
Add for earth sheltered waterproofing	1.42	2.11	3.12	4.63

NOTE: For underroof insulation and supporting structures, see Ceiling Extras on Page 2. For earthen roof cover, see Fill costs on Page 1. See UIP 13 for top dressing, sod and/or sprinklers. For specific earth-sheltered waterproofing, see UIP 1.

SCHOOL BUILDINGS

SECTION SEG 8

(SEGREGATED COST METHOD)

ROOF MODIFIERS – Use the following multipliers for sloping roofs to convert the unit costs to cost per square foot of horizontal roofed area.

Rise	Run	Multiplier	Rise	Run	Multiplier
6'	: 12'	1.12	12'	: 12'	1.42
8'	: 12'	1.20	18'	: 12'	1.80

TRUSSES AND GIRDERS – Apply to area supported.

Steel trusses or long span girders	2.75	3.48	4.40	5.57
Timber trusses	3.09	3.93	4.99	6.35
Glued, laminated trusses or girders	2.79	3.50	4.38	5.49

CATWALKS - Apply to linear footage of walkway.

Catwalks, steel	103.00	120.00	139.00	161.00
Wood	44.25	52.75	62.75	74.75
Ladders, steel	16.20	21.60	28.75	38.35
Wood	14.50	19.30	25.65	34.15

EXTERIOR BALCONIES - Apply to balcony area.

Concrete	21.05	27.40	35.60	46.30
Steel	19.55	26.35	35.55	47.95
Wood	18.10	24.15	32.25	43.00
Add for ornate finishes, balustrades	18.20	22.50	27.80	34.40

CANOPIES OR MARQUEES - Apply to horizontal area. For light false mansard structures, deduct 50%. For greater detail, see UIP 4 or UIP 6. For patio covers, see UIP 13.

Wood frame	26.50	32.75	40.50	50.10
Steel frame	31.25	39.25	49.50	62.25

DORMERS - See UIP 4, Roofs; for solar rooms, see UIP 4.

ARCHITECTURAL COLUMNS - See UIP 6.

ELEVATORS - Apply against area served if detailed costs from UIP 7 are not used.

Academic (college) libraries,				
Classes A and B	1.42	2.29	3.59	5.53
High schools, Classes A and B	.76	1.28	2.05	3.21

MISCELLANEOUS

Athletic and playground equipment	UIP 12, 13 or 14
Bells, chimes and carillons	UIP 12
Flagpoles and fencing	UIP 13
Built-in appliances, fireplaces	SEG. 1
Classroom and auditorium seating	UIP 12
Grandstands and bleachers	UIP 14
Kitchen, snack bar equipment	UIP 12
Lockers	UIP 12
Specialized interior ornament	UIP 2
Stained glass	UIP 6
Steeple, cupolas and clocks	UIP 4

BELL OR CLOCK TOWERS

Towers frequently start at ground level and extend above the roofline. They may be an integral part of the building, simply attached or entirely separate. When the base of the tower is large enough to be used as a room, perhaps a foyer or an office and is finished inside, that portion should be priced with the rest of the building on a square foot of floor and wall area basis. The tower cost would only apply to the unfinished portion above the roofline. If all the tower from the ground up is unfinished inside, it should all be priced as a tower. Towers are priced on the basis of square footage of vertical service, adding 15% to 20% to the appropriate Exterior Wall cost.

NUMBER OF STORIES MULTIPLIER

To allow for the cost of hoisting materials, increased labor costs and miscellaneous costs due to high-rise construction, multiply the total Segregated Costs of aboveground portions of the building by 100% plus .25% for each story over three.

Example: Seven-story building: Multiplier = 1.010

ATRIUM HVAC

To price the heating and cooling of large atrium areas, simply refine the appropriate square-foot-system cost to be applied to the ground floor area by 100% plus 3% for each foot over the 10-foot average story height adjustment found on Page 4.

Example: Seven-story building, atrium height of 74': Multiplier = 2.92

COMPLETION OF BUILDING VALUATION

Contractors' overhead and profit, sales taxes, permit fees and insurance during construction are included in the costs above. Interest on interim construction financing is also included, but not financing costs, real estate taxes or brokers' commissions.

Architects' fees are not included and should be added from Appendix C.

Depreciation suggestions are given in Appendix A.

County Multipliers which bring the basic costs up to date for each locality are found in Appendix D.

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