

INDUSTRIALS – COLD STORAGE FACILITIES



AVERAGE CLASS C



LOW/AVERAGE CLASS S

OCCUPANCY DESCRIPTION: Cold storage facilities are designed to keep stored commodities at various temperature levels. Some production or process areas are included in the better qualities.

Sharp freezers, freezer rooms, offices, production or process areas are included in the better qualities. The front elevation will have some ornamental detail and an office/storefront-type entry. Lower qualities have cooler storage area, few partitions and small

office areas that are very plain with little or no front entry trim or ornamentation.

INCLUDED IN COSTS: Architects' fees and contractors' overhead and profit.

NOT INCLUDED IN COSTS: Sprinklers, special climate-control equipment, dock levelers or material-handling equipment.

SQUARE FOOT COST TABLE

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT
A-B	Good	\$79.10	Face brick, concrete panels, good facade, heavily insulated	Frozen foods, some good offices or production, sharp freeze, cooler areas	Good lighting and plumbing, outlets and drains	Complete H.V.A.C.
	Average	57.00	Brick, block, concrete panels, storefront entry, fully insulated	Chilled and freezer rooms, good offices and support areas	Adequate lighting, plumbing and drains, some power outlets	Complete H.V.A.C.
C	Excellent	92.85	Best block, tilt-up, good storefront, heavy floor, wall, roof insulation	Frozen foods, some good offices or production, sharp freeze, cooler areas	Good lighting and plumbing, outlets and drains	Complete H.V.A.C.
	Good	66.35	Tilt-up, steel frame, good block, or tapered girders, heavily insulated	Chilled and freezer rooms, good offices and support areas	Good lighting, adequate plumbing and drains, some power outlets	Complete H.V.A.C.
	Average	47.75	Steel or wood frame or bearing walls, block or tilt-up, insulated	Cooler and chilled rooms, some distribution offices and finish	Adequate lighting and plumbing	Complete H.V.A.C.
	Fair	39.90	Block tilt-up, sealed ceiling and wall insulation	Cooler, controlled atmosphere, sealed rooms and slab, small office	Adequate electrical, minimum plumbing	Complete low-cost H.V.A.C.
	Low cost	34.65	Block, tilt-up, very plain, light construction, exposed ceiling insulation	Cooler storage, unfinished, few partitions, small office	Minimum lighting and plumbing	Complete H.V.A.C.
D	Average	45.60	Stucco on wood frame, wood trusses, fully insulated	Cooler and chilled rooms, some distribution offices and finish	Adequate lighting and plumbing	Complete H.V.A.C.
	Low cost	32.85	Stucco or siding on wood, insulated, exposed ceiling insulation	Cooler storage, unfinished, few partitions, small office	Minimum lighting and plumbing	Complete H.V.A.C.
DPOLE	Average	42.10	Pole frame, good insulated siding or sandwich panels, good roof	Cooler and chilled rooms, some distribution offices and finish	Adequate lighting and plumbing	Complete H.V.A.C.
	Low cost	30.05	Pole frame, metal siding, lined, exposed ceiling insulation	Cooler storage, unfinished, few partitions, small office	Minimum lighting and plumbing	Complete H.V.A.C.
S	Excellent	90.10	Good steel frame, insulated panel walls & roof, good facade	Frozen foods, some good offices or production, sharp freeze, cooler areas	Good lighting and plumbing, outlets and drains	Complete H.V.A.C.
	Good	62.55	Good steel frame, sandwich panels, fenestration, heavily insulated	Chilled and freezer rooms, good offices and support areas	Good lighting, adequate plumbing and drains, some power outlets	Complete H.V.A.C.
	Average	43.90	Rigid steel frame, insulated siding or sandwich panels, good roof	Cooler and chilled rooms, some distribution offices and finish	Adequate lighting and plumbing	Complete H.V.A.C.
	Fair	36.20	Pre-engineered metal lined and sealed wall and ceiling insulation	Cooler, controlled atmosphere, sealed rooms and slab, small office	Adequate electrical, minimum plumbing	Complete low-cost H.V.A.C.
	Low	31.10	Pre-engineered frame, metal siding, lined, exposed ceiling insulation	Cooler storage, unfinished, few partitions, small office	Minimum lighting and plumbing	Complete H.V.A.C.

INDUSTRIALS – COLD STORAGE FACILITIES

REFINEMENTS: On this page are the means of making major adjustments to the base costs on the previous page. Follow Steps 1 through 5 to attain final costs, adjusted for lump sums, heating and cooling, story height, floor area/perimeter ratio and locality.

1

ELEVATORS: A small freight elevator with simple call system and push-button control, four-passenger cab, and two or three stops, \$35,250 to \$55,500.
For greater detail, see Section UIP 8.

SPRINKLERS: Apply to sprinklered area.

Sq. Ft.	LOW	AVG.	GOOD	EXCL.
5,000	\$2.05	\$2.65	\$3.50	\$4.55
10,000	1.85	2.35	3.10	4.00
20,000	1.65	2.15	2.75	3.50
30,000	1.55	2.00	2.55	3.25
40,000	1.50	1.90	2.45	3.10
50,000	1.45	1.85	2.35	2.95
80,000	1.35	1.70	2.15	2.70
100,000	1.30	1.65	2.05	2.60
200,000	1.20	1.45	1.85	2.30
400,000	1.05	1.30	1.60	2.00

DOCK HEIGHT FLOORS: Add \$1.50 to \$3.35 per square foot to base cost of first floor.

For loading docks, see Page CAL 244.

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COLD STORAGE HEATING, COOLING AND AIR CONDITIONING

These costs are averages of total installed cost of the entire heating or cooling installation including its prorated share of contractors' overhead and profit and architects' fees. If the heating found in the building being assessed is different from that indicated, take the difference between the costs of the two and add to or subtract from the base square foot cost. For other types or system adjustments, see Section UIP 8.

COMPLETE H.V.A.C. (All classes)	Sq. Ft. Costs
Excellent (freezer/sharp freeze)	\$13.85
Good (chiller/freezer)	11.70
Average (cooler/chilled air)	9.95
Low (cooled air only)	8.40

ENVIRONMENTAL REFRIGERATION	
Fruits, conditioned and cooled air	17.30
Vegetables, high to precise humidity	30.50
warm and cool	40.55

3

HEIGHT REFINEMENTS

STORY HEIGHT MULTIPLIERS: Multiply base cost by following multipliers for any variation in average story height.

Average Wall Height	Square Foot Multiplier	Average Wall Height	Square Foot Multiplier	Average Wall Height	Square Foot Multiplier
8	.88	20	1.13	45	1.78
10	.92	22	1.18	50	1.93
12	.96	24	1.23	55	2.07
14	1.00 (base)	30	1.38	60	2.22
16	1.04	35	1.51	70	2.53
18	1.08	40	1.65	80	2.84

4

Average Floor Area Sq. Ft./Story	AVERAGE PERIMETER														Average Floor Area Sq. Ft./Story
	300	400	500	600	800	1000	1200	1400	1600	1800	2000	2200	2400	3000	
5,000	1.08	1.17	1.25	1.34	----	----	----	----	----	----	----	----	----	----	5,000
10,000	.95	.99	1.04	1.08	1.17	----	----	----	----	----	----	----	----	----	10,000
15,000	----	.93	.96	.99	1.05	1.11	----	----	----	----	----	----	----	----	15,000
20,000	----	----	.92	.95	.99	1.04	1.08	----	----	----	----	----	----	----	20,000
25,000	----	----	.90	.92	.96	.99	1.03	----	----	----	----	----	----	----	25,000
30,000	----	----	----	.90	.93	.96	.99	1.02	----	----	----	----	----	----	30,000
40,000	----	----	----	.88	.90	.92	.95	.97	.99	----	----	----	----	----	40,000
50,000	----	----	----	.86	.88	.90	.92	.94	.96	----	----	----	----	----	50,000
80,000	----	----	----	----	----	.87	.88	.89	.90	.91	.92	.94	----	----	80,000
100,000	----	----	----	----	----	.86	.86	.87	.88	.89	.90	.91	.92	----	100,000
200,000	----	----	----	----	----	----	----	.84	.85	.85	.86	.86	.87	.88	200,000
400,000	----	----	----	----	----	----	----	----	.83	.83	.84	.84	.84	.85	400,000

5 USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.

INDUSTRIALS – ENGINEERING



GOOD CLASS C



AVERAGE CLASS C

OCCUPANCY DESCRIPTION: This occupancy is similar to the industrial manufacturing building, at least in terms of exteriors. However, the interiors have a larger amount of office area and finished space than the manufacturing occupancy while containing some manufacturing and assembly areas. The best structures will approach good office buildings in cost, with many partitions, best lighting, elevators or escalators and fine detail. If the design appears closer to office use than to industrial, the office costs should be used. Better-quality exteriors have high-cost features and ornamentation.

Interiors at most qualities are plaster or drywall with fluorescent lighting and adequate plumbing for the personnel. The quality of the fixtures is commensurate with the quality of the structure.

INCLUDED IN COSTS: Architects' fees and contractors' overhead and profit. Elevators are included in costs designated with an asterisk (*).

NOT INCLUDED IN COSTS: Sprinklers, furnishings or power feeds and special utilities for manufacturing machinery.

SQUARE FOOT COST TABLE

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT
A	Excellent	\$126.35	Good curtain walls, good brick and glass, with ornamentation	Plaster, acoustic ceilings, finished floor, many offices	*Fluorescent lighting, many outlets, good plumbing	Hot and chilled water (zoned)
	Good	90.75	Face brick, metal panels, good glass, ornamentation	Gypsum or plaster, some trim, carpet and resilient flrs., good offices	*Good fluorescent lighting, good plumbing	Warm and cool air (zoned)
	Average	66.90	Brick on block or tile, concrete or metal panels, good front	Gypsum walls and ceilings, resilient floors, half office buildout	*Adequate lighting and plumbing	Package A.C.
	Low cost	51.10	Brick, precast concrete, block, little trim, small storefront entry	Low-cost fin., acoustic tile, vinyl comp. tile, plain offices, 20% – 30% buildout	*Minimum lighting and plumbing, few extras	Package A.C.
B	Excellent	121.55	Good curtain walls, good brick and glass, with ornamentation	Plaster, acoustic ceilings, finished floor, much office space	*Fluorescent lighting, many outlets, good plumbing	Hot and chilled water (zoned)
	Good	86.85	Face brick, concrete curtain wall, some ornamentation	Gypsum or plaster, some trim, carpet & resilient floors, good offices	*Good fluorescent lighting, good plumbing	Warm and cool air (zoned)
	Average	63.75	Brick, formed concrete or pre-cast walls, good front	Gypsum walls and ceilings, resilient floors, half office buildout	*Adequate lighting and plumbing	Package A.C.
	Low cost	48.55	Brick, precast concrete, block, little trim, small storefront entry	Low-cost fin., acoustic tile, vinyl comp. tile, plain offices, 20% – 30% buildout	*Minimum lighting and plumbing, few extras	Package A.C.
A-B	Office bsmt.	68.45	Plaster interior	Average office finish, acoustic tile, vinyl composition	Adequate office lighting and plumbing	Warm and cool air (zoned)
	Office mezz.	46.10	In building cost	Enclosed, average, industrial office finish, plaster soffit	Average office lighting and plumbing	Included in building cost
C	Excellent	110.20	Steel or concrete frame, ornamented mason., entr. & lobby	Plaster walls, acoustic ceilings, carpet & resilient floors, mostly off.	Office-type lighting, many outlets, good plumbing	Hot and chilled water (zoned)
	Good	73.05	Steel frame, bar or web joists, good masonry or curtain walls	Gypsum or plaster walls, good office areas, acoustic ceilings	Good fluorescent lighting, good plumbing	Warm and cool air (zoned)
	Average	50.00	Bearing wall or frame, brick, concrete panels, good front	Finished walls, finished floors and ceilings, half office buildout	Adequate lighting and plumbing	Package A.C.
	Low cost	35.95	Brick, block, tilt-up panels, bearing walls, wood joists, little trim	Painted walls, acous. tile/drywall, vinyl comp. tile, plain off., 20% – 30% buildout	Minimum lighting and plumbing	Package A.C.
D	Excellent	101.50	Heavy frame, good metal and glass, stone and brick veneer	Plaster or gypsum, acoustic ceilings, carpet & resilient tile, mostly offices	Office-type lighting, many outlets, good plumbing	Warm and cool air (zoned)
	Good	70.45	Steel frame, web joists, good metal, glass, stucco, brick ven.	Plaster or gypsum, acoustic ceilings, good office areas	Good fluorescent lighting, good plumbing	Warm and cool air (zoned)
	Average	47.65	Wood studs/light frame, stucco, wood, brick ven., good front	Drywall, walls and ceilings, resilient tile, half office buildout	Adequate lighting and plumbing	Package A.C.
	Low cost	35.95	Wood frame, stucco or siding, little ornamentation, small front	Drywall, acoustic tile, vinyl comp. tile, plain offices, 20% – 30% buildout	Mnimum lighting and plumbing	Package A.C.
S	Excellent	97.60	Heavy frame, best sandwich panels, orn. entry & lobby	Plaster or gypsum, acoustic ceilings, carpet & resilient tile, mostly offices	Office-type lighting, many outlets, good plumbing	Warm and cool air (zoned)
	Good	67.40	Steel frame, good metal and glass, good storefront and trim	Plaster or gypsum, acoustic ceilings, good office areas	Good fluorescent lighting, good plumbing	Warm and cool air (zoned)
	Average	43.35	Steel frame & light panels with steel trusses/joists, good front	Enameled walls and exposed trusses, finished floors, half offices	Exposed conduit, fluorescent lighting, adequate plumbing	Package A.C.
	Low cost	32.25	Pre-engineered, finished interior, insulation, small front	Drywall, acoustic tile, vinyl comp. tile, plain offices, 20% – 30% buildout	Minimum lighting and plumbing	Package A.C.
CDS †	Office bsmt.	45.65	Plaster or drywall interior	Average office finish, acoustic tile, vinyl composition	Typical office lighting and plumbing	Forced air
	Office mezz.	33.35	In building cost	Enclosed, average, industrial office finish, acoustic tile soffit	Average office lighting and plumbing	Included in building cost

†For fire-resistant Type I basement, with concrete slab separation under Class C, D or S units, add \$4.35 per square foot.

MEZZANINES: Do not use story height or area/perimeter multipliers with mezzanine costs.

INDUSTRIALS – ENGINEERING

REFINEMENTS: On this page are the means of making major adjustments to the base costs on the previous page. Follow Steps 1 through 5 to attain final costs, adjusted for lump sums, heating and cooling, story height, floor area/perimeter ratio and locality.

1

<p>ELEVATORS: Buildings whose base costs include service elevators are marked with an asterisk (*). If the building under consideration has no elevators, deduct the following from the base costs so marked. For detailed costs, see Section UIP 8.</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Classes A/B</th> <th style="text-align: right;">Sq. Ft. Costs</th> </tr> </thead> <tbody> <tr> <td>Excellent</td> <td style="text-align: right;">\$2.65</td> </tr> <tr> <td>Good</td> <td style="text-align: right;">2.10</td> </tr> <tr> <td>Average</td> <td style="text-align: right;">1.65</td> </tr> <tr> <td>Low cost</td> <td style="text-align: right;">1.35</td> </tr> </tbody> </table> <p>ELEVATOR STOPS: For basement or mezzanine elevator stops, add \$4,275 to \$6,475 per stop.</p> <p>A small passenger elevator with simple call system and push-button control, four-passenger cab, and two or three stops, costs \$35,250 to \$55,500.</p>	Classes A/B	Sq. Ft. Costs	Excellent	\$2.65	Good	2.10	Average	1.65	Low cost	1.35	<p>SPRINKLERS: Apply to sprinklered area.</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Sq. Ft.</th> <th style="text-align: right;">LOW</th> <th style="text-align: right;">AVG.</th> <th style="text-align: right;">GOOD</th> <th style="text-align: right;">EXCL.</th> </tr> </thead> <tbody> <tr> <td>5,000</td> <td style="text-align: right;">\$2.05</td> <td style="text-align: right;">\$2.65</td> <td style="text-align: right;">\$3.50</td> <td style="text-align: right;">\$4.55</td> </tr> <tr> <td>10,000</td> <td style="text-align: right;">1.85</td> <td style="text-align: right;">2.35</td> <td style="text-align: right;">3.10</td> <td style="text-align: right;">4.00</td> </tr> <tr> <td>20,000</td> <td style="text-align: right;">1.65</td> <td style="text-align: right;">2.15</td> <td style="text-align: right;">2.75</td> <td style="text-align: right;">3.50</td> </tr> <tr> <td>30,000</td> <td style="text-align: right;">1.55</td> <td style="text-align: right;">2.00</td> <td style="text-align: right;">2.55</td> <td style="text-align: right;">3.25</td> </tr> <tr> <td>50,000</td> <td style="text-align: right;">1.45</td> <td style="text-align: right;">1.85</td> <td style="text-align: right;">2.35</td> <td style="text-align: right;">2.95</td> </tr> <tr> <td>80,000</td> <td style="text-align: right;">1.35</td> <td style="text-align: right;">1.70</td> <td style="text-align: right;">2.15</td> <td style="text-align: right;">2.70</td> </tr> <tr> <td>100,000</td> <td style="text-align: right;">1.30</td> <td style="text-align: right;">1.65</td> <td style="text-align: right;">2.05</td> <td style="text-align: right;">2.60</td> </tr> <tr> <td>200,000</td> <td style="text-align: right;">1.20</td> <td style="text-align: right;">1.45</td> <td style="text-align: right;">1.85</td> <td style="text-align: right;">2.30</td> </tr> <tr> <td>400,000</td> <td style="text-align: right;">1.05</td> <td style="text-align: right;">1.30</td> <td style="text-align: right;">1.60</td> <td style="text-align: right;">2.00</td> </tr> </tbody> </table> <p>DOCK HEIGHT FLOORS: Add \$1.50 to \$3.35 per square foot to base cost of first floor.</p>	Sq. Ft.	LOW	AVG.	GOOD	EXCL.	5,000	\$2.05	\$2.65	\$3.50	\$4.55	10,000	1.85	2.35	3.10	4.00	20,000	1.65	2.15	2.75	3.50	30,000	1.55	2.00	2.55	3.25	50,000	1.45	1.85	2.35	2.95	80,000	1.35	1.70	2.15	2.70	100,000	1.30	1.65	2.05	2.60	200,000	1.20	1.45	1.85	2.30	400,000	1.05	1.30	1.60	2.00
Classes A/B	Sq. Ft. Costs																																																												
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2

HEATING AND COOLING					
<p>These costs are averages of total installed cost of the entire heating or cooling installation including its prorated share of contractors' overhead and profit and architects' fees. If the heating found in the building being assessed is different from that indicated, take the difference between the costs of the two and add to or subtract from the base square foot cost. For other types or system adjustments, see Segregated costs.</p>					
	Sq. Ft.		Sq. Ft.		Sq. Ft.
HEATING ONLY	Costs	HEATING & COOLING	Costs	COOLING ONLY	Costs
Electric cable or baseboard ..	\$3.15	Package A.C. (short ductwork)	\$ 6.85	Central refrigeration (zoned)	\$5.95
Electric wall heaters	1.35	Warm and cool air (zoned)	9.05	package (short ductwork)	4.05
Forced air furnace	3.45	Hot/chilled water (zoned)	15.10	Central evaporative	2.70
Hot water	6.15	Heat pump system	8.05	Pkg. refrig. . \$1,180 to \$1,540 per ton capacity	
Space heaters, with fan	1.60			Evap. coolers . \$160 to \$270 per MCFM capacity	
radiant	1.90				
Steam (including boiler)	5.50	Small indiv. heat pumps cost \$1,125 to \$1,510		VENTILATION ONLY	
without boiler	4.65	per ton of rated capacity.		Vent. (blowers/ducts)	\$1.05

3

HEIGHT REFINEMENTS			
MULTISTORY BUILDINGS: Add .5% (1/2%) for each story over three, above ground, to all base costs.			
STORY HEIGHT MULTIPLIERS: Multiply base cost by following multipliers for any variation in average story height.			
Average Wall Height	Square Foot Multiplier	Average Wall Height	Square Foot Multiplier
8	.89	20	1.13
10	.92	22	1.18
12	.96	24	1.23
14	1.00 (base)	26	1.28
16	1.04	28	1.33
18	1.09	30	1.38

4

Average Floor Area Sq. Ft./Story	AVERAGE PERIMETER														Average Floor Area Sq. Ft./Story
	300	400	500	600	800	1000	1200	1400	1600	1800	2000	2200	2400	3000	
5,000	1.07	1.16	1.24	1.32	----	----	----	----	----	----	----	----	----	----	5,000
10,000	.95	.99	1.03	1.07	1.16	----	----	----	----	----	----	----	----	----	10,000
15,000	----	.94	.97	.99	1.05	1.10	----	----	----	----	----	----	----	----	15,000
20,000	----	----	.94	.95	.99	1.03	1.07	----	----	----	----	----	----	----	20,000
25,000	----	----	.92	.93	.96	.99	1.02	----	----	----	----	----	----	----	25,000
30,000	----	----	----	.92	.94	.97	.99	1.02	----	----	----	----	----	----	30,000
40,000	----	----	----	.90	.92	.94	.95	.97	.99	----	----	----	----	----	40,000
50,000	----	----	----	.89	.90	.92	.93	.95	.96	----	----	----	----	----	50,000
80,000	----	----	----	----	.88	.89	.90	.91	.92	.93	.94	.95	----	----	80,000
100,000	----	----	----	----	----	.87	.87	.88	.89	.90	.91	.92	.93	----	100,000
200,000	----	----	----	----	----	----	----	.85	.86	.86	.87	.87	.88	.89	200,000
400,000	----	----	----	----	----	----	----	----	----	----	.85	.85	.85	.86	400,000

5 USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.

INDUSTRIALS – LIGHT MANUFACTURING



AVERAGE CLASS C



AVERAGE CLASS S

OCCUPANCY DESCRIPTION: Buildings designed to shelter manufacturing processes. An average amount of office and support space commensurate with the quality is included, for light industrials typically between 4 and 25 percent. This includes suitable locker, break and lunch room facilities to accommodate the personnel load. Offices may be single-story or stacked. Single-story offices may have a softwood flooring storage mezzanine overhead as part of the office area costs.

Exterior finishes are masonry or concrete, typically tilt-up panels, or metal siding. Frames are typically light, open, metal or Glulam structures. The interiors, except for the office area, will usually have little

or no interior finish. Fluorescent lighting is found throughout both the office and shop, with the office area having better-quality fixtures.

INCLUDED IN COSTS: Architects' fees and contractors' overhead and profit. Elevators are included in costs designated with an asterisk (*). All the power leads to the building and industrial sewer and drainage lines.

NOT INCLUDED IN COSTS: Power panel, power wiring or industrial piping to the fixtures or equipment used in the manufacturing process, hoists or cranes.

SQUARE FOOT COST TABLE

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT
A	Average	\$55.65	Brick on block or tile, concrete or metal panels, storefront entry	Painted walls and ceilings, finished floors and ceilings in offices	*Adequate lighting and plumbing	Hot water
	Low cost	38.35	Low-cost brick or block, little fenestration, precast floors	Painted walls, few offices, very plain and open	*Minimum lighting and plumbing	Space heaters
B	Average	54.40	Brick, formed concrete, or precast walls, little trim, storefront entry	Painted walls and ceilings, finished floors and ceilings in offices	*Adequate lighting and plumbing	Hot water
	Low cost	35.85	Low-cost brick or block, little fenestration, precast floors	Painted walls, few offices, very plain and open	*Minimum lighting and plumbing	Space heaters
C	Good	49.00	Bearing walls or frame, brick, concrete panels, good glass storefront	Some finished walls, finished floors and ceilings in offices	Good fluorescent lighting, adequate plumbing	Space heaters
	Average	35.35	Light frame or bearing walls, brick, block or tilt-up, some trim	Painted walls and exposed frame, small finished offices	Exposed conduit, fluorescent lighting, adequate plumbing	Space heaters
	Low cost	25.65	Very plain, brick, block, or tilt-up, few openings	Small office area, unfinished floors and ceilings	Minimum lighting and plumbing	Space heaters
D	Good	46.35	Good frame with stucco or siding, some ornamentation	Some good offices and interior finish	Good lighting, exposed conduit, adequate plumbing	Space heaters
	Average	33.00	Wood studs, stucco, wood rafters and sheathing, some trim	Drywall, finished office area, exposed rafters or trusses	Adequate lighting and plumbing	Space heaters
	Low cost	23.65	Wood studs or frame, cheap stucco or siding	Unfinished, low-cost slab, small office, minimum code	Minimum lighting and plumbing	Space heaters
DPOLE	Good	41.25	Pole frame, metal siding, lined and insulated, some trim, glass entry	Some good offices and interior finish	Good lighting, exposed conduit, adequate plumbing	Space heaters
	Average	29.60	Pole frame, metal siding, fully lined and insulated	Finished office area, slab, some floor finish	Adequate lighting and plumbing	Space heaters
	Low cost	21.35	Pole frame, metal siding, insulated, few openings	Low-cost slab, few partitions, small office	Minimum code, factory lighting	Space heaters
S	Good	43.75	Steel frame, sandwich panels, good glass storefront entry and trim	Some good offices and interior finish	Good lighting, exposed conduit, adequate plumbing	Space heaters
	Average	30.90	Steel frame, steel or aluminum siding, some trim	Finished office area, slab, some floor finish	Adequate lighting and plumbing	Space heaters
	Low cost	22.00	Light steel frame, steel or aluminum siding, few openings	Low-cost slab, unfinished interior, small office	Minimum code, factory lighting	Space heaters

NOTE: Basements and mezzanines are listed on the Heavy Manufacturing Page CAL 104.

INDUSTRIALS – LIGHT MANUFACTURING

REFINEMENTS: On this page are the means of making major adjustments to the base costs on the previous page. Follow Steps 1 through 5 to attain final costs, adjusted for lump sums, heating and cooling, story height, floor area/perimeter ratio and locality.

1

<p>ELEVATORS: Buildings whose base costs include service elevators are marked with an asterisk (*). If the building under consideration has no elevators, deduct the following from the base costs so marked. For detailed costs, see Section UIP 8.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Classes A/B</td> <td style="text-align: right;">Sq. Ft. Costs</td> </tr> <tr> <td>Average</td> <td style="text-align: right;">\$1.50</td> </tr> <tr> <td>Low cost</td> <td style="text-align: right;">1.20</td> </tr> </table> <p>ELEVATOR STOPS: For basement or mezzanine elevator stops, add \$4,275 to \$6,475 per stop.</p> <p>A small passenger elevator with simple call system and push-button control, four-passenger cab, and two or three stops, costs \$35,250 to \$55,500.</p>	Classes A/B	Sq. Ft. Costs	Average	\$1.50	Low cost	1.20	<p>SPRINKLERS: Apply to sprinklered area.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Sq. Ft.</td> <td style="text-align: right;">LOW</td> <td style="text-align: right;">AVG.</td> <td style="text-align: right;">GOOD</td> <td style="text-align: right;">EXCL.</td> </tr> <tr> <td style="text-align: right;">5,000</td> <td style="text-align: right;">\$2.05</td> <td style="text-align: right;">\$2.65</td> <td style="text-align: right;">\$3.50</td> <td style="text-align: right;">\$4.55</td> </tr> <tr> <td style="text-align: right;">10,000</td> <td style="text-align: right;">1.85</td> <td style="text-align: right;">2.35</td> <td style="text-align: right;">3.10</td> <td style="text-align: right;">4.00</td> </tr> <tr> <td style="text-align: right;">20,000</td> <td style="text-align: right;">1.65</td> <td style="text-align: right;">2.15</td> <td style="text-align: right;">2.75</td> <td style="text-align: right;">3.50</td> </tr> <tr> <td style="text-align: right;">30,000</td> <td style="text-align: right;">1.55</td> <td style="text-align: right;">2.00</td> <td style="text-align: right;">2.55</td> <td style="text-align: right;">3.25</td> </tr> <tr> <td style="text-align: right;">50,000</td> <td style="text-align: right;">1.45</td> <td style="text-align: right;">1.85</td> <td style="text-align: right;">2.35</td> <td style="text-align: right;">2.95</td> </tr> <tr> <td style="text-align: right;">80,000</td> <td style="text-align: right;">1.35</td> <td style="text-align: right;">1.70</td> <td style="text-align: right;">2.15</td> <td style="text-align: right;">2.70</td> </tr> <tr> <td style="text-align: right;">100,000</td> <td style="text-align: right;">1.30</td> <td style="text-align: right;">1.65</td> <td style="text-align: right;">2.05</td> <td style="text-align: right;">2.60</td> </tr> <tr> <td style="text-align: right;">200,000</td> <td style="text-align: right;">1.20</td> <td style="text-align: right;">1.45</td> <td style="text-align: right;">1.85</td> <td style="text-align: right;">2.30</td> </tr> <tr> <td style="text-align: right;">400,000</td> <td style="text-align: right;">1.05</td> <td style="text-align: right;">1.30</td> <td style="text-align: right;">1.60</td> <td style="text-align: right;">2.00</td> </tr> </table> <p>DOCK HEIGHT FLOORS: Add \$1.50 to \$3.35 per square foot to base cost of first floor.</p> <p>For loading docks, see Page CAL 244.</p>	Sq. Ft.	LOW	AVG.	GOOD	EXCL.	5,000	\$2.05	\$2.65	\$3.50	\$4.55	10,000	1.85	2.35	3.10	4.00	20,000	1.65	2.15	2.75	3.50	30,000	1.55	2.00	2.55	3.25	50,000	1.45	1.85	2.35	2.95	80,000	1.35	1.70	2.15	2.70	100,000	1.30	1.65	2.05	2.60	200,000	1.20	1.45	1.85	2.30	400,000	1.05	1.30	1.60	2.00
Classes A/B	Sq. Ft. Costs																																																								
Average	\$1.50																																																								
Low cost	1.20																																																								
Sq. Ft.	LOW	AVG.	GOOD	EXCL.																																																					
5,000	\$2.05	\$2.65	\$3.50	\$4.55																																																					
10,000	1.85	2.35	3.10	4.00																																																					
20,000	1.65	2.15	2.75	3.50																																																					
30,000	1.55	2.00	2.55	3.25																																																					
50,000	1.45	1.85	2.35	2.95																																																					
80,000	1.35	1.70	2.15	2.70																																																					
100,000	1.30	1.65	2.05	2.60																																																					
200,000	1.20	1.45	1.85	2.30																																																					
400,000	1.05	1.30	1.60	2.00																																																					

2

HEATING AND COOLING					
These costs are averages of total installed cost of the entire heating or cooling installation including its prorated share of contractors' overhead and profit and architects' fees. If the heating found in the building being assessed is different from that indicated, take the difference between the costs of the two and add to or subtract from the base square foot cost. For other types or system adjustments, see Segregated costs.					
	Sq. Ft. Costs		Sq. Ft. Costs		Sq. Ft. Costs
HEATING ONLY		HEATING & COOLING		COOLING ONLY	
Electric cable or baseboard ..	\$3.15	Package A.C. (short ductwork)	\$ 6.85	Central refrigeration (zoned)	\$5.95
Electric wall heaters	1.35	Warm and cool air (zoned)	9.05	package (short ductwork)	4.05
Forced air furnace	3.45	Hot/chilled water (zoned)	15.10	Central evaporative	2.70
Hot water	6.15	Heat pump system	8.05	Pkg. refrig. . \$1,180 to \$1,540 per ton capacity	
Space heaters, with fan	1.60			Evap. coolers . \$160 to \$270 per MCFM capacity	
radiant	1.90				
Steam (including boiler)	5.50	Small indiv. heat pumps cost \$1,125 to \$1,510		VENTILATION ONLY	
without boiler	4.65	per ton of rated capacity.		Vent. (blowers/ducts)	\$1.05

3

HEIGHT REFINEMENTS					
MULTISTORY BUILDINGS: Add .5% (1/2%) for each story over three, above ground, to all base costs.					
STORY HEIGHT MULTIPLIERS: Multiply base cost by following multipliers for any variation in average story height.					
Average Wall Height	Square Foot Multiplier	Average Wall Height	Square Foot Multiplier	Average Wall Height	Square Foot Multiplier
8	.88	20	1.13	45	1.78
10	.92	22	1.18	50	1.93
12	.96	24	1.23	55	2.07
14	1.00 (base)	30	1.38	60	2.22
16	1.04	35	1.51	70	2.53
18	1.08	40	1.65	80	2.84

4

Average Floor Area Sq. Ft./Story	AVERAGE PERIMETER														Average Floor Area Sq. Ft./Story
	300	400	500	600	800	1000	1200	1400	1600	1800	2000	2200	2400	3000	
5,000	1.08	1.17	1.25	1.34	----	----	----	----	----	----	----	----	----	----	5,000
10,000	.95	.99	1.04	1.08	1.17	----	----	----	----	----	----	----	----	----	10,000
15,000	----	.93	.96	.99	1.05	1.11	----	----	----	----	----	----	----	----	15,000
20,000	----	----	.92	.95	.99	1.04	1.08	----	----	----	----	----	----	----	20,000
25,000	----	----	.90	.92	.96	.99	1.03	----	----	----	----	----	----	----	25,000
30,000	----	----	----	.90	.93	.96	.99	1.02	----	----	----	----	----	----	30,000
40,000	----	----	----	.88	.90	.92	.95	.97	.99	----	----	----	----	----	40,000
50,000	----	----	----	.86	.88	.90	.92	.94	.96	----	----	----	----	----	50,000
80,000	----	----	----	----	.87	.88	.89	.90	.91	.92	.94	----	----	----	80,000
100,000	----	----	----	----	.86	.86	.87	.88	.89	.90	.91	.92	----	----	100,000
200,000	----	----	----	----	----	----	.84	.85	.85	.86	.86	.87	.88	----	200,000
400,000	----	----	----	----	----	----	----	.83	.83	.84	.84	.84	.85	----	400,000

5 USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.

INDUSTRIALS – HEAVY MANUFACTURING

OCCUPANCY DESCRIPTION: Buildings designed for heavy manufacturing processes and power or utility service plants. An average amount of office and support space commensurate with the quality is included, for heavy industrials typically between 4 and 12 percent. Heavy Industrials are characterized by their typically heavy frames, craneways, walls and floors. The structural support will greatly influence the cost and quality selection. Exterior finishes are thick masonry or concrete, or heavy-gauge metal siding. The interiors, except for the office, stores or shop areas, usually have minimal interior partitions and are large open areas. Lighting may consist of many heavy-duty or sparkproof fixtures.



AVERAGE CLASS B

INCLUDED IN COSTS: Architects' fees and contractors' overhead and profit. Elevators are included in costs designated with an asterisk (*). All the power leads to the building and industrial sewer and drainage lines.

NOT INCLUDED IN COSTS: Power panel, power wiring or industrial piping to the fixtures or equipment used in the manufacturing process, hoists, cranes or personnel lifts.

SQUARE FOOT COST TABLE

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT
A	Excellent	\$170.55	Heavy structural frame and masonry or concrete walls	Extra heavy floors, partitions and craneways, specialized plant	*Excellent lighting and plumbing, spark-proof fixtures	Hot and chilled water (zoned)
	Good	137.35	Good curtain walls, good brick and glass, with ornamentation	Finished walls and ceilings, some finished floors, heavy craneways	*Good fluorescent lighting, good plumbing, some extras	Hot and chilled water (zoned)
	Average	105.20	Face brick, metal panels, industrial glass, ornamentation	Plaster walls, some trim, heavy-duty floors, good offices, craneways	*Good fluorescent lighting, adequate plumbing, locker rooms	Warm and cool air (zoned)
	Low cost	81.80	Brick on block or tile, concrete or metal panels, little trim	Painted walls and ceilings, heavy-duty floors, open fabrication	*Adequate lighting and plumbing	Hot water
B	Excellent	164.20	Heavy concrete frame and masonry or concrete walls	Extra heavy floors, partitions and craneways, specialized plant	*Excellent lighting and plumbing, spark-proof fixtures	Hot and chilled water (zoned)
	Good	132.20	Good curtain walls, good brick and glass, with ornamentation	Finished walls and ceilings, some finished floors, heavy craneways	*Good fluorescent lighting, good plumbing, some extras	Hot and chilled water (zoned)
	Average	101.00	Face brick, concrete curtain walls, some ornamentation	Plaster walls, some trim, heavy-duty floors, good offices, craneways	*Good fluorescent lighting, adequate plumbing, locker rooms	Warm and cool air (zoned)
	Low cost	78.40	Brick, formed concrete, or precast walls, little trim	Painted walls and ceilings, heavy-duty floors, open fabrication	*Adequate lighting and plumbing	Hot water
A-B	Good basement	43.25	Reinforced concrete; semi-finished, painted interior	Some partitions, heavy floor, good storage or manufacturing	Adequate lighting and plumbing, good drains	Space heaters
	Average basement	32.75	Reinforced concrete, unfinished interior	Unfinished storage areas, some partitions	Minimum lighting and plumbing, drains	None
	Finished mezzanine	30.15	In building cost	Partially open and enclosed stores and supply rooms	Average lighting, minimum plumbing	In building cost
	Good stor. mezzanine	35.70	In building cost	Metal grating on good steel structure	Minimum lighting, no plumbing	In building cost
	Avg. stor. mezzanine	17.20	In building cost	Metal deck and concrete on good steel structure, no partitions	Minimum lighting, no plumbing	In building cost
C	Good	106.50	Heavy steel or concrete frame, good masonry walls	Heavy floors, grating, good partitions and craneways	Good fluorescent lighting, good plumbing, some extras	Warm and cool air (zoned)
	Average	79.70	Structural frame, brick, concrete panels	Heavy slab floors, offices, stores, some heavy assembly, craneways	Good fluorescent lighting, adequate plumbing, locker rooms	Hot water
	Low cost	57.15	Steel or glulam frame, brick, block, or tilt-up, some trim	Painted walls and exposed frame, small finished offices, good slab	Exposed conduit, fluorescent lighting, adequate plumbing	Space heaters
CMILL	Good	68.05	Mill-type construction, brick walls, wood or steel trusses	Finished walls and ceilings, some floor finish, heavy mill-type floors	*Fluorescent lighting, modernized plumbing	Steam
	Average	52.00	Mill-type construction, brick walls, wood trusses	Painted walls, few small offices, mill-type floors	*Average lighting and plumbing	Steam
D	Average	72.45	Heavy wood frame, wood or stucco siding	Heavy slab or mill-type floors, finished office area, some heavy assembly	Good lighting, adequate plumbing and locker rooms	Space heaters
	Low cost	55.75	Wood frame, stucco or siding	Finished office area, good slab, some floor finish, open fabrication	Adequate lighting and plumbing	Space heaters
S	Good	98.80	Structural steel, heavy steel siding, transite, sandwich panels	Heavy floors, grating, good partitions and craneways	Good fluorescent lighting and plumbing, some extras	Warm and cool air (zoned)
	Average	69.65	Heavy steel frame, transite or metal siding, sandwich panels	Heavy slab floors, offices, stores, some heavy assembly, craneways	Good lighting, exposed conduit, adequate plumbing, locker rooms	Space heaters
	Low cost	53.25	Steel frame, steel or aluminum siding, some trim	Finished office area, good slab, some floor finish, open fabrication	Adequate lighting and plumbing	Space heaters
CDS †	Average basement	21.85	Reinforced concrete, unfinished interior	Unfinished storage area	Minimum lighting and drains	None
	Finished mezzanine	21.80	In building cost	Partially open and enclosed stores and supply rooms	Average lighting, minimum plumbing	In building cost
	Avg. stor. mezzanine	14.80	In building cost	Heavy plywood or plank on wood or light steel structure	Minimum lighting, no plumbing	In building cost
	Low stor. mezzanine	11.05	In building cost	Light storage on plywood, minimum supports, no soffit	Minimum lighting	In building cost

†For fire-resistant Type I basements, with concrete slab separation under Class C, D or S units, add \$4.35 per square foot.

MEZZANINES: Do not use story height or area/perimeter multipliers with mezzanine costs.

INDUSTRIALS – HEAVY MANUFACTURING

REFINEMENTS: On this page are the means of making major adjustments to the base costs on the previous page. Follow Steps 1 through 5 to attain final costs, adjusted for lump sums, heating and cooling, story height, floor area/perimeter ratio and locality.

1	ELEVATORS: Buildings whose base costs include service elevators are marked with an asterisk (*). If the building under consideration has no elevators, deduct the following from the base costs so marked. For detailed costs, see Section UIP 8.		SPRINKLERS: Apply to sprinklered area.				
	Classes A/B	Sq. Ft. Costs	Sq. Ft.	LOW	AVG.	GOOD	EXCL.
	Excellent	\$2.50	5,000	\$2.05	\$2.65	\$3.50	\$4.55
	Good	2.00	10,000	1.85	2.35	3.10	4.00
	Average	1.60	20,000	1.65	2.15	2.75	3.50
	Low cost	1.25	30,000	1.55	2.00	2.55	3.25
			50,000	1.45	1.85	2.35	2.95
			80,000	1.35	1.70	2.15	2.70
			100,000	1.30	1.65	2.05	2.60
			200,000	1.20	1.45	1.85	2.30
			400,000	1.05	1.30	1.60	2.00
	ELEVATOR STOPS: For basement or mezzanine elevator stops, add \$4,275 to \$6,475 per stop. A small passenger elevator with simple call system and pushbutton control, four-passenger cab, and two or three stops, costs \$35,250 to \$55,500.			DOCK HEIGHT FLOORS: Add \$1.50 to \$3.35 per square foot to base cost of first floor. For loading docks, see Page CAL 244.			

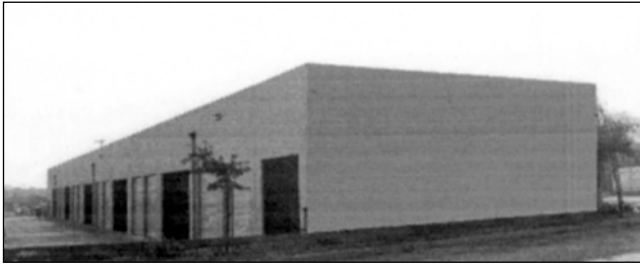
2	HEATING AND COOLING					
	These costs are averages of total installed cost of the entire heating or cooling installation including its prorated share of contractors' overhead and profit and architects' fees. If the heating found in the building being assessed is different from that indicated, take the difference between the costs of the two and add to or subtract from the base square foot cost. For other types or system adjustments, see Segregated costs.					
	HEATING ONLY	Sq. Ft. Costs	HEATING & COOLING	Sq. Ft. Costs	COOLING ONLY	Sq. Ft. Costs
	Electric cable or baseboard ..	\$3.15	Package A.C. (short ductwork)	\$ 6.85	Central refrigeration (zoned)	\$5.95
	Electric wall heaters	1.35	Warm and cool air (zoned)	9.05	package (short ductwork)	4.05
	Forced air furnace	3.45	Hot/chilled water (zoned)	15.10	Central evaporative	2.70
	Hot water	6.15	Heat pump system	8.05	Pkg. refriger. \$1,180 to \$1,540 per ton capacity	
	Space heaters, with fan	1.60			Evap. coolers \$160 to \$270 per MCFM capacity	
	radiant	1.90				
	Steam (including boiler)	5.50	Small indiv. heat pumps cost \$1,125 to \$1,510		VENTILATION ONLY	
	without boiler	4.65	per ton of rated capacity.		Vent. (blowers/ducts)	\$1.05

3	HEIGHT REFINEMENTS					
	MULTISTORY BUILDINGS: Add .5% (1/2%) for each story over three, above ground, to all base costs.					
	STORY HEIGHT MULTIPLIERS: Multiply base cost by following multipliers for any variation in average story height.					
	Average Wall Height	Square Foot Multiplier	Average Wall Height	Square Foot Multiplier	Average Wall Height	Square Foot Multiplier
	8	.88	20	1.13	45	1.78
	10	.92	22	1.18	50	1.93
	12	.96	24	1.23	55	2.07
	14	1.00 (base)	30	1.38	60	2.22
	16	1.04	35	1.51	70	2.53
	18	1.08	40	1.65	80	2.84

4	Average Floor Area Sq. Ft./Story	AVERAGE PERIMETER													Average Floor Area Sq. Ft./Story	
		300	400	500	600	800	1000	1200	1400	1600	1800	2000	2200	2400		3000
	5,000	1.07	1.15	1.23	1.32	----	----	----	----	----	----	----	----	----	----	5,000
	10,000	.95	.99	1.03	1.07	1.15	----	----	----	----	----	----	----	----	----	10,000
	15,000	----	.94	.97	.99	1.05	1.10	----	----	----	----	----	----	----	----	15,000
	20,000	----	----	.94	.95	.99	1.03	1.07	----	----	----	----	----	----	----	20,000
	25,000	----	----	.92	.93	.96	.99	1.02	----	----	----	----	----	----	----	25,000
	30,000	----	----	----	.92	.94	.97	.99	1.02	----	----	----	----	----	----	30,000
	40,000	----	----	----	.90	.92	.94	.95	.97	.99	----	----	----	----	----	40,000
	50,000	----	----	----	.89	.90	.92	.93	.95	.96	----	----	----	----	----	50,000
	80,000	----	----	----	----	.88	.89	.90	.91	.92	.93	.94	.95	----	----	80,000
	100,000	----	----	----	----	----	.87	.87	.88	.89	.90	.91	.92	.93	----	100,000
	200,000	----	----	----	----	----	----	----	.85	.86	.86	.87	.87	.88	.89	200,000
	400,000	----	----	----	----	----	----	----	.84	.84	.85	.85	.85	.86	----	400,000

5 USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.

INDUSTRIALS – FLEX (MALL) LOFT BUILDINGS



LOW-COST CLASS C



GOOD CLASS C

OCCUPANCY DESCRIPTION: Industrial flex mall buildings are the modern multi-tenant loft structures, typically of low-rise construction. The lower qualities are purely neighborhood light industrial buildings having minimal subdivisions and finish per shop space user with overhead door entries. The better qualities have fully finished customer service areas with storefront entries. Display-office areas in the higher qualities have finished floors and ceilings with good restroom facilities, generally for large space users.

INCLUDED IN COSTS: Architects' fees and contractors' overhead and profit.

NOT INCLUDED IN COSTS: Sprinklers, furnishings or special utilities for industrial equipment.

SQUARE FOOT COST TABLE

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT
C	Good	\$50.35	Masonry or concrete, wood or steel frame, good entries & trim	Finished floors, ceilings and display rooms, some extras	Fluorescent lighting, adequate restroom and plumbing	Package A.C.
	Average	35.40	Brick, concrete block, tilt-up, small storefronts	Reception finish and detail, small office or display areas	Adequate lighting and plumbing per space	Forced air
	Low cost	25.05	Low-cost block, tilt-up, light roof, shop door entries	Unfinished, slab, open shop areas only	Minimum lighting and plumbing per space	Space heaters
D	Average	33.35	Metal or wood studs, stucco, siding, small storefronts	Reception finish and detail, small office or display areas	Adequate lighting and plumbing per space	Forced air
	Low cost	23.40	Low-cost stucco or siding, shop door entries	Unfinished, slab, open shop areas only	Minimum lighting and plumbing per space	Space heaters
DPOLE	Average	30.45	Pole frame, good metal siding, lined, small storefronts	Reception finish and detail, small office or display areas	Adequate lighting and plumbing per space	Forced air
	Low cost	21.10	Pole frame, metal siding, shop door entries	Unfinished, slab, open shop areas only	Minimum lighting and plumbing per space	Space heaters
S	Good	45.90	Steel frame, sandwich panels, good entries and trim	Finished floors, ceilings and display rooms, some extras	Fluorescent lighting, adequate restroom and plumbing	Package A.C.
	Average	31.50	Pre-engineered, steel siding, small storefronts	Reception finish and detail, small office or display areas	Adequate lighting and plumbing per space	Forced air
	Low cost	21.75	Light steel frame, siding, shop door entries	Unfinished, slab, open shop areas only	Minimum lighting and plumbing per space	Space heaters
CDS	Office mezzanine	33.35	In building cost	Enclosed, average industrial office finish, acoustic tile soffit	Average office lighting and plumbing	Included in building cost
	Display mezzanine	23.95	In building cost	Showroom finish, plaster or drywall soffit, vinyl composition	Average loft lighting and plumbing	Included in building cost
	Avg. stor. mezzanine	14.80	In building cost	Heavy plywood or plank on wood or light steel structure, no partitions	Minimum lighting, no plumbing	Included in building cost
	Low stor. mezzanine	11.05	In building cost	Light storage on plywood, minimum supports, no soffit	Minimum lighting	Included in building cost

MEZZANINES: Do not use story height or area/perimeter multipliers with mezzanine costs.

NOTE: Basements are listed on Page CAL 108, under lofts.

INDUSTRIALS – FLEX (MALL) LOFT BUILDINGS

REFINEMENTS: On this page are the means of making major adjustments to the base costs on the previous page. Follow Steps 1 through 5 to attain final costs, adjusted for lump sums, heating and cooling, story height, floor area/perimeter ratio and locality.

1

SPRINKLERS: Apply to sprinklered area.					
Sq. Ft.	LOW	AVG.	GOOD	EXCL.	
5,000	\$2.05	\$2.65	\$3.50	\$4.55	
10,000	1.85	2.35	3.10	4.00	
15,000	1.75	2.25	2.85	3.70	
20,000	1.65	2.15	2.75	3.50	
30,000	1.55	2.00	2.55	3.25	
40,000	1.50	1.90	2.45	3.10	
50,000	1.45	1.85	2.35	2.95	
80,000	1.35	1.70	2.15	2.70	
100,000	1.30	1.65	2.05	2.60	
150,000	1.25	1.55	1.95	2.40	

DOCK HEIGHT FLOORS: Add \$1.50 to \$3.35 per square foot to base cost of first floor.

2

HEATING AND COOLING					
These costs are averages of total installed cost of the entire heating or cooling installation including its prorated share of contractors' overhead and profit and architects' fees. If the heating found in the building being assessed is different from that indicated, take the difference between the costs of the two and add to or subtract from the base square foot cost. For other types or system adjustments, see Segregated costs.					
HEATING ONLY	Sq. Ft. Costs	HEATING & COOLING	Sq. Ft. Costs	COOLING ONLY	Sq. Ft. Costs
Electric cable or baseboard . . .	\$3.15	Package A.C. (short ductwork)	\$ 6.85	Central refrigeration (zoned)	\$5.95
Electric wall heaters	1.35	Warm and cool air (zoned)	9.05	package (short ductwork)	4.05
Forced air furnace	3.45	Hot/chilled water (zoned)	15.10	Central evaporative	2.70
Hot water	6.15	Heat pump system	8.05	Pkg. refriger. . \$1,180 to \$1,540 per ton capacity	
Space heaters, with fan	1.60			Evap. coolers . \$160 to \$270 per MCFM capacity	
radiant	1.90				
Steam (including boiler)	5.50	Small indiv. heat pumps cost \$1,125 to \$1,510		VENTILATION ONLY	
without boiler	4.65	per ton of rated capacity.		Vent. (blowers/ducts)	\$1.05

3

HEIGHT REFINEMENTS			
STORY HEIGHT MULTIPLIERS: Multiply base cost by following multipliers for any variation in average story height.			
Average Wall Height	Square Foot Multiplier	Average Wall Height	Square Foot Multiplier
8	.89	16	1.04
10	.92	18	1.09
12	.96	20	1.13
14	1.00 (base)		

4

Average Floor Area Sq. Ft./Story	AVERAGE PERIMETER														Average Floor Area Sq. Ft./Story
	100	150	200	250	300	400	500	600	700	800	900	1000	1200	1500	
1,000	1.24	1.44	1.64	1.83	---	---	---	---	---	---	---	---	---	---	1,000
2,000	---	1.14	1.24	1.35	1.44	1.64	---	---	---	---	---	---	---	---	2,000
4,000	---	---	1.04	1.09	1.14	1.25	1.35	---	---	---	---	---	---	---	4,000
5,000	---	---	---	1.04	1.07	1.16	1.24	1.32	---	---	---	---	---	---	5,000
8,000	---	---	---	---	.98	1.04	1.09	1.14	1.20	---	---	---	---	---	8,000
10,000	---	---	---	---	.95	.99	1.04	1.07	1.12	1.16	---	---	---	---	10,000
15,000	---	---	---	---	---	.94	.97	.99	1.02	1.05	1.07	1.10	---	---	15,000
20,000	---	---	---	---	---	---	.94	.95	.97	.99	1.01	1.04	1.07	---	20,000
25,000	---	---	---	---	---	---	.91	.93	.95	.97	.98	1.00	1.04	---	25,000
30,000	---	---	---	---	---	---	---	.91	.93	.94	.96	.97	1.00	1.04	30,000
40,000	---	---	---	---	---	---	---	.89	.90	.91	.92	.93	.95	.98	40,000
50,000	---	---	---	---	---	---	---	.87	.88	.89	.90	.91	.92	.95	50,000

5 USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.

INDUSTRIALS – LOFTS



GOOD CLASS C



GOOD CLASS B

OCCUPANCY DESCRIPTION: These are light industrial buildings usually designed for multiple occupancy by relatively small space users. Due to display areas, extra partitioning and plumbing, they are intermediate buildings between industrial and office construction. Ceilings may be acoustical or painted drywall. The higher qualities have a large amount of office and good display areas and floor coverings. The lower qualities are more open with little detail associated with the displays or office space.

INCLUDED IN COSTS: Architects' fees and contractors' overhead and profit. Elevators are included where designated with an asterisk (*).

NOT INCLUDED IN COSTS: Sprinklers, furnishings or special utilities for industrial equipment.

SQUARE FOOT COST TABLE

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT
A-B	Excellent	\$106.10	Good curtain walls, good brick and glass, with ornamentation	Plaster, acoustic ceilings, finished floor, much office space	*Fluorescent lighting, many outlets, good plumbing	Warm and cool air (zoned)
	Good	81.20	Face brick, metal panels, good glass, ornamentation	Drywall or plaster, finished floors, good display rooms and offices	*Good lighting, many outlets, adequate plumbing	Package A.C.
	Average	63.20	Brick, block, concrete panels, low-cost metal and glass	Painted walls and ceilings, few partitions, office and display rooms	*Fluorescent lighting, many outlets, adequate plumbing	Hot water
	Low cost	49.35	Low-cost brick, structural tile, block, concrete panels	Painted walls, large open areas, office and display rooms	*Incandescent or cheap fluorescent, minimum plumbing	Steam
A-B	Storage basement	32.75	Reinforced concrete, unfinished interior	Unfinished storage areas, some partitions	Minimum lighting and plumbing, good drains	Space heaters
	Good storage bsmt.	43.25	Reinforced concrete, semifinished, painted interior	Some partitions, heavy floor, good storage or manufacturing	Adequate display lighting, minimal plumbing	Warm and cool air (zoned)
	Display basement	58.25	Plaster interior	Display finish, acoustic tile, vinyl composition, storage, shop area	Adequate display lighting, minimal plumbing	Warm and cool air (zoned)
	Storage mezzanine	17.20	In building cost	Metal deck and concrete on good steel structure, no partitions	Minimum lighting, no plumbing	Included in building cost
	Display mezzanine	33.70	In building cost	Showroom finish, acoustic tile, vinyl composition	Average loft lighting and plumbing	Included in building cost
C	Good	69.35	Masonry or concrete, some ornamentation, steel frame	Plaster, finished floors, good display rooms and detail	Fluorescent lighting, adequate restrooms and plumbing	Package A.C.
	Average	50.35	Brick, block, concrete, load-bearing walls or frame	Gypsum board, finished floors, display areas	Adequate lighting and plumbing	Package A.C.
	Low cost	33.75	Low-cost brick, concrete block, tilt-up	Minimum finish and detail, small office or display areas	Minimum lighting and plumbing	Forced air
CMILL	Average	63.00	Mill-type frame, heavy brick walls, wood trusses	Painted walls and ceilings, few partitions, office and display areas	*Adequate lighting and plumbing	Steam
D	Average	47.90	Wood studs, stucco, siding, adequate windows	Drywall or plaster, finished floors, office and display areas	Incandescent or cheap fluorescent, adequate plumbing	Package A.C.
	Low cost	31.85	Wood studs and stucco or wood siding, very plain	Minimum finish and detail, small office or display areas	Minimum lighting and plumbing	Forced air
S	Average	45.65	Steel frame, transite or steel siding	Drywall or plaster, slab floors, office and display areas	Adequate lighting and plumbing	Package A.C.
CDS	Storage basement	21.85	Reinforced concrete, unfinished interior	Unfinished storage area, some partitions	Minimum lighting and drains	None
	Display basement	39.20	Plaster or drywall interior	Display finish, acoustic tile, vinyl composition, storage, shop area	Adequate display lighting, minimal plumbing	Forced air
	Storage mezzanine	14.80	In building cost	Heavy plywood or plank on wood or light steel structure, no partitions	Minimum lighting, no plumbing	Included in building cost
	Display mezzanine	23.95	In building cost	Showroom finish, plaster or drywall soffit, vinyl composition	Average loft lighting and plumbing	Included in building cost

MEZZANINES: Do not use story height or area/perimeter multipliers with mezzanine costs.

INDUSTRIALS – LOFTS

REFINEMENTS: On this page are the means of making major adjustments to the base costs on the previous page. Follow Steps 1 through 5 to attain final costs, adjusted for lump sums, heating and cooling, story height, floor area/perimeter ratio and locality.

1

ELEVATORS: Buildings whose base costs include service elevators are marked with an asterisk (*). If the building under consideration has no elevators, deduct the following from the base costs so marked. For detailed costs, see Section UIP 8.		SPRINKLERS: Apply to sprinklered area.				
Classes A/B/C_{MILL}	Sq. Ft. Costs	Sq. Ft.	LOW	AVG.	GOOD	EXCL.
Excellent	\$3.00	5,000	\$2.05	\$2.65	\$3.50	\$4.55
Good	2.55	10,000	1.85	2.35	3.10	4.00
Average	2.15	15,000	1.75	2.25	2.85	3.70
Low cost	1.80	20,000	1.65	2.15	2.75	3.50
		30,000	1.55	2.00	2.55	3.25
		40,000	1.50	1.90	2.45	3.10
		50,000	1.45	1.85	2.35	2.95
		80,000	1.35	1.70	2.15	2.70
		100,000	1.30	1.65	2.05	2.60
		150,000	1.25	1.55	1.95	2.40
ELEVATOR STOPS: For basement or mezzanine elevator stops, add \$4,275 to \$6,475 per stop.		DOCK HEIGHT FLOORS: Add \$1.50 to \$3.35 per square foot to base cost of first floor. For loading docks, see Page CAL 244.				

2

HEATING AND COOLING					
These costs are averages of total installed cost of the entire heating or cooling installation including its prorated share of contractors' overhead and profit and architects' fees. If the heating found in the building being assessed is different from that indicated, take the difference between the costs of the two and add to or subtract from the base square foot cost. For other types or system adjustments, see Segregated costs.					
HEATING ONLY	Sq. Ft. Costs	HEATING & COOLING	Sq. Ft. Costs	COOLING ONLY	Sq. Ft. Costs
Electric cable or baseboard ..	\$3.15	Package A.C. (short ductwork)	\$ 6.85	Central refrigeration (zoned)	\$5.95
Electric wall heaters	1.35	Warm and cool air (zoned)	9.05	package (short ductwork)	4.05
Forced air furnace	3.45	Hot/chilled water (zoned)	15.10	Central evaporative	2.70
Hot water	6.15	Heat pump system	8.05	Pkg. refrig. . . \$1,180 to \$1,540 per ton capacity	
Space heaters, with fan	1.60			Evap. coolers . . \$160 to \$270 per MCFM capacity	
radiant	1.90			VENTILATION ONLY	
Steam (including boiler)	5.50	Small indiv. heat pumps cost \$1,250 to \$1,510		Vent. (blowers/ducts)	\$1.05
without boiler	4.65	per ton of rated capacity.			

3

HEIGHT REFINEMENTS			
MULTISTORY BUILDINGS: Add .5% (1/2%) for each story over three, above ground, to all base costs.			
STORY HEIGHT MULTIPLIERS: Multiply base cost by following multipliers for any variation in average story height.			
Average Wall Height	Square Foot Multiplier	Average Wall Height	Square Foot Multiplier
8	.89	16	1.04
10	.92	18	1.09
12	.96	20	1.13
14	1.00 (base)		

4

Average Floor Area Sq. Ft./Story	AVERAGE PERIMETER														Average Floor Area, Sq. Ft./Story
	100	150	200	250	300	400	500	600	700	800	900	1000	1200	1500	
1,000	1.25	1.45	1.65	1.84	---	---	---	---	---	---	---	---	---	---	1,000
2,000	---	1.15	1.25	1.36	1.45	1.65	---	---	---	---	---	---	---	---	2,000
4,000	---	---	1.05	1.10	1.15	1.25	1.36	---	---	---	---	---	---	---	4,000
5,000	---	---	---	1.05	1.08	1.17	1.25	1.33	---	---	---	---	---	---	5,000
8,000	---	---	---	---	.99	1.05	1.10	1.15	1.20	---	---	---	---	---	8,000
10,000	---	---	---	---	.96	1.00	1.05	1.08	1.13	1.17	---	---	---	---	10,000
15,000	---	---	---	---	---	.95	.98	1.00	1.03	1.06	1.08	---	---	---	15,000
20,000	---	---	---	---	---	---	.95	.96	.98	1.00	1.02	1.05	1.08	---	20,000
25,000	---	---	---	---	---	---	.92	.94	.96	.98	.99	1.01	1.05	---	25,000
30,000	---	---	---	---	---	---	---	.92	.94	.95	.97	.98	1.01	1.05	30,000
40,000	---	---	---	---	---	---	---	.90	.91	.92	.93	.94	.96	.99	40,000
50,000	---	---	---	---	---	---	---	.88	.89	.90	.91	.92	.93	.96	50,000

5 USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.

KENNELS

OCCUPANCY DESCRIPTION: This occupancy is predominantly for the boarding of small animals, and has limited examination and treatment facilities. The better qualities include the large animal control facilities and the high-cost pet hotels and salons.

INCLUDED IN COSTS: Architects' fees and contractors' overhead and profit, cages and enclosed runs.

NOT INCLUDED IN COSTS: Sprinklers, canopies or outdoor runs.

SQUARE FOOT COST TABLE

CLASS	TYPE	COST/ SQ. FT.	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT
C	Excellent	\$153.25	Face brick, stone or concrete, metal and glass, good lobby and trim	Plaster, carpet, glazed and epoxy finishes, indoor exercise facilities	Good electrical and plumbing, best pet hotel and salon	Warm and cool air (zoned)
	Very good	118.15	Face brick, block or concrete, good entrance and trim	Plaster, ceramic, glazed and epoxy finishes, indoor exercise facilities	Good lighting and plumbing, lab, better animal control facility	Warm and cool air (zoned)
	Good	86.40	Face brick, ornamental block, good trim and fenestration	Plaster or drywall, vinyl, good masonry kennels, large animal control type facility	Good lighting and plumbing, good locker, shower and restrooms	Package A.C.
	Average	64.45	Brick, partially finished interior, some trim	Plaster or drywall, some vinyl comp., cages & runs, low-cost animal control type facility	Adequate lighting and plumbing, few extras, small restroom	Forced air
	Low cost	45.85	Block or tilt-up, plain entry	Drywall, small office, grooming, minimum cages and runs	Minimum lighting and plumbing	Wall furnace
	Cheap	32.70	Cheap block	Unfinished, workroom and runs only	Minimum services, good drains	None
D	Excellent	146.35	Good masonry veneer, metal and glass, best siding, EIFS, good lobby	Plaster, carpet, glazed and epoxy finishes, indoor exercise facilities	Good electrical and plumbing, best pet hotel and salon	Warm and cool air (zoned)
	Very good	112.90	Face brick or stone veneer, good entrance and trim	Plaster, ceramic, glazed and epoxy finishes, indoor exercise facilities	Good lighting and plumbing, lab, better animal control facility	Warm and cool air (zoned)
	Good	82.40	Good brick veneer, siding or stucco trim and fenestration	Plaster or drywall, vinyl, good masonry kennels, large animal control type facility	Good lighting and plumbing, good locker, shower, and restrooms	Package A.C.
	Average	61.45	Stucco or siding, brick trim or low-cost brick veneer	Plaster or drywall, some vinyl comp., cages & runs, low-cost animal control type facility	Adequate lighting and plumbing, few extras, small restroom	Forced air
	Low cost	43.55	Stucco or siding, finished interior	Drywall, small office, grooming, minimum cages and runs	Minimum lighting and plumbing	Wall furnace
	Cheap	31.00	Plywood or low-cost boards	Unfinished, workroom and runs only	Minimum services, good drains	None
DPOLE	Average	56.55	Pole frame, metal siding, brick trim, insulated, finished interior, lobby	Drywall, some vinyl comp., cages and runs, low-cost animal control facility	Adequate lighting and plumbing, few extras, small restroom	Forced air
	Low cost	39.25	Pole frame, metal siding, plain entry	Drywall, small office, grooming, minimum cages and runs	Minimum lighting and plumbing	Wall furnace
	Cheap	27.35	Metal on light pole frame	Unfinished, workroom and runs only	Minimum services, good drains	None
S	Good	77.45	Insulated sandwich panels, good trim and fenestration	Plaster or drywall, vinyl, good masonry kennels, large animal control type facility	Good lighting and plumbing, good locker, shower, and restrooms	Package A.C.
	Average	57.15	Insulated sandwich panels or metal with finished interior, lobby	Drywall, vinyl composition, cages and runs, low-cost animal control type type facility	Adequate lighting and plumbing, few extras, small restroom	Forced air
	Low cost	39.95	Metal on light frame, plain entry	Drywall, small office, grooming, minimum cages and runs	Minimum lighting and plumbing	Wall furnace
	Cheap	28.00	Steel siding and frame	Unfinished, workroom and runs only	Minimum services, good drains	None
CDS	Finished basement	38.95	Reinforced concrete or block, slab floor, painted, epoxy walls	Few partitions, some acoustic tile, vinyl comp. tile, average cages included	Adequate lighting and plumbing, work and storage rooms	Space heaters

KENNELS

REFINEMENTS: On this page are the means of making major adjustments to the base costs on the previous page. Follow Steps 1 through 5 to attain final costs, adjusted for lump sums, heating and cooling, story height, floor area/perimeter ratio and locality.

1

KENNEL CAGES AND RUNS: Costs of kennel caging are included in the base kennel building costs, with a typical range of \$250 to \$750 each, and are allocated on gross building area as listed below. For outdoor runs, see Section UIP 16.		SPRINKLERS: Apply to sprinklered area.				
	Sq. Ft.	LOW	AVG.	GOOD	EXCL.	
		1,000	\$2.95	\$3.75	\$4.95	\$6.35
		2,000	2.85	3.65	4.70	6.05
		5,000	2.45	2.15	4.00	5.05
		10,000	2.20	2.80	3.50	4.45
		15,000	2.05	2.60	3.25	4.10
		20,000	2.00	2.50	3.10	3.90
		30,000	1.85	2.30	2.90	3.60
	Sq. Ft.					
	Costs					
Good	\$6.35 – \$ 7.75					
Average	7.80 – 8.95					
Low-cost (Minimum)	9.25 – 10.35					
CANOPIES: Large entrance marquees or carport canopies generally cost 1/5 to 2/5 of the final base cost per square foot of the building, or they may be computed from the Segregated or Unit-in-Place costs.						

2

HEATING AND COOLING					
These costs are averages of total installed cost of the entire heating or cooling installation including its prorated share of contractors' overhead and profit and architects' fees. If the heating found in the building being assessed is different from that indicated, take the difference between the costs of the two and add to or subtract from the base square foot cost. For other types or system adjustments, see Segregated costs.					
	Sq. Ft.		Sq. Ft.		Sq. Ft.
HEATING ONLY	Costs	HEATING & COOLING	Costs	COOLING ONLY	Costs
Electric cable or baseboard ..	\$5.35	Package A.C. (short ductwork)	\$ 8.30	Central refrigeration (zoned)	\$7.15
Electric wall heaters	1.95	Warm and cool air (zoned)	13.80	package (short ductwork)	5.05
Forced air furnace	6.00	Hot/chilled water (zoned)	20.65	Central evaporative	3.10
Hot water	9.35	Heat pump system	11.00	Pkg. refrig. . \$1,380 to \$1,770 per ton capacity	
Space heaters, with fan	1.95			Evap. coolers . \$205 to \$340 per MCFM capacity	
radiant	2.30				
Steam (including boiler)	8.75				
without boiler	7.70	Small indiv. heat pumps cost \$1,190 to \$1,650		VENTILATION ONLY	
Wall or floor furnace	2.10	per ton of rated capacity.		Vent. (blowers/ducts)	\$1.65

3

HEIGHT REFINEMENTS			
STORY HEIGHT MULTIPLIERS: Multiply base cost by following multipliers for any variation in average story height.			
Average Wall Height	Square Foot Multiplier	Average Wall Height	Square Foot Multiplier
8	.90	14	1.05
9	.93	15	1.07
10	.95	16	1.09
11	.98	18	1.14
12	1.00 (base)	20	1.18
13	1.02		

4

	Average Floor Area	AVERAGE PERIMETER														Average Floor Area
	Sq. Ft./Story	125	150	200	250	300	350	400	450	500	600	700	800	1000	1200	Sq. Ft./Story
	1,000	1.17	1.24	1.36	1.50	---	---	---	---	---	---	---	---	---	---	1,000
	2,000	---	1.04	1.11	1.17	1.24	1.30	---	---	---	---	---	---	---	---	2,000
	5,000	---	---	---	.97	1.00	1.03	1.06	1.09	1.11	1.16	---	---	---	---	5,000
	6,000	---	---	---	.95	.97	.99	1.02	1.04	1.06	1.11	---	---	---	---	6,000
	8,000	---	---	---	---	.94	.96	.98	.99	1.01	1.04	1.07	---	---	---	8,000
	10,000	---	---	---	---	.92	.93	.95	.96	.98	1.00	1.03	1.05	---	---	10,000
	12,000	---	---	---	---	---	.92	.93	.94	.95	.98	1.00	1.02	---	---	12,000
	15,000	---	---	---	---	---	---	.91	.92	.93	.95	.97	.98	1.02	---	15,000
	18,000	---	---	---	---	---	---	---	.91	.92	.93	.95	.96	.99	---	18,000
	20,000	---	---	---	---	---	---	---	---	.91	.92	.94	.95	.98	1.00	20,000
	25,000	---	---	---	---	---	---	---	---	.90	.91	.92	.93	.95	.97	25,000
	30,000	---	---	---	---	---	---	---	---	---	.90	.91	.92	.93	.95	30,000

5 USE COUNTY MULTIPLIERS IN MULTIPLIER SECTION.