

**CS Part 8. Handling and Storage of Materials
Compared With
29 C.F.R. 1926 Subpart H – Materials Handling, Storage, Use, and Disposal**

Summary: The significant differences between CS Part 8 Handling and Storage of Materials and 29 C.F.R. 1926 Subpart H – Materials Handling, Storage, Use, and Disposal are in:

- Inspection and handling of materials
- Storage
- Clearances
- Compressed gas
- Disposal of waste materials
- Wire ropes
- Natural and synthetic fiber rope; specifics
- Hooks, shackles, and other accessories
- Chains

The comparisons show only those provisions where MIOSHA rules are different than OSHA or where MIOSHA rules are not included in 29 C.F.R.

****means there is a comparable OSHA rule to this paragraph

MIOSHA	OSHA
<p>R 408.40818 General provisions; storage. Rule 818. (1)****</p> <p>(2) Before material is unloaded from a railcar or vehicle or removed from storage, the load or pile shall be examined to ascertain if the material has shifted, binders or stakes have broken, or the load or pile is otherwise hazardous to an employee. If a hazardous condition is found, an attempt shall not be made to remove the load until corrective measures are taken that will ensure the safety of the employee who is exposed to the hazardous condition.</p> <p>(3)****</p> <p>(4) Except for masonry and mortar, material shall not be stored within 4 feet (1.2 m) of a working edge during overhand bricklaying or related work.</p> <p>(5) Gravel, sand, and crushed stone shall be withdrawn from a pile or barrow area in a manner that prevents overhangs and vertical faces.</p> <p>(6) to (8)****</p> <p>(9) A load line shall not be wrapped around the material being lifted.</p> <p>(10) A material shall not be stored with any other material with which it could react and cause a hazardous</p>	<p>Equivalent</p> <p>1926.250(a) General. No comparable OSHA provisions</p> <p>Equivalent</p> <p>No comparable OSHA provisions</p> <p>Equivalent</p> <p>No comparable OSHA provisions</p>

MIOSHA	OSHA
condition.	
<p>R 408.40818(11) While roofing work is being performed, materials and equipment shall not be stored within 6 feet (1.8 m) of a roof edge, unless guardrails are erected at the roof edge.</p> <p>(12) Materials that are piled, grouped, or stacked near a roof edge shall be stable and self-supporting.</p> <p>(13) to (20)****</p>	<p>No comparable OSHA provisions</p> <p>Equivalent</p>
<p>R 408.40819 Storage of bagged material, brick, and block.</p> <p>Rule 819. (1) The height of a manually stacked pile of bagged material, weighing more than 30 pounds per bag, shall not exceed 5 feet.</p> <p>(2) Bagged material on a pallet shall be all of the following:</p> <ul style="list-style-type: none"> (a) Not more than 36 inches in height. (b) Secured to prevent displacement from the pallet before moving. (c) Stacked not more than 2 pallets high. <p>(2)(d)****</p> <p>(3) A loose brick or tile stack shall be all of the following:</p> <ul style="list-style-type: none"> (a) Tapered back 2 inches in every foot of height above 4 feet. (b) Not exceed 6 feet in height. (c) Cross-keyed at each 2-foot level. <p>(4) A loose block stack shall be all of the following:</p> <ul style="list-style-type: none"> (a) Not exceed 6 feet in height. (b) Cross-keyed at each 3-foot level. <p>(5) Brick on a pallet shall be all of the following:</p> <ul style="list-style-type: none"> (a) Not more than 30 inches in height. (b) Secured to prevent displacement from the pallet before moving. (c) Stacked not more than 2 pallets high. <p>(6) Block on a pallet shall be all of the following:</p> <ul style="list-style-type: none"> (a) Not more than 46 inches in height. (b) Cross-keyed every course or secured to pallet. (c) Stacked not more than 2 pallets high <p>(7) Brick or block in a banded cube shall not be stacked more than 2 cubes high.</p>	<p>Material storage.</p> <p>1926.250(b)(6) Brick stacks shall not be more than 7 feet in height. When a loose brick stack reaches a height of 4 feet, it shall be tapered back 2 inches in every foot of height above the 4-foot level.</p> <p>1926.250(b)(7) When masonry blocks are stacked higher than 6 feet, the stack shall be tapered back one-half block per tier above the 6-foot level.</p> <p>Equivalent</p> <p>No comparable OSHA provisions</p>

MIOSHA	OSHA
<p>R 408.40820 Storage of lumber. Rule 820. (1) ****</p> <p>(2) The width of a pile of lumber shall be no less than 1/2 the height.</p> <p>(3) A pile of lumber manually stacked, and a pile of lumber to be manually unstacked, shall not exceed 6 feet in height.</p> <p>(4) Lumber which is mechanically stacked shall not exceed 10 feet in height. This lumber shall not be rehandled manually, except as prescribed in subrule (3) of this rule.</p> <p>(5) ****</p>	<p>Equivalent</p> <p>Lumber. 1926.250(b)(8)(iv) Lumber piles shall not exceed 20 feet in height provided that lumber to be handled manually shall not be stacked more than 16 feet high.</p> <p>Equivalent</p>
<p>R 408.40821 Storage of material in bins or hoppers. Rule 821. (1) A bin or hopper that has a bottom discharge shall have sloped sides to allow material to flow freely.</p> <p>(2) A hopper shall have a top opening that is 42 inches or less above the ground or working surface and shall be equipped with grillwork over the opening which is capable of supporting any intended load and to prevent employee entry.</p> <p>(3) An employee required to enter or work on stored material in a silo, hopper, bin, tank, or similar storage area shall be provided with a personal fall arrest system as prescribed in Part 45. Fall Protection, being R 408.44501 et seq., and as prescribed in Part 1. General Rules being R 408.40120 Work in hazardous spaces and R 408.40121 Confined or enclosed spaces; testing; neutralizing hazard</p>	<p>No comparable OSHA provision</p>
<p>R 408.40822 Clearances. Rule 822. (1) Material stored near an electrical distribution or transmission line shall maintain the following clearances:</p> <p>(a) Line rated 50 kV or less--10 feet plus length of material stored.</p> <p>(b) Line rated 50 kV or more--10 feet plus 0.4 inch for each 1 kV over 50 kV plus length of material stored or 10 feet plus 4 inches for each 10 kV over 50 kV plus length of material stored.</p> <p>(2) All equipment used to store material near energized electrical lines shall conform to Part 10. Lifting and Digging Equipment, and Part 13. Mobile Equipment.</p> <p>(3) An employee shall be designated to observe the clearance and give timely warning if it is difficult for the operator to maintain the prescribed clearance by visual means.</p> <p>(4) An employee storing or handling material shall not come closer than the prescribed clearances of subrule (1) of this rule.</p>	<p>1926.953 (c) Storage. 1926.953(c)(1) No materials or equipment shall be stored under energized bus, energized lines, or near energized equipment, if it is practical to store them elsewhere.</p> <p>1926.953(c)(2) When materials or equipment are stored under energized lines or near energized equipments, applicable clearances shall be maintained as stated in Table V-1; and extraordinary caution shall be exercised when moving materials near such energized equipment.</p>

MIOSHA	OSHA
<p>R 408.40823 Compressed gas. Rule 823. The handling and storage of all compressed gases, except those used for welding and cutting, shall be as prescribed in the Compressed Gas Association Standard, P-1--2000, Safe Handling of Compressed Gases in Containers, ninth edition, which is adopted by reference in R 408.40810.</p>	<p>No comparable OSHA provision</p>
<p>R 408.40831 Disposal of waste materials. Rule 831. (1) The area onto and through which material is to be dropped shall be completely enclosed with barricades not less than 36 inches or more than 42 inches high and not less than 6 feet back from the opening and area receiving the material. Signs warning of the hazard of falling materials shall be posted on the barricades at each level containing the barricades. Removal of signs shall not be permitted in this lower area until debris handling ceases above.</p> <p>(2) If material is dropped through more than 1 level, the opening shall be enclosed between the upper and lower levels, or an enclosed chute provided, or the intermediate levels barricaded as prescribed in subrule (1) of this rule. If the drop is more than 40 feet inside a building, then only an enclosed opening or chute shall be used. The chute or enclosure shall extend through the ceiling of the receiving level.</p> <p>(3) A material chute shall be constructed to withstand any impact load imposed on it without failure.</p> <p>(4) A material chute, or section of a material chute, at an angle of more than 45 degrees from the horizontal shall be entirely enclosed, except an opening may be provided at or about each floor level for insertion of materials. The opening shall not exceed 48 inches in height measured along the wall of the chute. At all stories below the top floor, the openings shall be kept closed if not in use.</p> <p>(5) A material chute shall fit a floor or wall opening, or the space between the chute and the floor or wall opening shall be covered.</p> <p>(6) If material is dumped from mechanical equipment or a wheelbarrow, then a toeboard or bumper not less than 4 inches thick x 6 inches high nominal size shall be secured to the floor at each material chute opening.</p> <p>(7) A gate capable of withstanding the load imposed on it shall be installed at or near the discharge end of a material chute. A trained employee shall be in charge of opening the gate and loading of trucks.</p> <p>(8) If the drop is more than 20 feet outside the exterior of the building, then a chute as prescribed in subrules (3) to (6) of this rule shall be used, and extend to within 8 feet of the lower level.</p> <p>(9) Material, barricades, and chutes shall not be removed until material handling ceases above.</p> <p>(10) to (12)****</p>	<p>1926.252 Disposal of waste material 1926.252(a) Whenever materials are dropped more than 20 feet to any point lying outside the exterior walls of the building, an enclosed chute of wood, or equivalent material, shall be used. For the purpose of this paragraph, an enclosed chute is a slide, closed in on all sides, through which material is moved from a high place to a lower one.</p> <p>1926.252(b) When debris is dropped through holes in the floor without the use of chutes, the area onto which the material is dropped shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edge of the opening above. Signs warning of the hazard of falling materials shall be posted at each level. Removal shall not be permitted in this lower area until debris handling ceases above.</p> <p>1926.252(e) All solvent waste, oily rags, and flammable liquids shall be kept in fire resistant covered containers until removed from worksite.</p> <p>Equivalent</p>

MIOSHA	OSHA
<p>R 408.40834 Wire ropes.</p> <p>Rule 834. (1) Wire rope shall be taken out of service if any of the following conditions exist:</p> <p>(a) In running ropes, 6 randomly distributed broken wires in 1 lay or 3 broken wires in 1 strand in 1 lay.</p> <p>(b) Wear of 1/3 the original diameter of outside individual wires. Kinking, crushing, bird-caging, or any other damage resulting in distortion of the rope structure, except for deformation caused by normal methods of attachment to drums, hooks, shackles, or other accessories.</p> <p>(c) ****</p> <p>(d) Reductions from nominal diameter of more than 1/64-inch for diameters up to and including 5/16-inch, 1/32-inch for diameters 3/8-inch to and including 1/2-inch, 3/64-inch for diameters 9/16-inch to and including 3/4-inch, 1/16-inch for diameters 7/8-inch to 1-1/8-inches inclusive, 3/32-inch for diameters 1-1/4 to 1-1/2 inches inclusive.</p> <p>(e) In standing ropes, more than 2 broken wires in 1 lay in sections beyond end connections or more than 1 broken wire at an end connection.</p> <p>(f) ****</p> <p>(2) The defective portion of a wire rope and any areas of deformation caused by normal methods of attachment of a wire rope, removed as provided for in subrule (1) of this rule, shall not be used for other load carrying service.</p> <p>(3) to (4)****</p> <p>(5) An eye splice made in any wire rope shall have not less than 4 full tucks.</p> <p>(6) A wire rope eye shall be equipped with a thimble if the eye is placed over or around an object with a sharp corner.</p> <p>(7) to (9)****</p>	<p>1926.251(c) Wire rope.</p> <p>No comparable OSHA provisions</p> <p>Equivalent</p> <p>No comparable OSHA provisions</p> <p>Equivalent</p> <p>No comparable OSHA provisions</p> <p>Equivalent</p> <p>1926.251(c)(4)(i) An eye splice made in any wire rope shall have not less than three full tucks. However, this requirement shall not operate to preclude the use of another form of splice or connection which can be shown to be as efficient and which is not otherwise prohibited.</p> <p>No comparable OSHA provisions</p> <p>Equivalent</p>

MIOSHA	OSHA
<p>R 408.40835 Natural and synthetic fiber rope; specifics.</p> <p>Rule 835. (1) A natural or synthetic fiber rope used for hoisting, lowering, or pulling shall consist of 1 continuous piece without a knot or splice, except an eye splice at the end of the rope.</p> <p>(2) to (4)****</p> <p>(5) A natural or synthetic fiber rope eye shall be equipped with a thimble if the eye is placed over or around an object with a sharp corner.</p> <p>(6) to (8)****</p>	<p>1926.251(d) Natural rope, and synthetic fiber-</p> <p>No comparable OSHA provisions</p> <p>Equivalent</p> <p>No comparable OSHA provisions</p> <p>Equivalent</p>
<p>R 408.40836 Hooks, shackles, and other accessories.</p> <p>Rule 836. (1) ****</p> <p>(2) A hook shall be discarded if either of the following applies:</p> <p>(a) The throat opening is more than 15% greater than the manufactured size.</p> <p>(b) The hook has more than 10 degrees twist from a vertical center line drawn through the hook center.</p> <p>(3) A closed hook shall be used if there is a probability of the load becoming disengaged.</p> <p>(4) Special custom designed grabs, hooks, clamps, and other lifting accessories, for such units as modular panels, prefabricated structures and similar materials, shall be marked to indicate the safe working loads and shall be proof tested to 125% of their rated load.</p> <p>(5) A job or shop hook and link, or a makeshift fastener, formed from a bolt, rod, or other such accessories, shall not be used, unless tested in accordance to subrule (4) of this rule.</p> <p>(6) A shackle and connecting pin, and other accessories, shall be discarded if the diameter is reduced by more than 10%.</p>	<p>Equivalent</p> <p>Shackles and hooks.</p> <p>1926.251(f)(1) Table H-19 shall be used to determine the safe working loads of various sizes of shackles, except that higher safe working loads are permissible when recommended by the manufacturer for specific, identifiable products, provided that a safety factor of not less than 5 is maintained.</p> <p>1926.251(f)(2) The manufacturer's recommendations shall be followed in determining the safe working loads of the various sizes and types of specific and identifiable hooks. All hooks for which no applicable manufacturer's recommendations are available shall be tested to twice the intended safe working load before they are initially put into use. The employer shall maintain a record of the dates and results of such tests.</p> <p>See Table H</p>
<p>R 408.40837 Chains.</p> <p>Rule 837. (1) to (2)****</p> <p>(3) If wear at any point of any chain link is more than that shown in table 2, then the chain shall be repaired or replaced. The repair shall return the chain to its rated capacity.</p> <p>(4) A load-carrying chain shall be repaired only by the manufacturer.</p> <p>MIOSHA Table 2 is the same as OSHA Table H-2</p>	<p>Equivalent</p> <p>Alloy steel chains.</p> <p>1926.251(b)(5) Whenever wear at any point of any chain link exceeds that shown in Table H-2, the assembly shall be removed from service.</p> <p>OSHA Table H-2 is the same as MIOSHA Table 2</p>

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