

**CHAPTER 5207**  
**DEPARTMENT OF LABOR AND INDUSTRY**  
**STANDARDS FOR CONSTRUCTION**

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**OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR CONSTRUCTION; GENERAL**

**5207.0010 ANCHOR BOLTS.**

During the erection phase of any structure, if the size, weight, or balance of any structural member is such that temporary anchoring with two bolts does not provide adequate support to secure it, additional support shall be provided.

**Statutory Authority:** *MS s 182.655*

**History:** *12 SR 634*

**5207.0020 BAR, FLOOR, AND ROOF JOISTS.**

Where bar, floor, or roof joists are set in place overhead, they shall be field bolted or welded.

**Statutory Authority:** *MS s 182.655*

**History:** *12 SR 634*

**5207.0030 DEMOLITION OPERATIONS.**

The cutting or removal of reinforcing steel or cables that are suspending debris, or the removal of columns or studs that support debris, shall not take place in close proximity to any area where employees are working unless the area has been isolated by protection to separate the work area from falling or sliding debris.

**Statutory Authority:** *MS s 182.655*

**History:** *12 SR 634*

**5207.0035 DEMOLITION, RESTORATION, REMODELING ASBESTOS SURVEY.**

Before permitting employees to start any demolition, restoration, or remodeling project where an employer has, or should have, reason to believe there are asbestos containing materials, a survey by a qualified person shall be made to determine if there are asbestos containing materials present in the structure. The project controlling employer shall have written evidence that an evaluation has been performed. If asbestos containing material is to be disturbed, removed, replaced, or repaired, the provisions of Code of Federal Regulations, title 29, section 1926.58, apply.

**Statutory Authority:** *MS s 182.655*

**History:** *12 SR 634*

**5207.0040 SPRAY PAINTING OF BUILDING INTERIORS.**

**Subpart 1. Nonflammable paints.** Where spray painters are applying nonflammable paint on walls, ceilings, or fixtures, at times when employees other than painters are employed in or near such areas, safeguarding measures shall be taken to protect the lives and health of spray painters and others as per code:

A. Respiratory mouth and nose masks and/or fresh air hoods shall be provided for spray painters by employers at no cost to spray painters.

B. Personal respiratory equipment shall meet the requirements of ANSI Z88.2-1969, Practices for Respiratory Protection.

C. Areas being spray painted shall be sealed off from other areas of the building by means of curtains. Employees other than painters shall not be required to work in enclosed areas.

D. Curtains shall have no openings except entry ways, which shall be kept closed during painting.

E. Cross ventilation shall be provided to remove spray paint vapors from the enclosures to the outside air by means of either mechanical exhaust or window ventilation.

F. Provisions shall be made to prevent exhaust vapors from reentering any part of the building.

**Subp. 2. Flammable paints.** In addition to meeting the requirements of subpart 1, where flammable paints are being applied, the following requirements also apply:

A. All motors, lights, switches, and electrical appliances shall be deenergized. Exception: portable vapor proof lights may be used when located 20 feet or more from the painting area.

B. The Air Quality Division of the Minnesota Pollution Control Agency should be consulted for any air pollution control measures required.

**Statutory Authority:** *MS s 182.655*

**History:** *12 SR 634*

**5207.0050 WIRE ROPE CLIPS.**

**Subpart 1. Location of U-bolts.** Wire rope clips attached with U-bolts shall have the U-bolts on the dead or short end of the rope.

**Subp. 2. Clip construction.** Clips shall be made of drop forged steel. All nuts on the clip bolts of a newly installed rope shall be retightened after the first hour of service.

**Subp. 3. Clip spacing.** Spacing and number of clips shall be in accordance with the table below:

Rope Diameter (inches)	Number of Clips Drop Forged	Minimum Spacing (inches)
1/8	2	3/4
3/16	2	1 - 1/8
1/4	2	1 - 1/2
5/16	2	1 - 7/8
3/8	2	2 - 1/4
7/16	2	2 - 5/8
1/2	3	3
5/8	3	3 - 3/4
3/4	4	4 - 1/2
7/8	4	5 - 1/4
1	5	6
1 - 1/8	6	6 - 1/4
1 - 1/4	6	7 - 1/2
1 - 3/8	7	8 - 1/4
1 - 1/2	7	9

**Statutory Authority:** *MS s 182.655*

**History:** *12 SR 634*

**5207.0060 FLAMMABLE LIQUID TANK SUPPORTS.**

Tank supports shall be installed on firm foundations. Tank supports must be of concrete, masonry, or protected steel. Single wood timber supports (not cribbing) may be used for outside aboveground tanks if the fall potential of the tank is not more than 12 inches at the lowest point of the tank.

**Statutory Authority:** *MS s 182.655*

**History:** *12 SR 634*

**PERSONAL PROTECTIVE EQUIPMENT**

**5207.0100 HIGH VISIBILITY PERSONAL PROTECTIVE EQUIPMENT.**

Employees exposed to vehicular traffic when the work area is on the driving lanes or on the shoulders or berms, or on the median adjacent to streets, highways, or roadways shall be provided with and required to wear warning vests or other high visibility garments. For work during the hours of darkness, this protective equipment must be made of or marked with reflectorized material.

Where permanent or semipermanent barricades are installed to protect employees from vehicular traffic, high visibility vests or other high visibility equipment is not required.

**Statutory Authority:** *MS s 182.655*

**History:** *12 SR 634*

**WALKING, WORKING SURFACES**

**5207.0200 SHIPS LADDERS.**

**Subpart 1. Requirement.** Employers shall replace fixed and portable ladders with ships ladders whenever possible.

The angle of rise of ships ladders shall be between 50 and 60 degrees measured from the horizontal.

**Subp. 2. Soffits.** Where ladders are located one above the other, soffits shall be enclosed except where solid treads and risers are provided.

**Subp. 3. Treads.** Treads shall be uniformly spaced eight to 12 inches vertically. Tread surfaces other than steel grating shall be provided with skid resistance. Treads shall be flat steps that are a minimum of six inches wide and at least 24 inches long.

**Subp. 4. Handrails.** Handrails shall be provided on both sides of ladders and shall be placed to run parallel with stringers and be positioned 12 to 14 inches measured vertically, from the stringers. Handrail diameters shall be 1-1/4 to 1-5/8 inches outside diameter. When ships ladders serve door entrances, handrails shall continue to the door.

**Subp. 5. Stringers.** Ladder stringers shall be at least six inches in depth and permanently attached at terminations.

**Statutory Authority:** *MS s 182.655*

**History:** *12 SR 634*

#### **5207.0210 SHIPS LADDERS, SPECIAL REQUIREMENTS.**

Ships ladders shall be provided in all buildings where mechanical equipment is located on the roof in order to make all equipment accessible to maintenance and inspection personnel. Ships ladders shall be placed at an angle between 50 and 60 degrees measured from the horizontal. The opening in ceilings and building roofs shall have a minimum area of nine square feet and a minimum width of two feet. No ships ladders shall be located in or pass through elevator shafts, elevator penthouses, or elevator machine rooms.

Inside a penthouse, handrails shall continue through ceiling and roof openings to a distance of 36 inches. A guardrail and intermediate rail shall be provided on all open sides with a substantial chain guard on the entrance.

**Statutory Authority:** *MS s 182.655*

**History:** *12 SR 634*

#### **5207.0250 WALKING, WORKING SURFACES.**

**Subpart 1. Labeling floor or wall opening covers.** In those instances where floor or wall opening covers are used, they shall be labeled, "Floor Opening — Do Not Remove," or "Wall Opening — Do Not Remove" as applicable with lettering at least two inches in height.

**Subp. 2. Displacement.** Floor or wall opening covers shall be secured against accidental displacement.

**Subp. 3. Tripping and impaling hazards.** Where employees are exposed to tripping or impaling hazards caused by projecting conduit ends, reinforcing rods, pipe ends, or similar objects, these hazards shall be barricaded, guarded, or otherwise covered.

**Subp. 4. Construction stairways.** In addition to the requirements of Code of Federal Regulations, title 29, section 1926.501, semifinished permanent stairways or temporary stairways to a second floor are to be in place before supports or structure to the sixth floor are raised. Similarly, the supports or structure on multi floored buildings shall never be more than five floors ahead of stairways.

A. On steel frame buildings, stairways shall extend to the uppermost floor that has been planked or decked. Ladders for access purposes may be used only above that point.

B. A second means of egress remote from the prime means of egress shall be provided, for emergency use, when any multi floored structure reaches the 30-foot level or the fourth floor.

C. Ladders which meet the requirements of Code of Federal Regulations, title 29, section 1926.450 may be used as a second means of egress.

**Subp. 5. Roofs.** Employees on flat roofs, other than those actually engaged in roofing operations (roofers), shall be protected from potential fall hazards as required by Code of Federal Regulations, title 29, section 1926.500(d)(1), or equivalent protection such as warning lines or tying off to a substantial building structure using an approved safety belt and lanyard.

**Statutory Authority:** *MS s 182 655*

**History:** *12 SR 634*

**5207.0260 SUSPENSION SCAFFOLDS.**

Subpart 1. **Multi stage suspension scaffolds.** Multi stage suspension scaffolds shall meet the requirements of Code of Federal Regulations, title 29, section 1926.451(i) with the exception of section 1926.451(i)(8).

In addition, the following requirements shall be met:

A. All multi stage suspension scaffolds shall be equipped with at least one additional emergency support cable and automatic locking device at each end of the platform capable of supporting the work platform in the event one or both of the main suspension cables should fail.

B. The two additional emergency support cables required in item A, shall provide the required strength for a safety factor of six times the platform's intended load, including support for scaffold platforms, materials, tools, and employees working on the scaffold.

C. Employees shall tie off with a lanyard to the scaffold system in lieu of a lifeline to the building. The section of scaffold system or cable used by employees for attachment of lanyard, when tying off to the scaffold in lieu of a lifeline as required above, shall be capable of supporting at least six times the intended load.

Subp. 2. **Suspension scaffolds.** The scaffold suspension lines shall be secured to the scaffold and to the roof irons, hooks, or outriggers by bolt type devices or cable eyes and cable clamps. Hooks or safety hooks are not permitted as a means of rigging.

Subp. 3. **Outrigger beams or thrustout.** When a suspension scaffold is supported by outrigger beams or thrustouts, each outrigger beam or thrustout must meet the following requirements:

A. Each outrigger beam or thrustout shall be of a size and design to support four times the intended load.

B. The inner end of the outrigger beam must be secured from overturning or tilting laterally.

C. Tiebacks that meet the requirements of Code of Federal Regulations, title 29, section 1926.451(i)(4), shall be securely fastened to the outrigger beam.

D. Counterweights, when used, shall be sufficient to balance four times the intended load, shall be securely fastened to the outrigger beam, marked to indicate their weight, and of a rigid nonflowable material.

Subp. 4. **Lifelines on single point suspension scaffolds.** A lifeline that meets the requirements of Code of Federal Regulations, title 29, section 1926.104(b), shall be installed for single point suspension scaffolds. Employees working on the scaffold shall be provided with a safety belt and lanyard that meet the requirements of Code of Federal Regulations, title 29, section 1926.104, and shall be required to tie off to the lifeline.

Subp. 5. **Broken wire safeties.** When two point scaffolds are equipped with broken wire safeties, the employees may tie off to a substantial member of the scaffold itself. A "substantial member" is a member capable of withstanding the anticipated load. Guardrails are not considered substantial members. The maximum potential fall before the lanyard becomes taut shall be six feet.

**Statutory Authority:** *MS s 182.655*

**History:** *12 SR 634*

**5207.0300 CONFINED SPACES.**

Subpart 1. **Scope.** This subpart prescribes minimum safeguards for preventing employee exposure to dangerous air contamination or oxygen deficiency within such spaces as silos, tanks, vats, vessels, boilers, compartments, ducts, sewers, pipelines, vaults, bins, tubs, pits, and other similar spaces. This subpart does not apply to underwater operations conducted in diving bells or other underwater devices or to supervised hyperbaric facilities.