CS Part 12. Scaffolds and Scaffold Platforms
Compared With
29 C.F.R. 1926 Subpart L – Scaffolds

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.

R 408.41210 Construction and capacity generally. **Rule 1210.** (3) A specially designed scaffold that utilizes methods of bracing other than cross bracing is acceptable if the scaffold and its components comply with the requirements of this rule. (8) All load-carrying wood members of scaffold framing shall be a minimum of 1,500 psi fiber stress value. (9) All scaffold dimensions are nominal sizes as provided in the American lumber standards, which are adopted by reference in these rules and are available from the West Coast Inspection Bureau, 6990 S.W. Virne Road, P.O. Box 23145, Portland, Oregon 97223, or from the Michigan Department of Consumer and Industry Services, MIOSHA Standards Division, P.O. Box 30643, Lansing, Michigan 48909, at a cost of $9.50. However, where rough sizes are noted, only rough or undressed lumber of the size specified will satisfy the minimum requirement of that standard.	**1926.451 General requirements.** **(a) Capacity. (1)** Except as provided in paragraphs (a)(2), (a)(3), (a)(4), (a)(5) and (g) of this section, each scaffold and scaffold component shall be capable of supporting, without failure, its own weight and at least 4 times the maximum intended load applied or transmitted to it.
R 408.41211 Access to scaffold platforms. **Rule 1211**. (2) The intermediate horizontal members of the frame of a manufactured tubular welded frame scaffold may be used instead of a ladder or stairway for access to, and egress from, the work platform, if all of the following conditions are met: (a) All the frames and component parts are compatible in design. (b) The intermediate horizontal members of a frame are a minimum of 111/2 inches in length. (c) The horizontal members of each frame shall be uniformly spaced and shall not be more than 18 inches center to center vertically. (d) When frames are connected vertically to one another, the distance between the bottom horizontal member of the upper end frame and the top horizontal member of the lower end frame shall be within 3 inches of the uniform spacing of the horizontal members of each frame. (e) The elevation to the lowest horizontal member of the bottom frame shall not be more than 24 inches from the ground or floor. (f) Each horizontal member shall be capable of supporting 300 pounds applied at its midpoint without bending or cracking. (g) Each horizontal member shall be inspected for, and found free of, cracks, bends, or bad welds. Cracks, bends, or bad welds shall be corrected. (h) Only 1 employee at a time shall use a horizontal member of a frame as access to, or egress from, the workstation. (i) Cross braces shall not be used as a means of access.	**No comparable OSHA provision**

(3) The guardrail system located on the side where horizontal members of the scaffold frame are used for access to, or egress from, a work platform shall be constructed as follows: (a) The intermediate rail shall be omitted between the corner posts at the access location. (b) The top rail shall be continuous between posts. A scaffold and its components shall be capable of supporting, without failure, not less than 4 times the maximum intended load. (4) The overhang of a work platform shall not interfere with an employee accessing or leaving a work platform. (5) If horizontal members of scaffold frames are used as access to, or egress from, a work platform which is more than 35 feet above ground or floor level, a ladder safety device shall be installed and used or the horizontal members shall be offset with landing platforms and guardrails that are installed at not more than 30-foot intervals.	
R 408.41212 Accumulation of tools, material, or debris prohibited; weather conditions; slippery conditions; electrical hazards; rope protection; fall protection. **Rule 1212**. (1) Excess tools, materials, and debris shall not be permitted to accumulate on a scaffold to create a hazard. (7) Welding, burning, riveting, or open flame work shall not be performed within 10 feet of fiber or synthetic rope that is used to suspend a scaffold, unless the rope is protected from sparks, flame, or hot metal. (9) If personal fall arrest systems are required by these rules for the protection of employees, then the arrest system equipment shall be as prescribed in R 408.44501 et seq.	**No comparable OSHA provision except:** **1926.451(f)(13)** Debris shall not be allowed to accumulate on platforms.
R 408.41213 Guardrails; fall arrest devices. **Rule 1213**. (3) A personal fall arrest device as prescribed in R 408.44501 shall be worn and attached to a substantial portion of a scaffold when the work platform of an adjustable suspension scaffold that has overhead protection is 10 (3.1 meters) or more feet above the floor, water, or ground. Separate safety lines shall be attached to a substantial portion of the structure above and to the scaffold by an approved fall prevention device in a manner to prevent the scaffold from falling more than 12 inches if the scaffold suspension system fails. (4) A top rail or an intermediate rail may be eliminated if the configuration of the scaffold and the material deck provides equivalent protection against an employee falling from the platform or if a personal fall arrest device is worn. (5) A cross brace may be used as part of the guardrail system as follows: (a) If the pivot point occurs from 36 inches to 48 inches above the platform, then a midrail shall be added midway between the platform and the brace pivot point. (b) If the pivot point occurs from 18 inches above the platform, then a top rail shall be added. (c) If the pivot point occurs less than 18 inches or more than 48 inches above the platform, then both a top	**No comparable OSHA provision except:** **1926.451(g) Fall protection.** **(4)(xv)** Crossbracing is acceptable in place of a midrail when the crossing point of two braces is between 20 inches (0.5 m) and 30 inches (0.8 m) above the work platform or as a toprail when the crossing point of two braces is between 38 inches (0.97 m) and 48 inches (1.3 m) above the work platform. The end points at each upright shall be no more than 48 inches (1.3 m) apart.

rail and midrail shall be provided.	
R 408.41215 Powered hoisting machines. **Rule 1215**. (3) Operating controls shall be of a deadman type. (4) When a hydraulic or pneumatic system of a powered hoisting machine is bled, the platform supported by this system shall be in the lowered position or blocked in such a manner that the safety of the employee is assured. (5) A leak in a hydraulic or pneumatic system shall be repaired before the unit is used. (6) A reverse check valve or equivalent means shall be installed in the hydraulic cylinder to prevent uncontrolled fall of the work platform in case of system failure.	**No comparable OSHA provision**
R 408.41216 Manually powered hoisting machines. **Rule 1216**. (2) A manually powered machine shall be designed to prevent free-spooling of the cable drum.	**No comparable OSHA provision**
R 408.41217 Planking and scaffold platforms generally. **Rule 1217**. (1) If wood planks are used for a work platform, then the planks shall be scaffold-grade lumber that has a minimum of 1,500 pounds per square inch fiber stress value. The planks shall be not less than 2 inches by 10 inches. The platform shall consist of a minimum of 2 planks laid side by side. Each platform on all working levels of scaffolds shall be fully planked or decked between uprights where practicable. Spaces between the platform and the uprights shall not be more than 91/2 inches. The maximum permissible spans for 2-by 10-inch or wider planks are as follows: See Table	**No comparable OSHA provision except:**
(2) Laminated planks shall meet or exceed the load requirement of regular planking. (3) A manufactured work platform shall be tested and listed by an approved nationally recognized testing laboratory. (4) Wood scaffold planks, laminated planks, manufactured work platforms, and picks that are found to be defective shall be removed from service and shall not be used. (5) A manufactured pick shall be permanently marked or tagged to indicate the maximum working load and shall not be less than 14 inches wide when used in single width, except that a ladder jack scaffold may be used with a minimum 12-inch manufactured pick. (6) Platform planks shall be laid with their edges together so the platform is tight and does not have spaces through which tools or fragments of materials can fall.	
(7) Planking shall be in compliance with all of the following provisions: (a) Extend over the end bearer not less than 6 inches, but not more than 12 inches. (b) Be cleated or otherwise fastened to prevent shifting and be uniform in thickness, except where lapped as prescribed in subrule (10) of this rule. (c) Where 16-foot planks are used as prescribed in	**1926.451 (b)(4)** Each end of a platform, unless cleated or otherwise restrained by hooks or equivalent means, shall extend over the centerline of its support at least 6 inches (15 cm).

subrule (9) of this rule, tie downs are not required unless wind uplift may occur. (8) Hook-on-type manufactured work platforms may be used if they are secured to the bearer. Where planks are lapped, each plank shall lap its bearer not less than 6 inches, which will provide a minimum overlap of 12 inches. (12) When a scaffold is occupied by an employee, a slippery condition that occurs on the scaffold platform shall be eliminated as soon as possible after the condition occurs. (13) A platform shall not deflect more than 1/60 of the span when loaded.	
FLOOR AND GROUND SUPPORTED SCAFFOLDS **R 408.41221 Stilts.** **Rule 1221**. (1) A stilt shall be constructed in accordance with all of the following provisions: (a) It shall be able to support 4 times the intended load. (b) It shall have a bottom base plate which is not less than 3 1/2 inches by 5 1/2 inches and which is equipped with rubber pads. (c) It shall be not more than 20 inches in height from the bottom of the base plate to the foot support. (d) It shall be made of metal and remain unpainted. (e) It shall be made by a manufacturer of stilts. (2) A stilt shall be inspected for damage, wear, and corrosion. A defective stilt, including the pins and straps, shall be repaired or replaced before being placed in use. (3) A stilt shall be kept clean and free of accumulations of paint, plaster, and other debris. (4) Stilts shall be used only if all of the following conditions exist: (d) The floor is capable of supporting a load on the stilt's base plate without deformation of more than 1/4 of an inch. (5) An employee who is wearing stilts shall not support, lift, or hold a weight of more than 20 pounds. (6) Stilts shall not be used while going from one level to another. (7) An employee may wear stilts on a scaffold only if it is a large area scaffold**.**	**No comparable OSHA provision except:** **1926.452(y)** **"Stilts."** Stilts, when used, shall be used in accordance with the following requirements: 1926.452(y)(1) An employee may wear stilts on a scaffold only if it is a large area scaffold. 1926.452(y)(4) Stilts shall be properly maintained. Any alteration of the original equipment shall be approved by the manufacturer.
R 408.41222 Wood pole scaffolds. **Rule 1222**. (1) Where a pole of a wood pole scaffold is spliced, the ends shall be squared and the upper section shall rest squarely on the lower section. Wood splice plates shall be fastened on not less than 2 adjacent sides, shall be not less than 4 feet in length, shall overlap the abutted ends equally, shall have the same width and same total cross-sectional area of the pole, and shall be capable of preventing displacement of the abutted ends. Splice plates of other materials of equivalent strength may be used. (2) A single pole scaffold shall be securely guyed or tied to the building or structure. Where the height or length exceeds 25 feet, a pole scaffold shall be secured at intervals not greater than 25 feet vertically and horizontally. (4) The inner end of a bearer for a single pole scaffold shall be supported in accordance with 1 of the following:	**"Pole scaffolds."** **1926.452(a)(1)** 1926.452(a)(9) Where wooden poles are spliced, the ends shall be squared and the upper section shall rest squarely on the lower section. Wood splice plates shall be provided on at least two adjacent sides, and shall extend at least 2 feet (0.6 m) on either side of the splice, overlap the abutted ends equally, and have at least the same cross-sectional areas as the pole. Splice plates of other materials of equivalent strength may be used. 1926.452(a)(3) Diagonal bracing in both directions shall be installed across the entire inside face of double-pole scaffolds used to support loads equivalent to a uniformly distributed load of 50 pounds (222 kg) or more per

(a) Rest in a wall of a building with not less than a 40 inch bearing. Notching of the bearer is not permitted. (b) Rest on a 12- by 2- by 6- inch wood block. The block shall be notched at the center to the width of the bearer and 2 inches deep. The bearer shall be nailed to both the block and the building. (c) At a wall opening by a plank capable of supporting the loaded bearer and fastened to the building. The bearer shall be braced against displacement. (5) A ledger shall be long enough to extend over 2 pole spaces. The ledger shall not be spliced between the poles. The ledger shall be reinforced by bearing blocks securely nailed to the side of the pole to form a support for the ledger.	square foot (929 square cm). 1926.452(a)(5) Runners and bearers shall be installed on edge. 1926.452(a)(7) Runners shall extend over a minimum of two poles, and shall be supported by bearing blocks securely attached to the poles. 1926.452(a)(8) Braces, bearers, and runners shall not be spliced between poles.
(6) Diagonal bracing shall be provided to prevent the poles of a single pole scaffold from moving in a direction parallel with the wall of the building or from buckling.	1926.452(a)(4) Diagonal bracing in both directions shall be installed across the entire outside face of all double- and single-pole scaffolds.
(7) Bracing shall be provided between the inner and outer sets of poles in independent pole scaffolds. The free ends of pole scaffolds shall be cross braced. (8) Full diagonal face bracing, in both directions, shall be erected across both faces of pole scaffold. The braces shall be spliced at the poles. (9) A wood pole scaffold shall not exceed 40 feet in height and shall be constructed and erected in accordance with table 2. (10) Where the ends of planks abut each other to form a flush floor, the butt joint shall be at the centerline of a pole. The abutted ends shall rest on separate bearers. (11) Table 2 reads as follows: See Table 2	1926.452(a)(2) Crossbracing shall be installed between the inner and outer sets of poles on double pole scaffolds. 1926.452(a)(10) Pole scaffolds over 60 feet in height shall be designed by a registered professional engineer, and shall be constructed and loaded in accordance with that design. Non-mandatory Appendix A to this subpart contains examples of criteria that will enable an employer to comply with design and loading requirements for pole scaffolds under 60 feet in height.
R 408.41223 Tube and coupler scaffolds. **Rule 1223**. (1) A tube and coupler scaffold shall have all posts, bearers, runners, and bracing of not less than a nominal 2-inch (1.90 inches outside dimension) steel tubing or equivalent. (2) The material used for couplers shall be of a structural type, such as a drop-forged steel, malleable iron, or structural grade aluminum. Dissimilar metals shall not be used. (3) The posts of a tube and coupler scaffold shall not be spaced more than 6 feet apart in width and not more than 10 feet along the length for a light-duty rated scaffold, 8 feet along the length for a medium-duty rated scaffold, and 6 feet along the length for a heavy-duty rated scaffold. (4) Drawings and specifications for a tube and coupler scaffold over 125 feet in height above the base plate shall be designed by a qualified engineer who is knowledgeable in scaffolding. Drawings and specifications shall be readily available at the jobsite. A scaffold that is less than 125 feet in height shall conform to the requirements of table 3. (5) Runners shall be erected along the length of the scaffold and located on both the inside and the outside posts at even heights. When tube and coupler guardrails and midrails are used on outside posts, they may be used in place of outside runners. Runners shall be	**1926.452(b)** **"Tube and coupler scaffolds."** 1926.452(b)(1) When platforms are being moved to the next level, the existing platform shall be left undisturbed until the new bearers have been set in place and braced prior to receiving the new platforms. 1926.452(b)(2) Transverse bracing forming an "X" across the width of the scaffold shall be installed at the scaffold ends and at least at every third set of posts horizontally (measured from only one end) and every fourth runner vertically. Bracing shall extend diagonally from the inner or outer posts or runners upward to the next outer or inner posts or runners. Building ties shall be installed at the bearer levels between the transverse bracing and shall conform to the requirements of 1926.451(c)(1). 1926.452(b)(3) On straight run scaffolds, longitudinal bracing across the inner and outer rows of posts shall be installed diagonally in both directions, and shall extend from the base of the end posts upward to the top of the scaffold at approximately a 45 degree angle. On scaffolds whose length is greater than their height, such bracing shall be repeated beginning at least at every fifth post. On scaffolds whose length is less than their height, such bracing shall be installed from the base of the end posts upward to the opposite end posts, and then in alternating directions until reaching the top of the

interlocked to form a continuous length and coupled to each post. The bottom runner shall be located as close to the base as possible. The runners shall be placed not more than 6 feet 6 inches on centers. (6) A bearer shall be installed transversely between posts and shall be securely coupled either to a post bearing on a runner coupler or directly to a runner and shall be kept as close to the post as possible. (7) A bearer shall be not less than 4 inches, but not more than 12 inches, longer than the post spacing or runner spacing. A bearer may be cantilevered for use as brackets to carry 2 2-inch by 10-inch planks. The bearer for a cantilevered section shall be not more than 24 inches and the section shall be limited to 25 pounds per square foot. (8) Cross bracing shall be installed across the width of the scaffold at both ends and at least every third set of posts horizontally and every fourth runner vertically. The bracing shall extend diagonally from the inner and outer runners upward to the next outer and inner runners. (9) Longitudinal diagonal bracing on the outer rows of poles shall be installed at a 45-degree angle from near the base of the first outer post upward to the extreme top of the scaffold. Where the longitudinal length of the scaffold permits, the bracing shall be duplicated beginning at every fifth post. In a similar manner, longitudinal diagonal bracing shall also be installed from the last post extending back and upward toward the first post. Where conditions preclude the attachment of this bracing to the posts, it may be attached to the runners. (10 Guys, ties, and braces shall be installed according to the scaffold manufacturer's recommendations or at the closest horizontal member to the 4 to 1 ratio height and be repeated vertically at locations of horizontal members every 20 feet (6.1 meters) or less hereafter for a scaffold 3 feet (0.91 meters) wide or less and every 26 feet (7.9 meters) or less thereafter for a scaffold more than 3 feet (0.9 meters) wide. The top guy, tie, or brace of a completed scaffold shall be placed no further than a 4 to 1 ratio from the top. The top guys, ties, and braces shall be installed at each end of the scaffold and at horizontal intervals of not more than 30 feet (9.1 meters), measured from 1 end, not both, towards the other end. Outriggers, when used, may be considered a part of the base dimension. The outriggers shall be installed on both sides of the scaffold at each frame line. (11) Table 3 reads as follows: See Table 3	scaffold. Bracing shall be installed as close as possible to the intersection of the bearer and post or runner and post. 1926.452(b)(4) Where conditions preclude the attachment of bracing to posts, bracing shall be attached to the runners as close to the post as possible. 1926.452(b)(5) Bearers shall be installed transversely between posts, and when coupled to the posts, shall have the inboard coupler bear directly on the runner coupler. When the bearers are coupled to the runners, the couplers shall be as close to the posts as possible. 1926.452(b)(6) Bearers shall extend beyond the posts and runners, and shall provide full contact with the coupler. 1926.452(b)(7) Runners shall be installed along the length of the scaffold, located on both the inside and outside posts at level heights (when tube and coupler guardrails and midrails are used on outside posts, they may be used in lieu of outside runners). 1926.452(b)(8) Runners shall be interlocked on straight runs to form continuous lengths, and shall be coupled to each post. The bottom runners and bearers shall be located as close to the base as possible. 1926.452(b)(9) Couplers shall be of a structural metal, such as drop-forged steel, malleable iron, or structural grade aluminum. The use of gray cast iron is prohibited. 1926.452(b)(10) Tube and coupler scaffolds over 125 feet in height shall be designed by a registered professional engineer, and shall be constructed and loaded in accordance with such design. Non-mandatory Appendix A to this subpart contains examples of criteria that will enable an employer to comply with design and loading requirements for tube and coupler scaffolds under 125 feet in height.
R 408.41224 Tubular welded frame scaffolds (fabricated frame scaffold). **Rule 1224**. (1) The spacing of frames of a tubular welded frame scaffold shall be consistent with the provisions of R 408.41223(3). (5) A guy, tie, and brace shall be installed according to the scaffold manufacturer's recommendations or at the closest horizontal member to the 4 to 1 ratio height and be repeated vertically at locations of horizontal members every 20 feet (6.1 meters) or less thereafter for a scaffold 3 feet (0.91 meters) wide or less and every 26 feet (7.9 meters) or less thereafter for a scaffold more than 3 feet	**No comparable OSHA provisions are found in:** **1926.452(c) "Fabricated frame scaffolds" (tubular welded frame scaffolds).**

(0.91 meters) wide. The top guy, tie, or brace of a completed scaffold shall be placed no further than a 4 to 1 ratio height from the top. A guy, tie, and brace shall be installed at each end of the scaffold and at horizontal intervals of not more than 30 feet (9.1 meters) measured from one end, not both, towards the other. Outriggers, when used, may be considered as part of the base dimension when installed on each corner of the long side at intervals of not more than 20 feet.	
R 408.41225 Horse scaffolds. **Rule 1225**. (1) The horse for a horse scaffold shall be built of straight grained lumber or material of equivalent strength and braced to resist side thrusts. (2) A horse shall not be more than 4 feet in height and length. (3) Nailing of extension pieces is prohibited. (4) Horses shall not be tiered.	**1926.452(f)** **"Horse scaffolds."** 1926.452(f)(1) Scaffolds shall not be constructed or arranged more than two tiers or 10 feet (3.0 m) in height, whichever is less. 1926.452(f)(2) When horses are arranged in tiers, each horse shall be placed directly over the horse in the tier below. 1926.452(f)(3) When horses are arranged in tiers, the legs of each horse shall be nailed down or otherwise secured to prevent displacement. 1926.452(f)(4) When horses are arranged in tiers, each tier shall be crossbraced.
R 408.41226. Bricklayer's square scaffold. **Rule 1226.** (1) The squares of a bricklayer's square scaffold shall not be more than 5 feet wide by 5 feet high and set not more than 5 feet apart. The bearers and legs shall be made of 2- by 6- inch material, the corner braces of 1- by 6- inch material, and the diagonal braces of 1- by 8- inch material on both sides running from center to center of each member. (2) Additional 1- by 8- inch bracing shall extend from the bottom of each square to the top of the next square on the front and rear of the scaffold. (3) Each platform plank shall be supported by not less than 3 squares. (4) A bricklayer's square scaffold shall not be tiered.	**1926.452(e)** **"Bricklayers' square scaffolds (squares)."** 1926.452(e)(1) Scaffolds made of wood shall be reinforced with gussets on both sides of each corner. 1926.452(e)(2) Diagonal braces shall be installed on all sides of each square. 1926.452(e)(3) Diagonal braces shall be installed between squares on the rear and front sides of the scaffold, and shall extend from the bottom of each square to the top of the next square. 1926.452(e)(4) Scaffolds shall not exceed three tiers in height, and shall be so constructed and arranged that one square rests directly above the other. The upper tiers shall stand on a continuous row of planks laid across the next lower tier, and shall be nailed down or otherwise secured to prevent displacement**.**
R 408.41227 Pump jack scaffolds. **Rule 1227**. (2) The platform bracket shall be fully decked. (3) Poles that are used for a pump jack shall not be spaced more than 10 feet center to center when wood scaffold planks are used for a platform. The spacing may be more than 10 feet center to center if a manufactured platform meets the requirements of this part. (4) A pole shall be in compliance with all of the following provisions: (a) Not be more than 30 feet in height. (b) Be secured to the structure by rigid triangular bracing, or equivalent, at the bottom, top, and other points as necessary to provide a maximum vertical spacing of not more than 10 feet between braces. Each brace shall be capable of supporting not less than 225	**1926.452(j)** **"Pump jack scaffolds."** 1926.452(j)(2) Poles shall be secured to the structure by rigid triangular bracing or equivalent at the bottom, top, and other points as necessary. When the pump jack has to pass bracing already installed, an additional brace shall be installed approximately 4 feet (1.2 m) above the brace to be passed, and shall be left in place until the pump jack has been moved and the original brace reinstalled. 1926.452(j)(3) When guardrails are used for fall protection, a workbench may be used as the toprail only if it meets all the requirements in paragraphs (g)(4)(ii), (vii), (viii), and (xiii) of 1926.451. 1926.452(j)(4) Work benches shall not be used as scaffold platforms. 1926.452(j)(6) When wood poles are constructed of two

pounds tension or compression. (c) Be made of 2, 2 by 4s of Douglas fir, or the equivalent, or 2 continuous lengths made of 2 by 4s spiked together, with the seam parallel to the bracket, with 10D common nails at not more than 12 inches center to center, staggered uniformly from opposite outside edges. Each 2 by 4 may be spliced to make up a pole if the splice is constructed to develop the full strength of the member. (5) Where the bracket must pass bracing already installed, an extra brace shall be used approximately 4 feet above the one to be passed until the original brace is reinstalled. (6) Occupancy of a pump-jack scaffold shall be limited to 2 employees between any 2 adjacent supports.	continuous lengths, they shall be joined together with the seam parallel to the bracket. 1926.452(j)(7) When two by fours are spliced to make a pole, mending plates shall be installed at all splices to develop the full strength of the member.
R 408.41228 Steel tower scaffolds. **Rule 1228**. (1) A steel tower scaffold shall be designed and erected according to the specifications of a qualified engineer who is knowledgeable in the subject. (2) The erected scaffold shall meet the general provisions of this part.	**No comparable OSHA provision**
SUSPENDED SCAFFOLDS	
R 408.41231 Adjustable multipoint suspension scaffolds. **Rule 1231**. (1) An adjustable multipoint suspension scaffold shall be capable of sustaining a working load of 50 pounds per square foot and shall not be loaded to more than 50 pounds per square foot. (2) An outrigger beam that is used for an adjustable multipoint suspension scaffold shall meet all of the following criteria: (a) Be made of metal that is equivalent in strength to a standard 7-inch, 15.3-pound steel beam. (b) Be not less than 15 feet in length. (c) Project not more than 6 feet 6 inches beyond the bearing point. (d) Be spaced not more than 7 feet on center. (3) The scaffold outrigger beam shall be securely fastened or anchored to the frame or floor system of the building or structure. (4) Only wire rope shall be used for suspending an adjustable multipoint suspension scaffold. (5) The steel shackles or clevises with which the wire ropes are attached to the outrigger beams shall be placed directly over the hoisting drums. (6) The outrigger beam shall rest on a wood bearing block that is capable of supporting the load without deformation.	**1926.452(q)** **"Multi-point adjustable suspension scaffolds, stonesetters' multi-point adjustable suspension scaffolds, and masons' multi-point adjustable suspension scaffolds."** **1926.452**(q)(1) When two or more scaffolds are used they shall not be bridged one to another unless they are designed to be bridged, the bridge connections are articulated, and the hoists are properly sized. 1926.452(q)(2) If bridges are not used, passage may be made from one platform to another only when the platforms are at the same height and are abutting. 1926.452(q)(3) Scaffolds shall be suspended from metal outriggers, brackets, wire rope slings, hooks, or means that meet equivalent criteria (e.g., strength, durability).
R 408.41232. Multipoint suspended scaffold. **Rule 1232**. (1) A multipoint suspended scaffold shall be suspended from structural components that are capable of supporting 4 times the maximum intended load. (2) A multipoint suspended scaffold shall be light- or medium- duty scaffold only. (3) If wire rope is used for the suspension of a multipoint suspended scaffold, a minimum of 2 wraps around the supporting structural members and around put logs shall be used and secured with the proper number of wire	**No comparable OSHA provision**

rope clips or fist grips as prescribed in table 5 of R 408.41261(11). (4) Softeners shall be used to prevent damage to wire rope that is used for suspension.	
R 408.41233 Two-point adjustable suspension scaffolds (swing stage scaffold). **Rule 1233**. (1) A swing stage scaffold platform shall not be less than 20 inches nor more than 36 inches wide overall. The platform shall be securely fastened to the stirrups by U-bolts or by other equivalent means. (2) At the beginning of each new installation, after a swing stage scaffold is completely suspended, the scaffold shall be tested by being set about 1 foot above the lowest elevation and loaded with 2 times the anticipated working load. (3) The stirrups shall be designed with a support for a guardrail, intermediate rails, and toeboard. (4) Rope and blocks that are used to support a 2- point adjustable scaffold shall have all of the following: (a) Supporting ropes of 3/4-inch, first-quality manila rope or a synthetic rope of equivalent strength used with at least one 6-inch single and one 6- inch double block. (b) Blocks that have sheaves which fit the size of the rope the blocks carry. (c) Live ropes made fast to the scaffold in a manner to prevent displacement. (d) The dead-end of the supporting rope connected to the block at the stirrup by means of an eye splice incorporating a thimble. (5) Slings, hangers, platforms, and other supporting parts shall be inspected before every installation. Periodic inspections shall be made while the scaffold is in use. For ropes, see R 408.41261, R 408.41262, and R 408.41263. (6) A swing stage scaffold shall be limited to the following number of employees: (a) For a scaffold designed for a working load of 500 pounds, not more than 2 employees shall be permitted to work at one time. (b) For a scaffold designed for a working load of 750 pounds, not more than 3 employees shall be permitted to work at one time. (7) Two or more scaffolds shall not be combined by bridging with planks or similar connecting links. (8) Rollers or fenders shall be provided to prevent striking the building and to facilitate raising and lowering. (9) The platform of a swing stage scaffold shall be 1 of the following types: (a) Ladder-type platforms - The ladder-type platform shall be constructed to meet ANSI standard A10.8- 1977 entitled “Scaffolding,” which is adopted in these rules by reference and which may be inspected at the Lansing office of the department of consumer and industry services. The standard may be purchased at a cost as of the time of adoption of these rules of $5.00 from the American National Standards Institute, 1430 Broadway, New York, New York 10018, or from the Michigan Department of Consumer and Industry Services, MIOSHA Standards Division, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909. (b) Plank-type platform - The plank-type platform shall	**1926.452(p)** **"Two-point adjustable suspension scaffolds (swing stages)." The following requirements do not apply to two-point adjustable suspension scaffolds used as masons' or stonesetters' scaffolds. Such scaffolds are covered by paragraph (q) of this section.** 1926.452(p)(1) Platforms shall not be more than 36 inches (0.9 m) wide unless designed by a qualified person to prevent unstable conditions. 1926.452(p)(2) The platform shall be securely fastened to hangers (stirrups) by U-bolts or by other means which satisfy the requirements of 1926.451(a). 1926.452(p)(3) The blocks for fiber or synthetic ropes shall consist of at least one double and one single block. The sheaves of all blocks shall fit the size of the rope used. 1926.452(p)(4) Platforms shall be of the ladder-type, plank-type, beam-type, or light-metal type. Light metal-type platforms having a rated capacity of 750 pounds or less and platforms 40 feet (12.2 m) or less in length shall be tested and listed by a nationally recognized testing laboratory. 1926.452(p)(5) Two-point scaffolds shall not be bridged or otherwise connected one to another during raising and lowering operations unless the bridge connections are articulated (attached), and the hoists properly sized. 1926.452(p)(6) Passage may be made from one platform to another only when the platforms are at the same height, are abutting, and walk-through stirrups specifically designed for this purpose are used

be composed of not less than two 2 by 10-inch unspliced planks which are laid straight and which are cleated together on the underside, with the cleats starting 6 inches from each end and spaced at 12-inch intervals. (c) Beam-type platform - The beam platform shall have side stringers made of lumber that is not less than 2 by 6 inches set on edge. The span between hangers shall not be more than 12 feet. The flooring shall be supported on 2 by 6-inch crossbeams which are laid flat, which are set into the upper edge of the stringers with a snug fit at intervals of not more than 4 feet center to center, and which are securely nailed in place. The flooring shall be 1 by 6-inch lumber or 3/4- inch plywood and shall be securely nailed. Floorboards shall not be spaced more than 1/2 of an inch apart. (d) Manufactured picks - When used, a manufactured pick shall conform to the requirements of R 408.41217(3), (4), and (5).	
R 408.41234 Multilevel suspension scaffolds. **Rule 1234**. (1) A multilevel suspension scaffold shall have a separate fall prevention device that allows a drop of not more than 12 inches installed at each support point connected with a line to the scaffold. (2) The device shall be attached to a wire rope safety line equivalent to the support rope, and the safety line shall be secured to a substantial member of the structure separate from the support rope and to the ground. If it is not possible to attach a safety line to the structure, then the safety line shall be attached to the outrigger. (3) Each employee shall be protected by a personal fall arrest system as specified in Part 45. Fall Protection, being R 408.44501 et seq. of the Michigan Administrative Code, attached to the scaffold. (4) The multilevel suspension scaffold shall be in compliance with the provisions of R 408.41229 and R 408.41233. (5) At the beginning of each new installation, after a multilevel suspension scaffold is completely suspended, the scaffold shall be tested by being set about 1 foot above the lowest elevation and loaded with 2 times the anticipated working load.	**1926.452(v)** **"Multi-level suspended scaffolds."** 1926.452(v)(1) Scaffolds shall be equipped with additional independent support lines, equal in number to the number of points supported, and of equivalent strength to the suspension ropes, and rigged to support the scaffold in the event the suspension rope(s) fail. 1926.452(v)(2) Independent support lines and suspension ropes shall not be attached to the same points of anchorage.
R 408.41235 Single-point adjustable suspension scaffolds. **Rule 1235**. (1) A single-point adjustable suspension scaffold shall be raised or lowered by an electrical, air motor-driven, or manual hoisting machine. (2) A single-point adjustable suspension scaffold shall travel only in a vertical line. (3) At the beginning of each new installation, after a single-point adjustable suspension scaffold is completely suspended, the scaffold shall be tested by being set about 1 foot above the lowest elevation and loaded with 2 times the anticipated working load. (4) The suspension methods shall be as prescribed in R 408.41229.	**1926.452(o)** **"Single-point adjustable suspension scaffolds."** 1926.452(o)(1) When two single-point adjustable suspension scaffolds are combined to form a two-point adjustable suspension scaffold, the resulting two-point scaffold shall comply with the requirements for two-point adjustable suspension scaffolds in paragraph (p) of this section. 1926.452(o)(2) The supporting rope between the scaffold and the suspension device shall be kept vertical unless all of the following conditions are met: 1926.452(o)(2)(i) The rigging has been designed by a qualified person, and 1926.452(o)(2)(ii) The scaffold is accessible to rescuers, and 1926.452(o)(2)(iii) The supporting rope is protected to ensure that it will not chafe at any point where a change in direction occurs, and 1926.452(o)(2)(iv) The scaffold is positioned so that swinging cannot bring the scaffold into contact with

	another surface.
R 408.41236 Needle beam scaffolds. **Rule 1236**. (1) A needle beam scaffold shall be suspended from a structure that is capable of supporting not less than 4 times the weight of the scaffold and intended load. (2) The beams of a needle beam scaffold shall be of wood not less than 4 by 6 inches, with the greater dimension set vertically, or of equivalent structural metal. (3) A needle beam scaffold shall not be altered or moved while in use. (4) The distance between the needle beams shall not be more than 8 feet, the length of needle beams shall be not more than 12 feet, and the needle beams shall be supported at points 12 inches from the ends. (5) Rope supports shall be of 1-inch, first-grade manila rope or synthetic rope of equivalent strength and shall be hung vertically. The rope shall be attached to the needle beams in a manner that prevents the needle beams from rolling or otherwise becoming displaced. (6) The scaffold planking shall be in compliance with all of the following provisions: (a) Be laid tight between supporting ropes. (b) Be secured against displacement. Cleats are not an adequate means of attachment. (c) Extend not more than 6 inches beyond the beam. (7) Tools, bolts, and nuts on a needle beam scaffold shall be kept in containers that are properly secured on the scaffold. (8) One end of a needle beam scaffold may be supported by and secured to a permanent structural member.	**1926.452(u)** **"Needle beam scaffolds."** 1926.452(u)(1) Scaffold support beams shall be installed on edge. 1926.452(u)(2) Ropes or hangers shall be used for supports, except that one end of a needle beam scaffold may be supported by a permanent structural member. 1926.452(u)(3) The ropes shall be securely attached to the needle beams. 1926.452(u)(4) The support connection shall be arranged so as to prevent the needle beam from rolling or becoming displaced. 1926.452(u)(5) Platform units shall be securely attached to the needle beams by bolts or equivalent means. Cleats and overhang are not considered to be adequate means of attachment**.**
R 408.41237 Boatswain's chair. **Rule 1237**. (1) The seat of a boatswain's chair made of wood shall be not less than 12 by 24 inches and 1- inch thick with the underside reinforced by cleats fastened to prevent splitting. Other materials used shall be of equivalent strength and size. (2) Two 5/8- inch, first-quality manila rope slings or synthetic rope of equivalent strength shall be reeved through the 4 seat holes so as to cross each other on the underside. Where an employee is using a heat or spark-producing process, such as gas welding or cutting, a protected 3/8- inch wire rope shall be used in place of fiber rope. (3) An employee shall be protected by a fall arrest system as prescribed in Part 45. Fall Protection, being R 408.44501 et seq. of the Michigan Administrative Code. (4) The tackle shall consist of bearing or bushed blocks and 5/8- inch, first grade manila rope or its equivalent. The block shall be secured to roof irons, hooks, or other objects that are secured. Tiebacks shall be installed at right angles to the face of the building and shall be secured to the roof hooks and the building.	**1926.452(o)(3) Boatswains' chair** tackle shall consist of correct size ball bearings or bushed blocks containing safety hooks and properly "eye-spliced" minimum five-eighth (5/8) inch (1.6 cm) diameter first-grade manila rope, or other rope which will satisfy the criteria (e.g., strength and durability) of manila rope. 1926.452(o)(4) Boatswains' chair seat slings shall be reeved through four corner holes in the seat; shall cross each other on the underside of the seat; and shall be rigged so as to prevent slippage which could cause an out-of-level condition. 1926.452(o)(5) Boatswains' chair seat slings shall be a minimum of five-eight (5/8) inch (1.6 cm) diameter fiber, synthetic, or other rope which will satisfy the criteria (e.g., strength, slip resistance, durability, etc.) of first grade manila rope. 1926.452(o)(6) When a heat-producing process such as gas or arc welding is being conducted, boatswains' chair seat slings shall be a minimum of three-eight (3/8) inch (1.0 cm) wire rope. 1926.452(o)(7) Non-cross-laminated wood boatswains' chairs shall be reinforced on their underside by cleats securely fastened to prevent the board from splitting.
R 408.41238 Float scaffolds. **Rule 1238.** (1) A float scaffold shall be constructed of not less than 3/4- inch exterior plywood or equivalent	**1926.452(s)** **"Float (ship) scaffolds."** 1926.452(s)(1)

material. The platform shall be not more than 3 by 6 feet in size, and the ends of the platform shall project 6 inches beyond the outer edge of the bearers. (2) The plywood shall be securely fastened to 2 2- by 4-inch bearers which are made of select lumber that is free of knots and other defects and which project 6 inches beyond the platforms on each side. The plywood shall be reinforced with a diagonal brace that runs from bearer to bearer beneath the platform. (3) An edging of wood not less than 1 by 2 inches, or its equivalent, shall be secured around all sides of the platform to prevent tools from rolling off. (4) Supporting ropes shall be 1- inch manila rope, or its equivalent, and shall be free of defects. (5) Rope connections shall be made in a manner that prevents the platform from shifting or slipping. The rope shall be arranged to do all of the following: (a) Pass under the platform. (b) Be hitched around the end of each bearer on each side. (c) Provide 4 ends that shall be securely fastened to an overhead support. (6) Not more than 2 employees and necessary light tools shall occupy a float scaffold. (7) Each employee on a float scaffold shall be protected by a personal fall arrest system.	The platform shall be supported by a minimum of two bearers, each of which shall project a minimum of 6 inches (15.2 cm) beyond the platform on both sides. Each bearer shall be securely fastened to the platform. 1926.452(s)(2) Rope connections shall be such that the platform cannot shift or slip. 1926.452(s)(3) When only two ropes are used with each float: 1926.452(s)(3)(i) They shall be arranged so as to provide four ends which are securely fastened to overhead supports. 1926.452(s)(3)(ii) Each supporting rope shall be hitched around one end of the bearer and pass under the platform to the other end of the bearer where it is hitched again, leaving sufficient rope at each end for the supporting ties.
R 408.41243 Rough terrain forklift truck scaffolds; equipment requirements; employee safety requirements **Rule 1243**. (1) Before an employee is elevated on a rough terrain forklift truck scaffold, a pre-lift meeting shall be held to review the appropriate requirements and procedures to be followed. The pre-lift meeting shall be attended by all of the following entities: (a) The lift operator. (b) The signalperson. (c) Employees to be lifted. (d) The person who is responsible for the task to be performed. (2) The scaffold platform shall be attached to the forks by enclosed sleeves and shall be secured against the back of the forks with a mechanical device so that the platform cannot tip or slip. (3) The lifting carriage and the forks shall be secured to prevent them from tipping upward. (4) An employer shall provide protection for an employee on the platform from moving parts and on lift trucks equipped with a lifting mast. The side of the platform adjacent to the mast shall be protected by a solid or mesh guard that is sufficient in height and width to prevent contact with moving parts of the mast. On trucks equipped with rotators, the rotation shall be deactivated. (5) A work platform shall be in compliance with all of the following requirements: (a) Except for the guardrail system as specified in construction safety standard Part 21. Guarding of Walking and Working Areas, being R 408.42101 et seq. of the Michigan Administrative Code, be of welded mild steel construction that has a minimum safety factor of 4 times the maximum intended load.	**No comparable OSHA provision**

(b) Have a continuous guardrail system constructed as follows: (i) Have a top rail which is located not less than 36 inches, nor more than 42 inches, above the platform floor and which is constructed to withstand a minimum of 200 pounds of force in any direction. (ii) Have a midrail which is installed at mid-height between the top rail and platform floor and which is constructed to withstand a 200-pound side thrust. (iii) Have a toeboard which is not less than 4 inches in nominal height and which is installed not more than 1/4 of an inch above the floor around the periphery of the work platform. If the platform has a gate, then the toeboard shall be installed on the gate. (c) Have a wood planking, steel plate, or a steel grating bolted or welded to the bottom of the platform and be maintained free of slip or trip hazards. (d) Have a permanently affixed sign on the platform that specifies the maximum number of passengers allowed, the work platform identification number, and the maximum rated load. (e) Be easily identifiable by high-visibility color or marking. (6) An employee on a scaffold who is exposed to an overhead hazard of falling material or overhead projections shall be protected with overhead protection that is sufficient to prevent injury. (7) The lifting mechanism shall operate smoothly through its entire lift range, both empty and loaded, and all lift-limiting devices and latches, if provided, shall be functional. (8) The work platform shall be level when in use. (9) If an employee is elevated in a platform on a variable reach lift truck, a personal fall arrest system, including the anchorage required in Part 45. Fall Protection, being R 408.44501 et seq., of the Michigan Administrative Code and Part 6. Personal Protective Equipment, being R408.40601 et seq., of the Michigan Administrative Code, is required and shall be worn when an employee is elevated. (10) The rough terrain fork truck or the lift truck shall rest on firm footing. Leveling devices and outriggers shall be used where provided on equipment. (11) A trained operator shall remain at the operator station of a lift truck to control the lift truck while an employee is elevated. The lift truck control or controls shall be in neutral and the parking brake set. The operator of the lift truck scaffold platform shall be able to see the elevated platform at all times. (12) A lift truck platform shall be returned to the ground before a lift truck is repositioned. The forklift shall be moved as close to the work area as possible for final positioning. An employee shall exit the landed platform and reboard the platform only after the lift truck repositioning is completed. (13) The path that a lift truck platform travels shall be clear of hazards, such as storage racks, scaffolds, overhead obstructions, and electrical lines. Distances shall be maintained from electrical lines as specified in R 408.41212(4),(5), and (6). (14) A lift truck operator shall keep his or her hands and feet clear of the controls that are not in use.	

(15) A lift truck operator shall lift and lower an employee smoothly, with caution, and either at the employee's request or after alerting the elevated employee of intended movement. An operator of a lift truck that has a telescopic boom shall extend or retract the boom only at idle or near idle speed. (16) The combined mass weight of the platform, load, and the employee shall not be more than 1/3 of the rated capacity of the rough terrain forklift truck on which the platform is used. (17) An employee shall maintain firm footing on the platform floor. Railings, planks, ladders, or other materials shall not be used on the platform to achieve reach or height. (18) The guardrail system of the platform shall not be used to support any of the following: (a) Materials. (b) Other work platforms. (c) Employees. (19) The platform shall be lowered to ground level for an employee to enter or exit, except where elevated work areas are inaccessible or hazardous to reach. An employee may exit the platform with the knowledge and consent of the employer. When exiting to unguarded work areas, fall protection shall be provided and used as required in construction safety standard, Part 45. Fall Protection, being R 408.44501 et seq. of the Michigan Administrative Code. An employee shall not climb on any part of a lift truck when attempting to enter or exit the platform. (20) A platform shall not be modified if the modification is detrimental to its safe use. (21) Floor dimensions parallel to the truck longitudinal centerline shall not be more than 2 times the load center distance listed on the rough terrain forklift truck nameplate. The floor dimension width shall not be more than the overall width of the truck measured across the load-bearing tires plus 10 inches (250 mm) on either side. The minimum space for each employee on the platform shall be not less than 18 inches (450 mm) in either direction. (22) A wood pallet shall not be used as a platform for lift truck scaffolds. (23) If arc welding is performed by an employee on the platform, then the electrode holders shall be protected from contact with the metal components of the work platform. (24) The only tools that are permitted on the work platform are hand tools and portable powered tools. Materials and tools shall be secured to prevent displacement. The total weight of compressed gas cylinders shall not be more than 20 pounds. (25) A work platform shall not be used during high winds, electrical storms, snow, ice, sleet, or other adverse weather conditions that could affect the safety of the employees on the work platform or the operator of the truck. (26) An employee shall keep all parts of his or her body inside the platform during raising, lowering, or repositioning of the platform. (27) There shall be a communication system between an employee on the work platform and the operator of	

the rough terrain forklift truck or a fork lift truck.	
R 408.41244 Inspection and maintenance of rough terrain forklift trucks. **Rule 1244**. (1) Before an employee is elevated on a rough terrain forklift truck platform, a trained operator or other qualified personnel shall inspect all of the following items: (a) Tires and their inflation pressure. (b) Warning devices. (c) Lights. (d) Lift and tilt mechanisms, load engaging means, chains, cables, and limit switches. (e) Brakes. (f) Steering mechanism. (g) Fuel systems. (2) A forklift truck shall not be operated if an unsafe condition is found before or during use until the truck has been restored to a safe operating condition. (3) A rough terrain forklift truck and forklift trucks shall be maintained according to the manufacturer's recommendations.	**No comparable OSHA provision**
R 408.41245 Operator training. **Rule 1245**. (1) An employer shall ensure that an employee has been trained before the employee's assignment as an operator of a rough terrain forklift truck that is used to elevate employees. An employee shall be trained in all of the following areas: (a) The capabilities of the equipment and its attachments. (b) The purpose, use, and limitations of the controls. (c) How to make daily checks. (2) An employee shall practice operating an assigned vehicle and perform the functions necessary for a particular job.	**No comparable OSHA provision**
R 408.41246 Operator permits. **Rule 1246**. (1) An employer shall ensure that an operator has a valid permit to operate a rough terrain forklift or a forklift truck for elevating an employee. The operator shall carry the permit or shall have the permit available if it is requested by a department representative, during working hours. (2) A permit to operate a rough terrain forklift truck or a forklift truck is valid only for work performed for the employer who issued the permit. A permit may be issued for a period of not more than 3 years. A permit shall contain all of the following information: (a) Firm name. (b) Operator's name. (c) Date issued. (d) Date expiring. (e) Operator restrictions, if any. If a restricted permit to operate is issued, then the permit shall state the nature of the restriction. (f) The type of truck an operator has been trained on and is qualified to operate	**No comparable OSHA provision**
AUXILIARY SUPPORTED SCAFFOLDS **R 408.41251 Outrigger scaffolds.** **Rule 1251**.	**No comparable OSHA provisions except:**

(3) An outrigger scaffold shall be constructed as prescribed in table 4. (4) Planking shall be laid tight and shall extend to within 3 inches of the building wall. Planking shall be secured to the outriggers. (5) A scaffold and scaffold components shall be designed by a qualified person who is knowledgeable in scaffolding and shall be constructed and loaded in accordance with the design.	**1926.451 (f) Use.** **(7)** Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection, moving, dismantling or alteration. Such activities shall be performed only by experienced and trained employees selected for such work by the competent person.
R 408.41253 Roofing brackets and crawling boards. **Rule 1253**. (1) A roofing bracket shall be installed in a manner to maintain a level working surface. (2) Spacing between the brackets supporting a work plank shall not be more than 8 feet. (3) The working plank shall not be less than 2 by 6 inches. (4) In addition to the pointed metal projections, the brackets shall be secured in place by nailing. When it is impractical to nail brackets, rope supports shall be used. When rope supports are used, they shall consist of first-quality manila rope of at least 3/4-inch diameter or its equivalent. (5) A crawling board shall not be less than 1 by 10 inches, shall extend from the eave to the ridge of the roof, and shall be secured against displacement. (6) Cleats shall be secured to the board by nails which are driven through, and clinched to, the underside. (7) The cleats shall be not less than 1 by 1 1/2 inches, shall be equal in length to the width of the crawling board, and shall be spaced not more than 24 inches center to center. (8) When a crawling board is used and a catch platform is provided, a lifeline of not less than 3/4-inch diameter rope, or its equivalent, shall be strung beside the board for a handhold.	**1926.452(h)** **"Roof bracket scaffolds."** 1926.452(h)(1) Scaffold brackets shall be constructed to fit the pitch of the roof and shall provide a level support for the platform. 1926.452(h)(2) Brackets (including those provided with pointed metal projections) shall be anchored in place by nails unless it is impractical to use nails. When nails are not used, brackets shall be secured in place with first-grade manila rope of at least three-fourth inch (1.9 cm) diameter, or equivalent.
R 408.41254 Carpenter's bracket scaffold. **Rule 1254**. (1) The supporting brackets of a carpenter's bracket scaffold shall be made of metal. (2) The supporting brackets shall be fastened to the structure by 1 of the following: (a) Three-eights-inch diameter bolts extending through the studs at the top of the bracket and projecting 3/4 inch beyond the nut and washer when in place. (b) Welding to a metal tank. (c) Hooked over a secured supporting member of the structure. (3) The supporting brackets shall be not more than 8 feet apart to support 1 employee and not more than 75 pounds of material, or 4 feet apart to support 2 employees and not more than 75 pounds of material.	**1926.452(g)** **"Form scaffolds and carpenters' bracket scaffolds."** 1926.452(g)(1) Each bracket, except those for wooden bracket-form scaffolds, shall be attached to the supporting formwork or structure by means of one or more of the following: nails; a metal stud attachment device; welding; hooking over a secured structural supporting member, with the form wales either bolted to the form or secured by snap ties or tie bolts extending through the form and securely anchored; or, for carpenters' bracket scaffolds only, by a bolt extending through to the opposite side of the structure's wall. 1926.452(g)(2) Wooden bracket-form scaffolds shall be an integral part of the form panel. 1926.452(g)(3) Folding type metal brackets, when extended for use, shall be either bolted or secured with a locking-type pin.
R 408.41255 Form Scaffolds. **Rule 1255**. (1) A form scaffold shall be used to support a	**1926.452(g)** **"Form scaffolds and carpenters' bracket scaffolds."**

maximum intended load of not more than 25 pounds per square foot. (2) Form scaffold brackets shall be spaced not more than 8 feet on center and shall be constructed of the following: (a) Bearers of not less than 2- by 4-inch wood or materials of equivalent strength which are secured horizontally to the side of a vertical form support and which extend not more than 6 inches beyond the outer edge of the platform, but the total length of the bearer shall be not more than 42 inches. (b) A diagonal brace placed at a 45-degree angle from and below the outer end of the bearer to the vertical form support. (3) Metal brackets that are an integral part of the form shall be bolted or welded to the form. A folding-type bracket shall be secured by bolts or locking pins when in the extended position. Clip-on hook-on brackets may be used if the form walers are bolted to the form or secured by snap ties or shea-bolts extending through the form and anchored.	1926.452(g)(1) Each bracket, except those for wooden bracket-form scaffolds, shall be attached to the supporting formwork or structure by means of one or more of the following: nails; a metal stud attachment device; welding; hooking over a secured structural supporting member, with the form wales either bolted to the form or secured by snap ties or tie bolts extending through the form and securely anchored; or, for carpenters' bracket scaffolds only, by a bolt extending through to the opposite side of the structure's wall. 1926.452(g)(2) Wooden bracket-form scaffolds shall be an integral part of the form panel. 1926.452(g)(3) Folding type metal brackets, when extended for use, shall be either bolted or secured with a locking-type pin.
R 408.41256 Ladder jack scaffolds. **Rule 1256**. (1) A ladder jack scaffold shall be used only for light duty on type I manufactured ladders at heights not more than 20 feet from the ground or floor level. The ladder shall be used as prescribed in Part 11. Fixed and Portable Ladders, being R 408.41101 et seq. of the Michigan Administrative Code. (2) The span of a wood plank shall be not more than 8 feet between ladder jacks and the planking shall be as prescribed in R 408.41217. (3) The span of a pick shall not exceed 24 feet. (4) A ladder jack scaffold using planks shall be limited to 2 employees at any one time, except that if 3 ladders support the plank, 3 employees may occupy the plank. Not more than 1 employee shall occupy any given 4 feet of plank at any one time. (5) A ladder jack scaffold using a pick shall be limited to 2 employees at any one time, except that if 3 ladders support the pick, 3 employees may occupy the pick. Not more than 1 employee shall occupy any given 6 feet of pick at any one time. (6) All bearing points of a ladder jack shall be designed to bear on the side rails and the rungs, but if bearing on the rungs only, the bearing area shall be not less than 10 lineal inches per rung.	**1926.452(k)** **"Ladder jack scaffolds."** 1926.452(k)(1) Platforms shall not exceed a height of 20 feet (6.1 m). 1926.452(k)(2) All ladders used to support ladder jack scaffolds shall meet the requirements of subpart X of this part -- Stairways and Ladders, except that job-made ladders shall not be used to support ladder jack scaffolds. ..1926.452(k)(3) 1926.452(k)(3) The ladder jack shall be so designed and constructed that it will bear on the side rails and ladder rungs or on the ladder rungs alone. If bearing on rungs only, the bearing area shall include a length of at least 10 inches (25.4 cm) on each rung. 1926.452(k)(4) Ladders used to support ladder jacks shall be placed, fastened, or equipped with devices to prevent slipping. 1926.452(k)(5) Scaffold platforms shall not be bridged one to another.
WIRE, FIBER AND SYNTHETIC ROPE **R 408.41261 Wire rope generally.** Rule 1261. (2) Wire rope that is bent to form an eye over a bolt or rod which has a diameter of less than 4 times the rope diameter shall be equipped with a metal thimble. (5) Wire ropes shall be stored in a manner to prevent damage or deterioration. (6) Before cutting wire rope, an employee shall place a seizing on each side of the cut on preformed wire rope. (7) Wire rope shall be maintained in a lubricated condition over its entire length with the same type lubricant used by the manufacturer. (8) Seizing or an equivalent protection shall be provided	**No comparable OSHA provision**

at all wire rope ends. (9) Wire rope shall not come in contact with sharp edges. (10) Wire rope used to suspend scaffolds shall not be spliced. (11) Table 5 reads as follows: **See Table 5** **R 408.41262 Fiber rope generally.** **Rule 1262**. (1) A fiber rope shall be inspected visually for the following conditions before the start of each work shift: (a) Externally, for abrasions, cut or broken fibers, decay, burns, lack of strength, softness, and variation in size or roundness of the strands. (b) Internally, by separating the strands for broken fibers, presence of grit, mildew or mold, color change of the fibers, or powdering and short loose fibers. (2) A rope having any of the conditions specified in subrule (1) of this rule shall be replaced or returned to the manufacturer for repair. (3) A fiber rope shall be stored in a dry room in coils or on a reel. (4) A wet fiber rope shall be dried by placing it in the sunshine or by hanging it loosely over a rounded peg or hook in a warm room. (5) A fiber rope shall not be kinked, run over sharp corners, used when frozen, or left in freezing temperatures when wet. (6) A fiber rope subjected to an impact load equal to more than its rated capacity shall be replaced. (7) A thimble shall be used with fiber rope pursuant to R 408.41261(2). **R 408.41263 Synthetic rope.** **Rule 1263**. (1) A synthetic rope shall be inspected visually before the start of each job for abrasions, cut or broken fibers, burns, melted fibers, and variation in size or roundness of the strands. A rope having any of these conditions shall be replaced or returned to the manufacturer for repair. (2) Because of the variance in manufacturing methods, the manufacturer's recommendations shall be followed. (3) A synthetic rope shall not be kinked, run over sharp corners, used when frozen, or left in freezing temperatures when wet. (4) A synthetic rope subjected to an impact load equal to or more than its rated capacity shall be replaced. (5) A thimble shall be used with synthetic rope pursuant to R 408.41261(2).	**1926.252 Table H-20 Number and Spacing** **1926.251(d)** **Natural rope, and synthetic fiber-** **1926.251**(d)(1) General. When using natural or synthetic fiber rope slings, Tables H-15, 16, 17, and 18 shall apply. 1926.251(d)(2) All splices in rope slings provided by the employer shall be made in accordance with fiber rope manufacturers recommendations. 1926.251(d)(2)(i) In manila rope, eye splices shall contain at least three full tucks, and short splices shall contain at least six full tucks (three on each side of the center line of the splice). 1926.251(d)(2)(ii) In layed synthetic fiber rope, eye splices shall contain at least four full tucks, and short splices shall contain at least eight full tucks (four on each side of the center line of the splice). 1926.251(d)(2)(iii) Strand end tails shall not be trimmed short (flush with the surface of the rope) immediately adjacent to the full tucks. This precaution applies to both eye and short splices and all types of fiber rope. For fiber ropes under 1-inch diameter, the tails shall project at least six rope diameters beyond the last full tuck. For fiber ropes 1-inch diameter and larger, the tails shall project at least 6 inches beyond the last full tuck. In applications where the projecting tails may be objectionable, the tails shall be tapered and spliced into the body of the rope using at least two additional tucks (which will require a tail length of approximately six rope diameters beyond the last full tuck). 1926.251(d)(2)(iv) For all eye splices, the eye shall be sufficiently large to provide an included angle of not greater than 60 deg. at the splice when the eye is placed over the load or support. 1926.251(d)(2)(v) Knots shall not be used in lieu of splices. 1926.251(d)(3) "Safe operating temperatures." Natural and synthetic fiber rope slings, except for wet frozen slings, may be used in a temperature range from minus 20 deg. F (-28.88 deg. C) to plus 180 deg. F (82.2 deg. C) without decreasing the working load limit. For operations outside this temperature range and for wet frozen slings, the sling manufacturer's recommendations shall be followed. 1926.251(d)(4) "Splicing." Spliced fiber rope slings shall not be used unless they have been spliced in accordance with the following minimum requirements and in accordance with any additional recommendations of the manufacturer: 1926.251(d)(4)(i) In manila rope, eye splices shall consist of at least three full tucks, and short splices shall consist of at least six full tucks, three on each side of the splice center line. 1926.251(d)(4)(ii) In synthetic fiber rope, eye splices shall consist of at least four full tucks, and short splices shall consist of at least eight full tucks, four on each side of the center line.

	1926.251(d)(4)(iii) Strand end tails shall not be trimmed flush with the surface of the rope immediately adjacent to the full tucks. This applies to all types of fiber rope and both eye and short splices. For fiber rope under 1 inch (2.54 cm) in diameter, the tail shall project at least six rope diameters beyond the last full tuck. For fiber rope 1 inch (2.54 cm) in diameter and larger, the tail shall project at least 6 inches (15.24 cm) beyond the last full tuck. Where a projecting tail interferes with the use of the sling, the tail shall be tapered and spliced into the body of the rope using at lest two additional tucks (which will require a tail length of approximately six rope diameters beyond the last full tuck). 1926.251(d)(4)(iv) Fiber rope slings shall have a minimum clear length of rope between eye splices equal to 10 times the rope diameter. 1926.251(d)(4)(v) Knots shall not be used in lieu of splices. 1926.251(d)(4)(vi) Clamps not designed specifically for fiber ropes shall not be used for splicing. 1926.251(d)(4)(vii) For all eye splices, the eye shall be of such size to provide an included angle of not greater than 60 degrees at the splice when the eye is placed over the load or support. 1926.251(d)(5) "End attachments." Fiber rope slings shall not be used if end attachments in contact with the rope have sharp edges or projections. 1926.251(d)(6) "Removal from service." Natural and synthetic fiber rope slings shall be immediately removed from service if any of the following conditions are present: 1926.251(d)(6)(i) Abnormal wear. 1926.251(d)(6)(ii) Powdered fiber between strands. 1926.251(d)(6)(iii) Broken or cut fibers. 1926.251(d)(6)(iv)Variations in the size or roundness of strands. 1926.251(d)(6)(v) Discoloration or rotting. 1926.251(d)(6)(vi) Distortion of hardware in the sling. 1926.251(e) Synthetic webbing (nylon, polyester, and polypropylene). 1926.251(e)(1)The employer shall have each synthetic web sling marked or coded to show: 1926.251(e)(1)(i) Name or trademark of manufacturer. 1926.251(e)(1)(ii) Rated capacities for the type of hitch. 1926.251(e)(1)(iii) Type of material. 1926.251(e)(2) Rated capacity shall not be exceeded. 1926.251(e)(3) "Webbing." Synthetic webbing shall be of uniform thickness and width and selvage edges shall not be split from the webbing's width. 1926.251(e)(4) "Fittings." Fittings shall be: 1926.251(e)(4)(i) Of a minimum breaking strength equal to that of the sling; and 1926.251(e)(4)(ii) Free of all sharp edges that could in any way damage the webbing**.**
R 408.41264 Window jack scaffolds. **Rule 1264**. (1) A window jack scaffold shall be used as a work platform for not more than 1 employee and only for the purpose of working at the window opening through which the jack is placed.	**1926.452(l)** **"Window jack scaffolds."** 1926.452(l)(1) Scaffolds shall be securely attached to the window opening. 1926.452(l)(2) Scaffolds shall be used only for the purpose of working at the window opening through which

(2) A window jack scaffold shall consist of a work platform that is secured to the structure with braces that run from a point not more than 4 inches from the end of the platform to the structure at an angle of not less than 45 degrees to the horizontal. (3) An interior horizontal brace which extends not less than 12 inches beyond the vertical edges of the opening and which is capable of supporting not less than 4 times the intended load shall be secured to the work platform, tight to the interior surface of the wall, to prevent the outward movement of the platform. (4) A window jack scaffold shall be provided with guardrails unless a harness that has a lifeline is attached and provided by the employer for the employee as required in Part 45. Fall Protection, being R 408.44501 et seq. of the Michigan Administrative Code.	the jack is placed.