

	PPG INDUSTRIES, INC. - LAKE CHARLES SAFETY & HEALTH	DOCUMENT #: 4301-06-303
	DOCUMENT NAME: Medium Duty Scaffold Guideline	REVISION DATE: 02/95
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3 MEDIUM DUTY SCAFFOLD GUIDELINE

3.1 PURPOSE

To establish a procedure for erecting, inspecting, permitting and dismantling scaffolding.

3.2 SCOPE

This procedure applies to all scaffolds used by PPG associates and/or Agency Contractors.

3.3 DEFINITIONS

3.3.1 **COMPETENT PERSON** - One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

3.3.2 **MAXIMUM INTENDED LOAD** - The total loads including the working load, the weight of the scaffold, and other loads as may be reasonably anticipated.

3.3.3 **MEDIUM DUTY SCAFFOLD** - A scaffold designed and constructed to carry a working load not to exceed 50 pounds per square foot.

3.3.4 **PLATFORM** - A flat, level, elevated, horizontal surface used to provide a safe working surface.

3.3.5 **SCAFFOLD** - Any temporary elevated platform and its supporting structure used for supporting workers or materials, or both.

3.3.6 **MOBILE SCAFFOLD**- means a powered or unpowered, portable caster or wheel-mounted supported scaffold.

3.4 PROCEDURE

3.4.1 ERECTING SCAFFOLD

- 3.4.1.1 The supervisor of the employee(s) building the scaffold shall provide appropriate Job Safety Instruction and check the JSI items on the back of the white scaffold permit holder (see page 7) that apply to the job.
- 3.4.1.2 The employee(s) building the scaffold shall affix the white scaffold permit holder to the first brace of the scaffold, check the box labelled "UNDER CONSTRUCTION" and complete the front side of the permit holder.
- 3.4.1.3 When the scaffold is complete, the employee(s) who built the scaffold shall check the box labelled "READY FOR INSPECTION/PERMIT".

3.4.2 INSPECTING SCAFFOLD

The supervisor of the employee(s) using the scaffold (e.g. Maintenance Supervisor/Field Engineer) shall inspect the scaffold to ensure conformance with the requirements of this procedure, complete both sides of the green scaffold permit (see page 8) and affix it to the permit holder.

3.4.3 DISMANTLING SCAFFOLD

When use of the scaffold is complete, the Supervisor of the employee(s) using the scaffold (e.g. Maintenance Supervisor / Field Engineer) shall remove the green scaffold permit and check the box labelled "READY FOR REMOVAL" on the permit holder.

3.5 GENERAL REQUIREMENTS

- 3.5.1 All scaffolds shall be inspected and permitted by a competent person.
- 3.5.2 All employees shall inspect scaffolds prior to using them for obvious defects and a valid permit.
- 3.5.3 The building, moving, alteration, or dismantling of a scaffold shall be supervised by a competent person.
- 3.5.4 At the completion of the job, all scaffolds are to be removed as soon as practical.

- 3.5.5 The scaffold permit expires seven days from the date of issuance.
- 3.5.6 Damaged or modified scaffolds shall be re-inspected and issued a new permit.
- 3.5.7 Scaffolds and their components shall be capable of supporting without failure at least four times the maximum intended load.
- 3.5.8 Scaffolds shall be tied to and securely braced against the building or structure at intervals not to exceed 30 feet horizontally and 26 feet vertically.
- 3.5.9 Free standing scaffolds with a platform height greater than four times the smallest base dimension (4:1) shall be tied off, securely braced, fitted with outriggers, or guyed to prevent swaying or tipping.
- 3.5.10 Main planking shall be scaffold grade or equivalent and shall be a minimum of nominal 2" x 10" lumber.

span (feet)	load (psf)
6	75
8	50
10	25

- 3.5.11 Scaffold planks shall be laid tightly together and wired or cleated on the ends to prevent movement. The maximum opening between planks shall not exceed 1 inch. Planks shall extend over their end supports not less than 6 inches or more than 12 inches. Where boards are wired, a No. 9 steel wire will be used.
- 3.5.12 Where planking is lapped, each plank shall lap its end support at least 12 inches.
- 3.5.13 Spacing between the fixed structure and the edge of the scaffold plank shall not exceed 6 inches. On scaffolds erected for insulation work, the distance may be 10 inches plus the thickness of the insulation material to be applied.
- 3.5.14 The poles, legs, or uprights of the scaffold shall be plumb, securely and rigidly braced to prevent swaying and displacement, and resting upon a solid base. As a minimum, a 10" x 10" x 3/4" plywood base shall be used on soil and structural grating.
- 3.5.15 Handrails (36 inches - 42 inches) and midrails (approximately 21 inches) will be installed on all open sides and ends of the platform when the fall potential is greater than 6 feet.

- 3.5.16 Toeboards (nominal 1" x 4" minimum) shall be installed on all sides of platforms more than 10 feet above ground or floor to prevent material from falling.
- 3.5.17 Side screens (No. 18 gauge U.S. standard wire with 1/2 inch mesh, or equivalent) shall be provided between the toeboard and the handrail and extending the length of the opening where people are required to work or pass under the scaffold. The screen may be waived if a barricade is properly installed to prevent passage under the scaffold.
- 3.5.18 An access ladder or equivalent safe access shall be provided. The recommended means of construction will be to extend a horizontal member, one ladder width plus 1 foot, beyond the corner of the scaffold so the ladder, set at the proper pitch, can be supported against it at a right angle to the platform. The ladder should extend 3 rungs or 3 feet above the point of support. Where not feasible, the supervisor of the employee(s) using the scaffold may approve an alternate means of access.
- 3.5.19 When ladders are used to ascend to heights exceeding 20 feet, landing platforms shall be provided for each 20 feet of height or fraction thereof. Where a cage, well, or ladder safety device is provided, landing platforms shall be provided for each 30 feet of height or fraction thereof.
- 3.5.20 Scaffolds shall not be altered or moved while they are occupied.
- 3.5.21 Metal scaffolds may not be used in areas where electrical hazards exist. Any exception must be approved by the Area Supervisor and the Maintenance Electrical Area Foreman, or in the case of a construction job, the Electrical Field Engineer.
- 3.5.22 Wire or synthetic rope that is used to support scaffolds or work platforms shall be capable of supporting at least eight times the intended load and shall be capable of resisting the chemicals and conditions to which they could be exposed.
- 3.5.23 Metal pipelines which are adequately supported and are of sufficient size may be used as a scaffold support and/or a work platform support with the specific approval of the Operations Foreman owning the pipeline. Consideration must be given to the contents of the line and stresses imposed on the pipeline. All other uses of pipelines as means of access or support to work platforms is prohibited.

3.6 TUBE AND COUPLER SCAFFOLD

- 3.6.1 All scaffold posts, runners, bearers, and bracing will be of nominal 2 inch (1.90 in.) OD steel tube.
- 3.6.2 Medium duty scaffolds will have a post spacing of 8 feet longitudinal and 6 feet transverse, load rated at 50 lb./ft. and not exceeding 125 feet in height.
- 3.6.3 Except in the case of an access ladder support, the end point of a tube shall extend through the coupler, but not more than 12 inches beyond the coupler.
- 3.6.4 Runners shall be erected the length of the scaffold, beneath the bearers, securely interlocked and coupled to each post. The bottom runner shall be as close to the base as possible. Runners shall be placed not more than 6 feet 6 inches on center.
- 3.6.5 Bearers shall be installed transversely between posts and secured with its coupler resting upon the runner coupler, or an additional coupler. Bearers shall be at least 4 inches but not more than 12 inches longer than the post spacing or runner spacing.
- 3.6.6 Cross bracing shall be installed across the width of the scaffold at least every third post horizontally and every fourth runner vertically. Such bracing shall extend diagonally alternating direction.
- 3.6.7 Longitudinal diagonal bracing shall be coupled near the base of the last outer post, upward at a 40 to 50 degree angle and coupled to the next post beneath the runner. Alternate directional bracing is needed if the scaffold exceeds one level high or one span longitudinally.

3.7 FABRICATED TUBULAR FRAME SCAFFOLDS

- 3.7.1 Spacing of panels or frames shall be consistent with the load imposed. (see 6.2)
- 3.7.2 The panels or frames shall be placed one on top of the other with coupling or stacking pins to provide proper vertical alignment.
- 3.7.3 Frames and panels shall be properly braced by cross bracing or diagonal bracing, or both, for securing vertical members together laterally. Cross braces shall be of such length as to automatically square and align vertical members so that the erected scaffold is always plumb, level, square, and rigid. All brace connections shall be made secure.

3.8 WOOD POLE SCAFFOLDS

- 3.8.1 Poles shall bear on a foundation of sufficient size and strength to spread the load from the poles over a sufficient area to prevent settlement. All poles shall be nominal 4" x 4" minimum and set plumb.
- 3.8.2 Where poles are spliced, the ends shall be squared and the upper section shall rest squarely on the lower section. Wood splice plates (nominal 2" x 4" minimum) shall be provided on at least two adjacent sides and shall not be less than 4 feet 0 inches in length, overlapping the abutted ends equally, and have the same width and not less than the cross-sectional area of the pole. Splice plates of other materials of equivalent strength may be used.
- 3.8.3 All pole scaffolds shall be securely guyed or tied to the building or structure. Where the height or length exceeds 25 feet, the scaffold shall be secured at intervals not greater than 25 feet vertically and horizontally.
- 3.8.4 Ledgers shall be long enough to extend over two pole spaces. Ledgers shall not be spliced between the poles. Ledgers shall be reinforced by bearing blocks securely nailed to the side of the pole to form a support for the ledger.
- 3.8.5 Full diagonal face bracing shall be erected across the entire face of the scaffold in both directions. The braces shall be spliced at the poles.
- 3.8.6 When moving platforms to the next level, the old platform shall be left undisturbed until the new bearers have been set in place, ready to receive the platform planks.
- 3.8.7 Guardrails and midrails shall be no less than nominal 2" x 4".
- 3.8.8 Wood pole scaffolds shall not exceed 60 feet in height.
- 3.8.9 When a scaffold turns a corner, the platform planks shall be laid to prevent tipping. The planks that meet the corner at an angle shall be laid first. The planking running at right angles shall be laid so as to extend over and rest on the first layer of planking.

3.9 USE OF SCAFFOLDS

- 3.9.1 All scaffolds must be inspected and permitted before accessing the scaffold.
- 3.9.2 Scaffold platforms shall be clear of tools and loose materials that could fall or be knocked loose. Good housekeeping should be maintained throughout the job.

- 3.9.3 Do not attempt to climb access ladders while holding tools or material. Use a suitable means to raise and lower tools and material.
- 3.9.4 Do not climb or perform work from the handrails.
- 3.9.5 Overhead protection shall be provided for employees on scaffolds exposed to overhead hazards.
- 3.9.6 Ladders or makeshift devices shall not be used to increase the height from the working platform to the work area.
- 3.9.7 Special precautions must be taken to protect scaffold members when exposed to heat producing processes.
- 3.9.8 Slippery conditions on scaffolds shall be eliminated as soon as possible after they occur.

3.10 MOBILE SCAFFOLDING

- 3.10.1 Scaffolds shall be braced by cross, horizontal, or diagonal braces, or combination thereof, to prevent racking or collapse of the scaffold and to secure vertical members together laterally so as to automatically square and align the vertical members. Scaffolds shall be plumb, level, and squared. All brace connections shall be secured.
- 3.10.2 Scaffolds constructed of tube and coupler components shall also comply with the requirements of the tube and coupler scaffold section.
- 3.10.3 Scaffolds constructed of fabricated frame components shall also comply with the requirements of the fabricated frame scaffold section.
- 3.10.4 Scaffold casters and wheels shall be locked with positive wheel and/or wheel and swivel locks, or equivalent means, to prevent movement of the scaffold while the scaffold is used in a stationary manner.
- 3.10.5 Caster stems and wheel stems shall be pinned or otherwise secured in scaffold legs or adjustment screws.

3.11 SUSPENDED SCAFFOLDING

- 3.11.1 Swinging stages, boat swain chairs, "spiders", floats and similar types of work platforms require inspection by a Carpenter Foreman prior to beginning the job.

- 3.11.2 Attach and secure safety harness lanyard before stepping on to these scaffolds and do not detach until clear of the scaffold. Safety harness must be tied off to an independent life line (1/2" diameter nylon or equivalent strength). This life line must be attached to the structure and not to the scaffold.

PERMIT HOLDER

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DO NOT USE

SCAFFOLD IS:

UNDER CONSTRUCTION
 READY FOR INSPECTION/PERMIT
 READY FOR REMOVAL

DATE BUILT _____
BUILT BY _____
FOREMAN _____

(SEE OTHER SIDE)

FRONT
(WHITE WITH RED LETTERS)

JSI HAS BEEN GIVEN WITH THE FOLLOWING CONSIDERED BUT NOT LIMITED TO:

- HEARING PROTECTION _____
- THERMAL BURNS _____
- GOGGLE REQUIREMENTS _____
- SLIPPERY CONDITIONS _____
- FALL PROTECTION _____
- ELECTRICAL HAZARDS _____
- SPECIAL RESPIRATORY PROTECTION _____

CHECK ITEMS ABOVE THAT APPLY

BACK
(WHITE WITH BLACK LETTERS)

SCAFFOLD PERMIT

**SCAFFOLD
 READY FOR USE**

DATE ISSUED _____

SUPERVISOR _____

SCAFFOLD ERECTED BY:

_____ PPG

_____ CONSTRUCTION

THIS SCAFFOLD HAS BEEN COMPLETED
 IN ACCORDANCE WITH PPG SCAFFOLDING
 GUIDELINES
 (COPY AVAILABLE FROM SAFETY OFFICE)
NOTE: PERMIT GOOD FOR ONE WEEK
 FROM ISSUE DATE. SCAFFOLD TO BE
 RE-INSPECTED AND A NEW PERMIT TO
 BE ISSUED ON A WEEKLY BASIS WHILE
 SCAFFOLD IS ERECTED

(SEE OTHER SIDE FOR PERMIT)

FRONT
 (GREEN WITH WHITE LETTERS)

SCAFFOLD PERMIT

CHECK LIST

This permit is not valid unless all of the following have been checked and each "NO" response has been explained

LIST	YES	NO	N/A
1 Scaffold legs on solid footing?			
2 Safe access provided?			
3 Scaffold boards cleated or wired to prevent movement?			
4 Toe plates provided on working surfaces above 10 feet?			
5 Handrails provided for scaffolds 6 feet or higher?			
6 Necessary barricades in place?			
7 Maximum clearance between scaffold and fixed structure observed? (6 inches for general purpose) (10 inches - insulation width for insulators)			
8 Scaffold braced or guyed to prevent tipping?			

Explanation of each "NO":

BACK
 (GREEN WITH WHITE LETTERS)