

Scaffolds

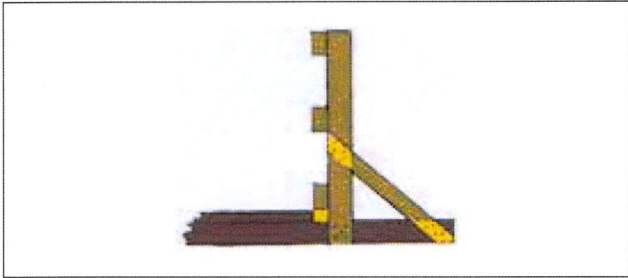
- The vertical supports of scaffolds must be placed on a firm base or sill and be capable of withstanding superimposed weight from the scaffolding and anything placed on the scaffold. Do not use pallets, boxes, concrete blocks, bricks, or other unstable material to support scaffolds.
- Scaffold erection and dismantling must be done or supervised by qualified workers experienced in this work.
- All scaffolding must be erected plumb and level, and be designed for the intended use.
- Scaffolds must be secured to the building structure approximately 4.6 m (15 ft.) vertically but not to exceed 6.1 m (20 ft.) and 6.4 m (21 ft.) horizontally.
Note: narrow scaffolds must be secured to the structure when the platform height exceeds three times the smallest base dimension.
- Bracing requirements for prefabricated scaffolds must be installed according to the manufacturer's instructions. Bracing for job-constructed scaffolding must meet standards acceptable to WorkSafeBC requirements.
- All scaffolds must be inspected before use by those who will use them, regardless of who erected them. No damaged or weakened scaffold may be used until it has been effectively repaired.

Guardrails for scaffolds

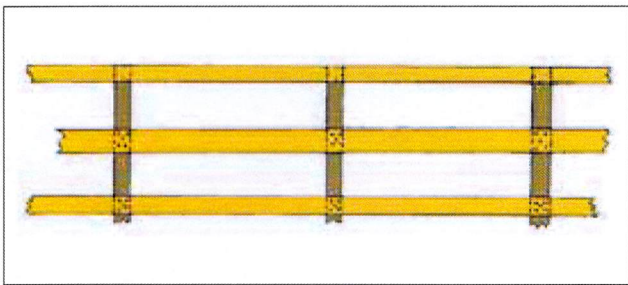
- All scaffolds 3 m (10 ft.) or more above grade must have standard guardrails on their open sides. A standard guardrail consists of:
 - A top rail approximately 1.1 m (42 in.) above the platform
 - An intermediate rail centred at approximately the midpoint of the space between the underside of the top rail and upper edge of the platform
 - Vertical guardrail supports spaced not more than 3 m (10 ft.) apart for wooden scaffolding
- Standard guardrails must be designed to withstand a static load of 550 N (125 lb.) applied laterally at any point on the top rail.
- Metal guardrail systems must be of height and strength equivalent to a standard guardrail.



This is an example of a metal guardrail system.



This is an example of a cantilever guardrail detail.



This shows a detail of a standard guardrail.

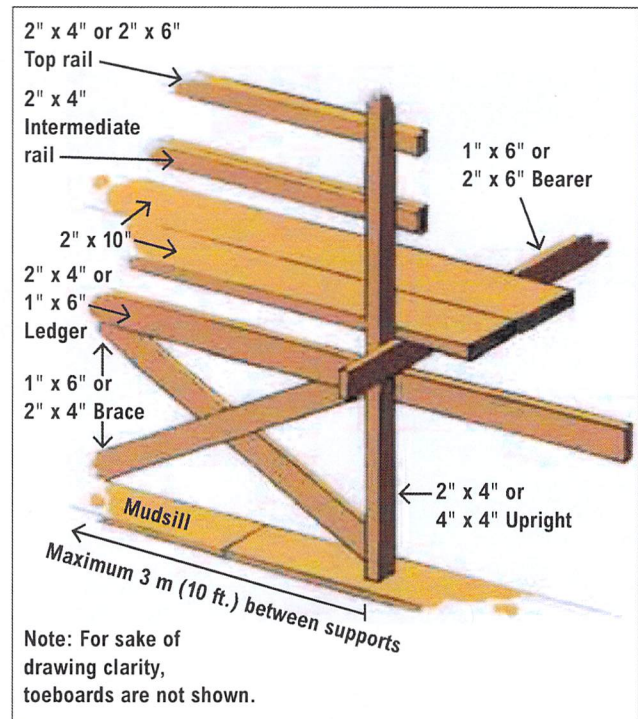
Toeboards for scaffolds

- When the scaffold is installed over machinery or adjacent to workers who could be struck by falling material or tools, a toeboard will be installed on all the open sides of the scaffold. In the case of blocks or bricks, precautions must be made by either extending the height of the toeboard or by installing mesh or similar material in the space between the toeboard and the guardrail to prevent an object from falling.
- The space between the front edge of the scaffold and the building structure must not exceed 30 cm (12 in.)

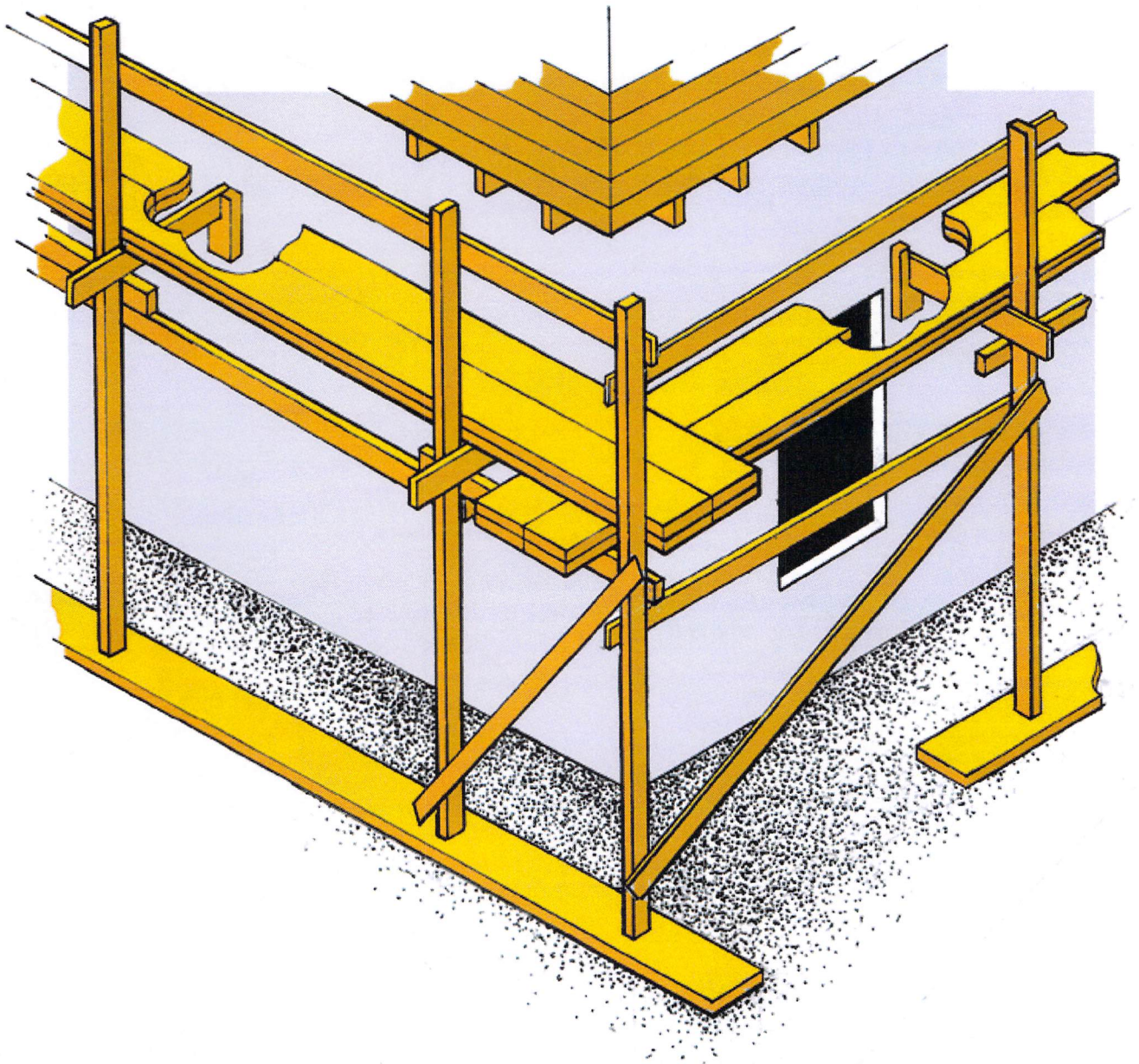
Wood scaffold erection guidelines

General requirements

- Wood scaffolding must be constructed using No. 2 or better lumber (Douglas fir-larch, hemlock-fir, spruce-pine-fir or coast-Sitka-spruce species). To eliminate split, warped, or otherwise defective lumber, scaffold materials should be hand-selected.
- Progressively brace the scaffold as it is being erected.
- Make sure there is firm contact between bearer blocks, bearers, wall scabs, and ledgers to provide maximum strength at connecting points.



This is an example of a single-pole wood scaffold (light duty). Where alternatives are given, it may depend on the span (see table on page 42).



This diagram shows an example of a typical single-pole wood scaffold for light duty. Some elements, such as midrails and toe boards, have been omitted for clarity.

- The number and size of nails and nailing patterns at connections should be consistent with good practice. As a guide, nails should protrude at least $\frac{2}{3}$ of the thickness into the adjoining piece of lumber.
- Where holding power is critical or the scaffold will be used for an extended length of time, dip-galvanized or spiral nails should be used. When scaffold components are intended to be dismantled and reused, double-headed nails may be used.
Caution: do not use the same nail holes on re-assembly.
- Do not exceed the maximum allowable dimensions for bearers and upright spacing.

- Do not overload the scaffold.
- The spacing of vertical supports (uprights) and bearers must not exceed 3 m (10 ft.).

Design and erection requirements for job-constructed wood scaffolds

Single-pole wood scaffold — light duty

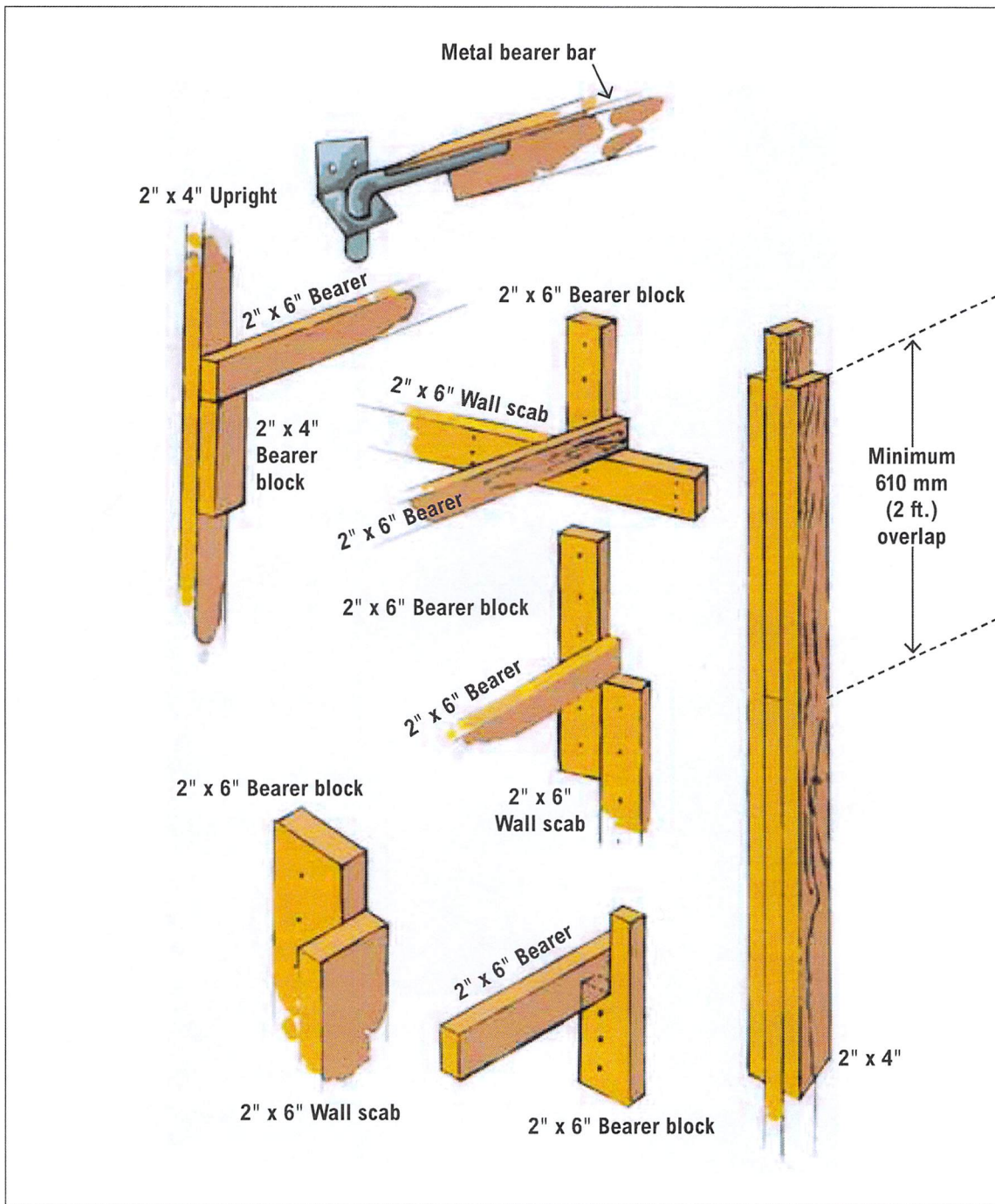
The spacing of vertical supports and bearers of a single-pole wood scaffold for light duty must not exceed 3 m (10 ft.).

- On single-pole scaffolds, the inner ends of bearers must be supported by bearer blocks and must be securely fastened to wall scabs.

Scaffold Component	Dimensions (Inches)*
Uprights – Up to 6 m (20 ft.)	2 x 4
– 6 m to 15 m (20 ft. to 50 ft.)	4 x 4
Bearers – 900 mm (3 ft.) maximum span	1 x 6
– 1.5 m (5 ft.) maximum span	2 x 6
Ledgers (ribbons)	1 x 6 or 2 x 4
Braces	1 x 6 or 2 x 4
Wall scabs and bearer blocks	2 x 6
Minimum work platform width	(2x) 2 x 10
Guardrails – Top, up to 2.4 m (8 ft.) span	2 x 4
– Top, 2.4 m to 3 m (8 ft. to 10 ft.) span	2 x 6
– Intermediate	2 x 4
Toeboards	1 x 4
Scaffold planks	See section 13.24 of the OHS Regulation

* These are “nominal” dimensions. They refer to the name of the dressed lumber, not the actual measurement.

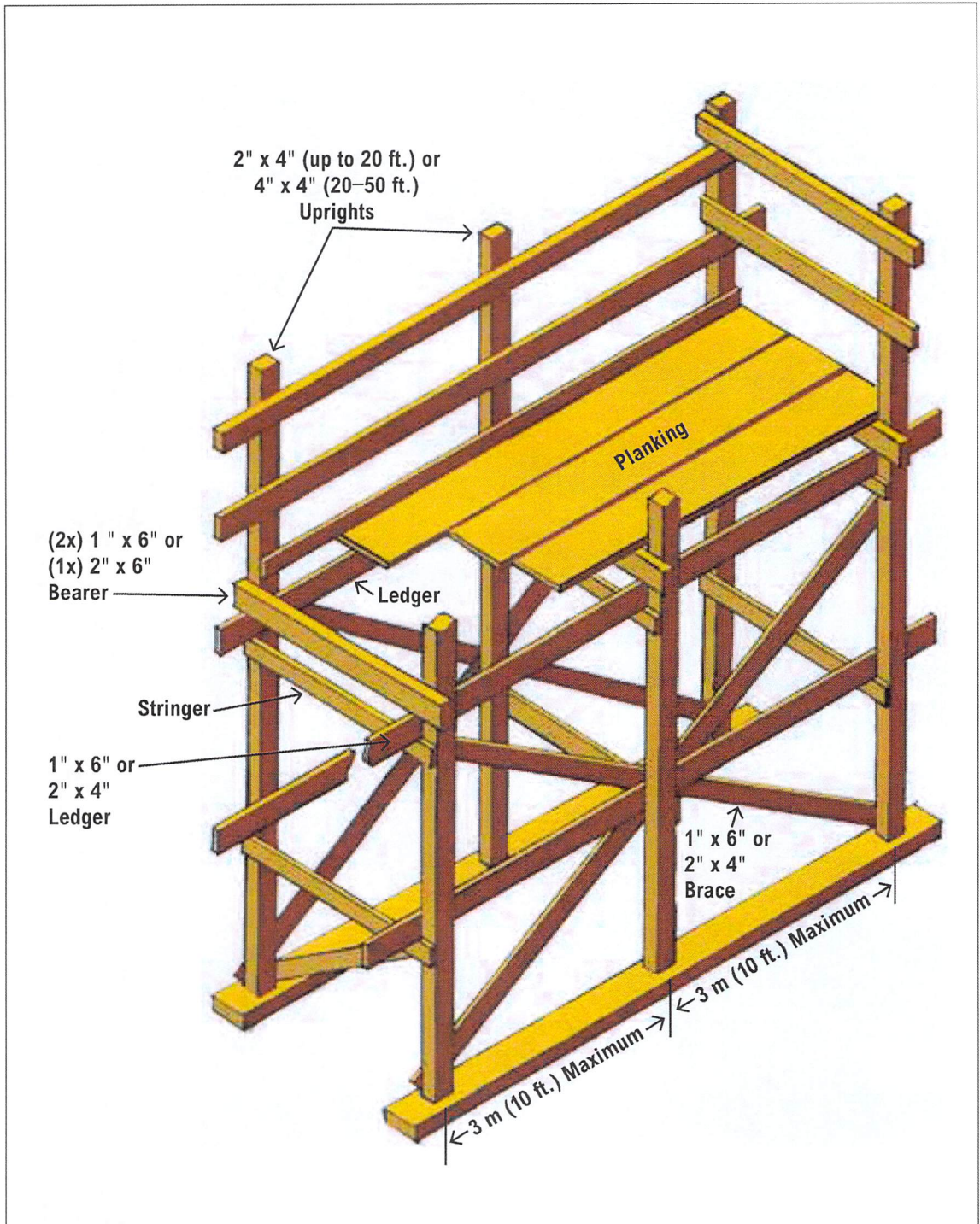
Bearer connections at wall



These are examples of bearer connections.

Double-pole wood scaffolds — light duty and heavy duty

Component	Dimensions (Inches) Light Duty	Dimensions (Inches) Heavy Duty
Uprights 0 to 6 m (20 ft.) 6 to 15 m (20 ft. to 50 ft.)	2 x 4 4 x 4	2 x 6 4 x 6
Bearers 1.5 m (5 ft.) maximum span	(2x) 1 x 6 or (1x) 2 x 6	(2x) 1 x 6 or (1x) 2 x 6
Ledgers	1 x 6 or 2 x 4	1 x 6 or 2 x 4
Braces	1 x 6 or 2 x 4	1 x 6 or 2 x 4
Minimum work platform width	(2x) 2 x 10	(2x) 2 x 10
Guardrails (top) Up to 2.4 m (8 ft.) span 2.4 m to 3 m (8 ft. to 10 ft.) span	2 x 4 2 x 6	2 x 4 2 x 6
Guardrails (intermediate)	2 x 4	2 x 4
Toeboards	1 x 4	1 x 4
Scaffold planks	See WCB Standard WPL 1, Design, Construction and Use of Wood Frame Scaffolds, 2004	See WCB Standard WPL 1, Design, Construction and Use of Wood Frame Scaffolds, 2004



This is a double-pole scaffold (light duty only).

Scaffold planks

- All scaffold planks must be inspected and tested before use.
- Lumber or manufactured scaffold planks used for a work platform must consist of at least two planks placed side by side to provide a work surface with a nominal width of 50 cm (20 in.), or a nominal width of 30 cm (12 in.) for ladder-jack platforms.
- Scaffold planks should completely cover the area between front and rear vertical supports or the rear guardrail.
- Scaffold planks must be secured against any movement in any direction (including uplift).
- The maximum spans using the above specifications are:
 - 3 m (10 ft.) for light-duty scaffolds
 - 2.1 m (7 ft.) for heavy-duty scaffolds
- Lumber used for planks must be graded and marked to the National Lumber Grades Authority (NLGA) *Standard Grading Rules for Canadian Lumber*.

Sawn wood planks (lumber planks)

- Sawn wood planks must be hand-selected from Douglas fir-larch, hemlock-fir, spruce-pine-fir, or coast-Sitka-spruce only and in the following grades and sizes:

Grade	Minimum Width	
	(mm)	(Inches)
Select Structural — Scaffold Planks	38 x 235	2 x 10 (nominal)
Select Structural — Joists & Planks	38 x 235	2 x 10 (nominal)
No. 2 and Better — Joists & Planks	48 x 251	2 x 10 (rough sawn)
No. 2 and Better — Joists & Planks*	38 x 235	2 x 10 (dressed/nominal)

*** Important: These planks must be doubled, one on top of the other.**

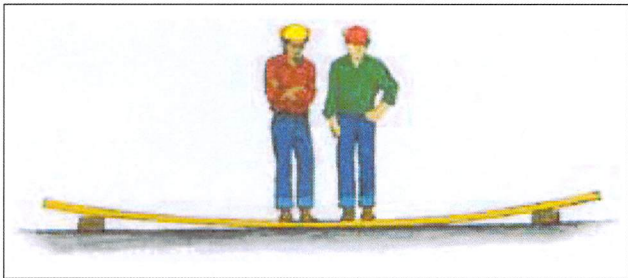
Testing procedure

Manufacturer's specifications must be followed for testing laminated wood scaffold planks. The following is an acceptable method of testing sawn wood scaffold planks.

- Place test scaffold plank on two blocks. The block size and test span must be selected from the following table:

Test Span	Block Size
2.1 m (7 ft.)	60 mm (2 ³ / ₈ in.)
3 m (10 ft.)	92 mm (3 ⁵ / ₈ in.)

- Have two workers who together weigh at least 148 kg (325 lb.) stand on the centre of the supported plank. Do not jump up and down on the plank.



To test a plank, have two workers stand on the centre of it.

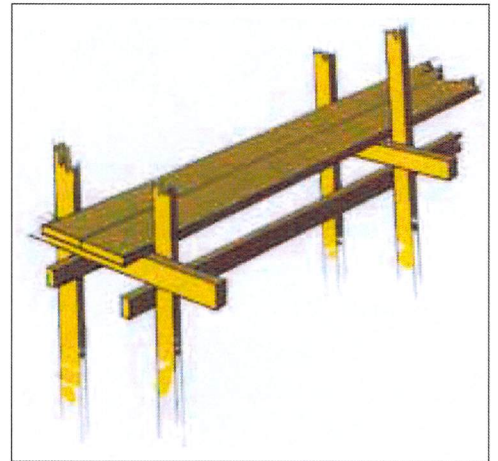
- Reject the plank if:
 - The plank bends enough to contact the ground
 - Cracking sounds are heard, indicating fibre overstressing
 - After removal of the test load, the plank fails to return to its original position, that is, it remains bent

- Scaffold planks passing this test should be identified by stencilling or end painting. It is also advisable to have the ends of the planks encased in metal sleeves or jackets for damage protection and additional identification.

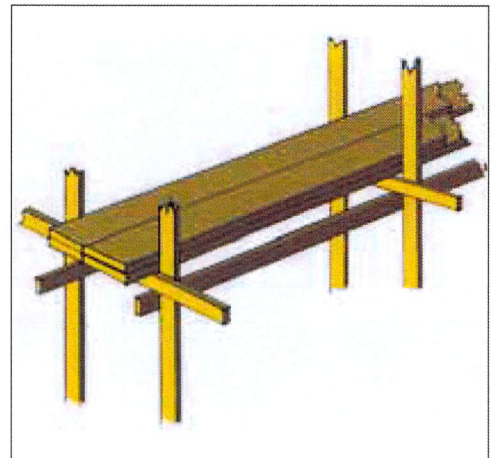
To prevent damage, scaffold planks must be handled carefully, used correctly, and properly stored.

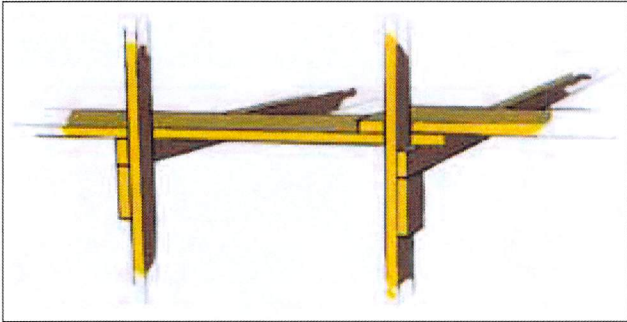
Scaffold planks must never be overloaded, used as sills, or subject to any condition that could affect the integrity of the plank as a working platform.

Example of planks placed side by side.

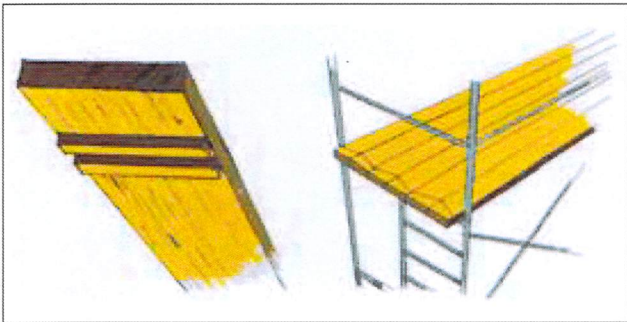


Example of plank placement for dressed scaffold planks (doubled).

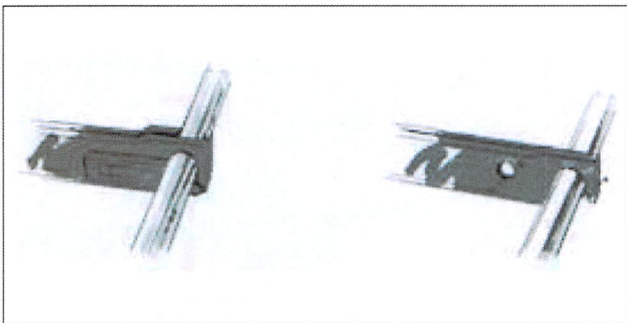




Scaffold planks must extend a minimum of 150 mm (6 in.) and a maximum of 300 mm (12 in.) beyond their support.



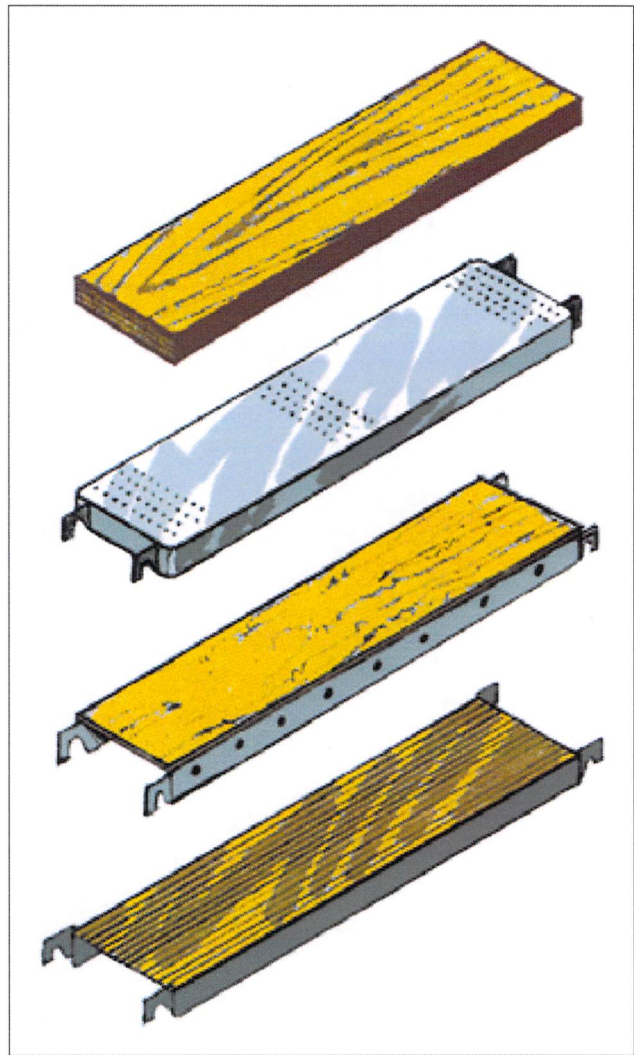
Scaffold planks must be held in place if there is a danger of the planks slipping off their support.



Securing devices for aluminum/plywood platforms.

Manufactured planks

- Manufactured scaffold planks are available in various lengths and duty ratings. These planks must be installed and used according to the manufacturer's and/or supplier's specifications.



These are examples of the various types of manufactured planks.

Ramps and platforms



The slope of work platforms must not exceed 1 vertical to 5 horizontal. Sloped work platforms must have cleats spaced no more than 400 mm (16 in.) apart or a non-skid surface.