



PLANK-PLATFORM SECTION

SSFI TECHNICAL BULLETIN

Planks and Platforms: A Comparison of Advantages and Disadvantages

When planning a scaffold job, among the many decisions that must be made is what to use to construct the work deck(s) on the scaffold. There are a number of choices – wood planks, metal planks (hooked and unhooked), composite planks, fabricated decks and fabricated platforms. Each has its advantages and disadvantages that must be considered before making a decision.

1. Wood Plank – available as solid sawn lumber, laminated veneer lumber (LVL), edge laminated plank and pinned plank.

Advantages:

- Can be used in different size scaffold bays by lapping end
- Can be cut to lengths or notched as required
- Can be nailed to if necessary
- Easily handled by one worker
- Relatively inexpensive
- Does not conduct electricity
- Does not retain heat like metal plank

Disadvantages:

- Maintenance is critical. Plank must be stored properly and inspected carefully for defects.
- Planks absorb moisture, which increases weight and can reduce strength
- Planks are flammable unless chemically treated
- Chemical treatment can reduce strength
- Spans limited to 10' with reduction of strength as spans increase
- Continuous work deck is not flush with possible trip hazards at laps
- Limited widths
- Generally not as stiff as metal plank

This Technical Bulletin was prepared by members of the SSFI Plank-Platform Section.

SSFI is a trade association comprising manufacturers of shoring, scaffolding, forming, suspended scaffolding, and planks-platforms. The institute focuses on engineering and safety aspects of scope products.

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2. Metal Plank – available as hooked or unhooked plank.

Advantages:

- Generally higher capacity than wood plank
- Requires less maintenance than wood plank
- Fire resistant
- Does not absorb moisture
- Easily handled by one worker
- Hooked plank provide flush work deck
- More widths available
- Generally stiffer than wood plank

Disadvantages:

- Hooked plank can only be used safely at one span
- Cannot be cut to length or notched as required
- Cannot be nailed to without damage
- Spans limited to 10' with reduction of strength as spans increase
- Initial cost typically greater than wood

3. Composite Plank* – generally available as hooked plank

Advantages*:

- Light weight; easily handled by one worker
- Minimum corrosion; does not rot
- Fire retardant
- Does not absorb moisture
- Does not conduct electricity
- Does not retain heat like metal plank
- Can be repaired on site
- Hooked plank provide flush work deck
- Molded non-slip surface
- Generally stiffer than wood plank
- Longer lifespan than wood plank

Disadvantages*:

- Should not be used or stored in extreme weather conditions (>140°F, <-40°F)
- Cannot be nailed to
- No long term performance history
- Susceptible to impact damage
- Planks are fixed length and cannot be lapped if necessary
- Limited widths
- Initial cost typically greater than wood

**Properties may vary greatly among manufacturers, depending on, among other things, materials and methods of construction*

4. Fabricated Decks – available as all metal (usually aluminum) and metal frame with plywood work surface.

Advantages:

- Generally higher capacity than wood plank
- All-metal decks require less maintenance than wood plank
- All- metal decks are fire resistant; plywood work surface can be treated to be fire resistant
- All metal decks do not absorb moisture
- Easily handled by one worker
- Hooked plank provide flush work deck
- Generally wider than typical metal and wood plank
- Generally stiffer than wood plank

Disadvantages:

- Maintenance and handling are important. Aluminum decks are more readily damaged by abuse
- Chemical treatment of plywood work surface may reduce strength
- Hooked decks can only be used safely at one span
- Cannot be cut or notched as required
- All metal decks cannot be nailed to without damage
- Limited lengths available, with maximum usually 10'
- Initial cost typically greater than wood and metal plank

5. Fabricated Platforms (stages) – available as all metal (usually aluminum).

Advantages:

- Long spans up to 40' available
- Widths up to 36" available
- Available in 1 person, 2 person and 3 person ratings
- Can be used with supported scaffold or suspended scaffold

Disadvantages:

- Maintenance and handling are important. Aluminum platforms are more readily damaged by abuse
- Cannot be handled by one worker only
- Requires separate guardrail components
- Typically highest initial cost

Another consideration will be whether the planks, decks, or platforms are to be purchased or rented. Long term storage and maintenance are usually not critical for rental equipment and the more expensive types of equipment may look more attractive for a rental than they would for purchase.

These guidelines are intended to assist you in choosing the components of your work deck. You must determine which attributes are important considering your specific situation

Additional Resources:

- OSHA 29CFR Part 1926.451 Subpart L
- ANSI A10.8, Safety Requirements for Scaffolding
- SSFI Guide to Planks & Platforms