

Plank & Platform Inspection Guidelines

Prepared By The Scaffold and
Access Industry Association, Inc.



SAIA SCAFFOLD & ACCESS
INDUSTRY ASSOCIATION

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Preface

This presentation is intended for use by all workers who use solid sawn wood scaffold planks, engineered wood scaffold planks, inner access decks, composite (fabricated) scaffold planks and metal scaffold planks/decks.

Scaffold planks should be inspected prior to each use. This presentation provides you with information in order to identify various planks and conduct a proper visual inspection.

Employers should distribute this presentation to all users of scaffold plank.

For more information on scaffold safety material, contact the:

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- Common Types of Damage Found in Scaffold Plank
- Visual Inspection Process
- Storage Recommendations
- Improper Handling
- The Golden Rule

Definitions

- **COMPETENT PERSON** – Means 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. The Competent Person must be knowledgeable about the requirements of applicable standards.
- **QUALIFIED PERSON** – Means one who by possession of a recognized degree, certificate or professional standing or who has extensive knowledge, training, and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project.

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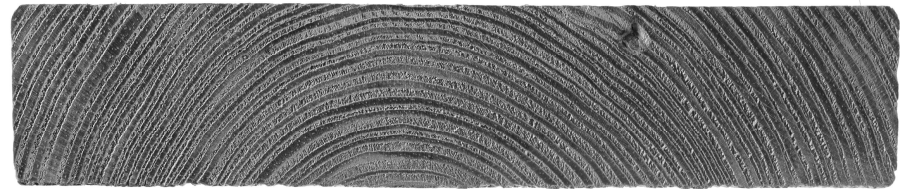
- Definitions
- **Scaffold Plank Identification**
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Scaffold Plank Identification:

Solid Sawn
Scaffold Plank

Solid Sawn Scaffold Plank Identification

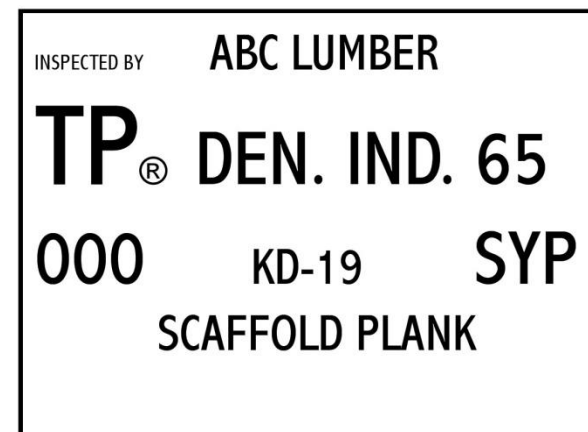
- Solid Sawn - Milled from a “solid” piece of timber



Mandatory Requirements:

- GRADE STAMP from a grading agency approved by the American Lumber Standards Committee (ALSC).

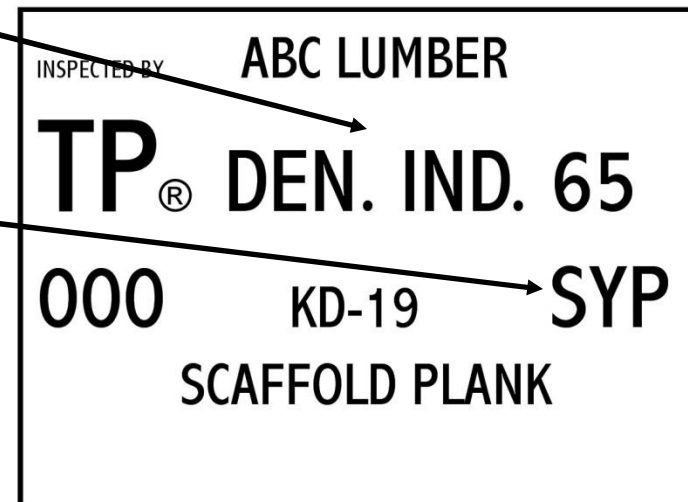
In the next 5 slides, we will dissect the necessary components of a grade stamp with the example grade stamp shown here.



Solid Sawn Scaffold Plank Identification Grade Stamp

Mandatory Requirements:

- **GRADE DESCRIPTION** –
This example shows “Dense
Industrial 65”.
- **WOOD SPECIES** –
This example shows SYP
(Southern Yellow Pine).

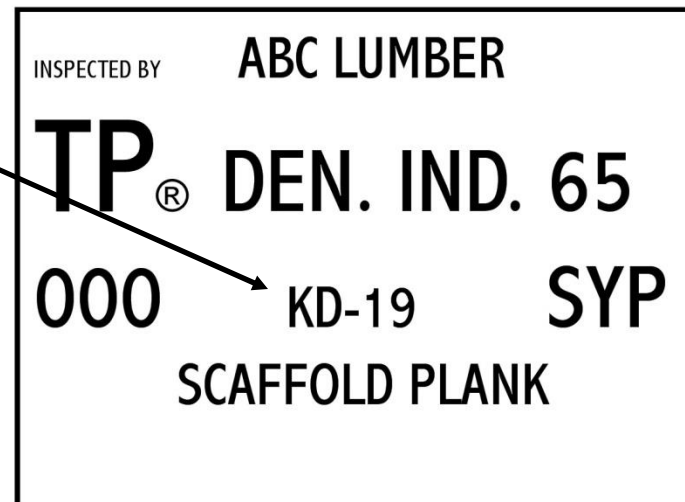


Solid Sawn Scaffold Plank Identification Grade Stamp

Mandatory

Requirements:

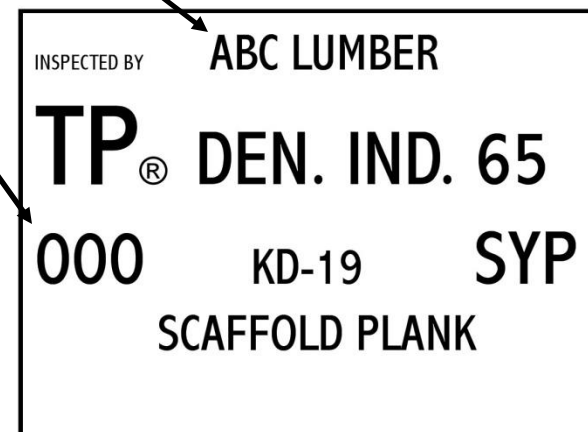
- **MOISTURE CONTENT** –
This example shows Kiln-Dried (KD) to a moisture content of 19% or less at the time of manufacture.



Solid Sawn Scaffold Plank Identification Grade Stamp

Mandatory Requirements:

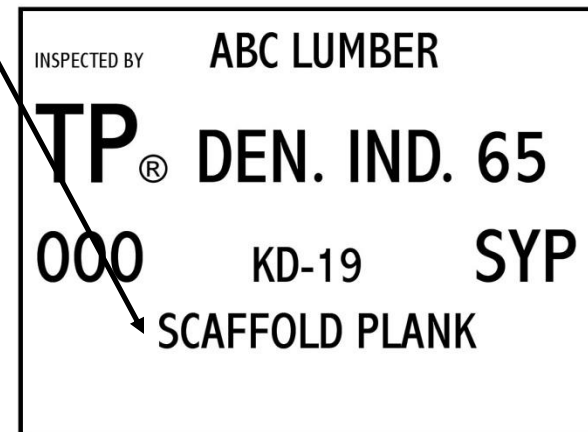
- MANUFACTURING MILL NAME –
This example shows “ABC Lumber”
- REGISTERED MILL NUMBER –
This example shows #000.



Solid Sawn Scaffold Plank Identification Grade Stamp

Mandatory Requirements:

- **SCAFFOLD PLANK DESIGNATION** –
Either uses the words
“SCAFFOLD PLANK” or an
abbreviation (i.e. “Scaff Plank”
or “SCF PLK”).

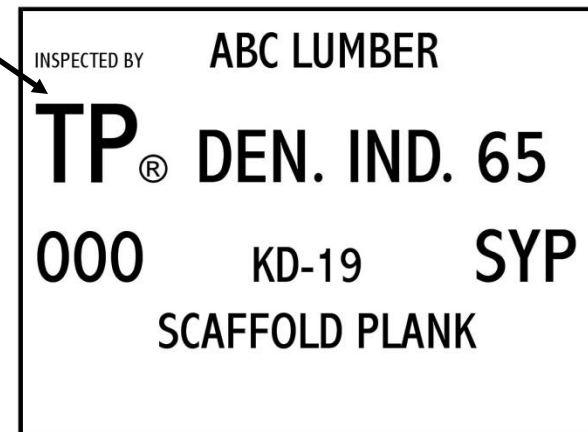


Solid Sawn Scaffold Plank Identification Grade Stamp

Mandatory Requirements:

- ACCREDITED THIRD-PARTY INSPECTION AGENCY STAMP –
This example shows “TP”

A current list of ALSC approved third-party inspection agencies is available at www.saiaonline.org on the “Plank & Platform Council” downloads section.





Solid Sawn Scaffold Plank Identification

Non-mandatory features:

- Edge branding or embossing
- Rods or pins through ends
- Mitered or clipped corners
- End Banding
- End and/or edge sealers
- Anti-slip (abraded) surfaces
- Stamped or branded with the word “OSHA”
- Fire treated for specialty applications

Solid Sawn Scaffold Plank Identification False Grade Stamp

- This is **NOT** scaffold plank
- BSSI is **NOT** an approved inspection agency
- If there is ever a question with respect to the grade markings, ask your supplier for a Certification-of-Grade.



Solid Sawn Scaffold Plank Identification

Is This Scaffold Plank?

- Not necessarily – Just because it says OSHA does **NOT** mean it is scaffold plank.
 - Look for the grade stamp
 - If no grade stamp is visible, consult a qualified or competent person





Solid Sawn Scaffold Plank Identification Dual Stamps

- Question: What if I find a plank with multiple grade stamps?
- Answer: This should not occur. In the event it does, consult a competent or qualified person.

Scaffold Plank Identification:

Engineered Wood Scaffold Plank

Engineered Wood Scaffold Planks

Types

- Laminated Veneer Lumber (LVL)
 - Most common type of engineered wood plank; uses multiple layers of veneer bonded by adhesive.
- Edge-Laminated Lumber – vertically laminated wood strips bonded by adhesive
- Pin-Connected plank – multiple wood strips mechanically fastened to act as a single member.



Engineered Wood Scaffold Plank Identification

Mandatory Requirements:

- SEAL OF NATIONALLY RECOGNIZED THIRD-PARTY INSPECTION AGENCY –

This example shows “PFS”

A current list of IAS approved third-party inspection agencies is available at www.saiaonline.org on the “Plank & Platform Council” downloads section.



Engineered Wood Scaffold Plank Identification

Mandatory Requirements:

- **PRODUCT/MANUFACTURER IDENTIFICATION** –
This is needed to relate engineered wood planks back to the manufacturer's literature.
- **MANUFACTURER LITERATURE** –
This must provide guidance on spans and loads to meet OSHA safety factor and deflection criteria.



Engineered Wood Scaffold Plank Identification

- SAIA recommended identification marks
 - Manufacturer logo or name
 - Manufacturing mill number
 - “PROOF TESTED” claim
 - “SCAFFOLD PLANK” designation or abbreviation (e.g. “SCAFF PLK”)
 - Production date
 - Grade – recommended if manufacturer offers multiple product grades (e.g. 2.1E)



Engineered Wood Scaffold Plank Identification

- Other optional identification marks:
 - Grade – optional if manufacturer only offers one grade (e.g. 2.1E)
 - Stamped or branded with the word “OSHA”
 - Customer specific identification (private emboss)





Engineered Wood Scaffold Plank Identification

Non-mandatory features:

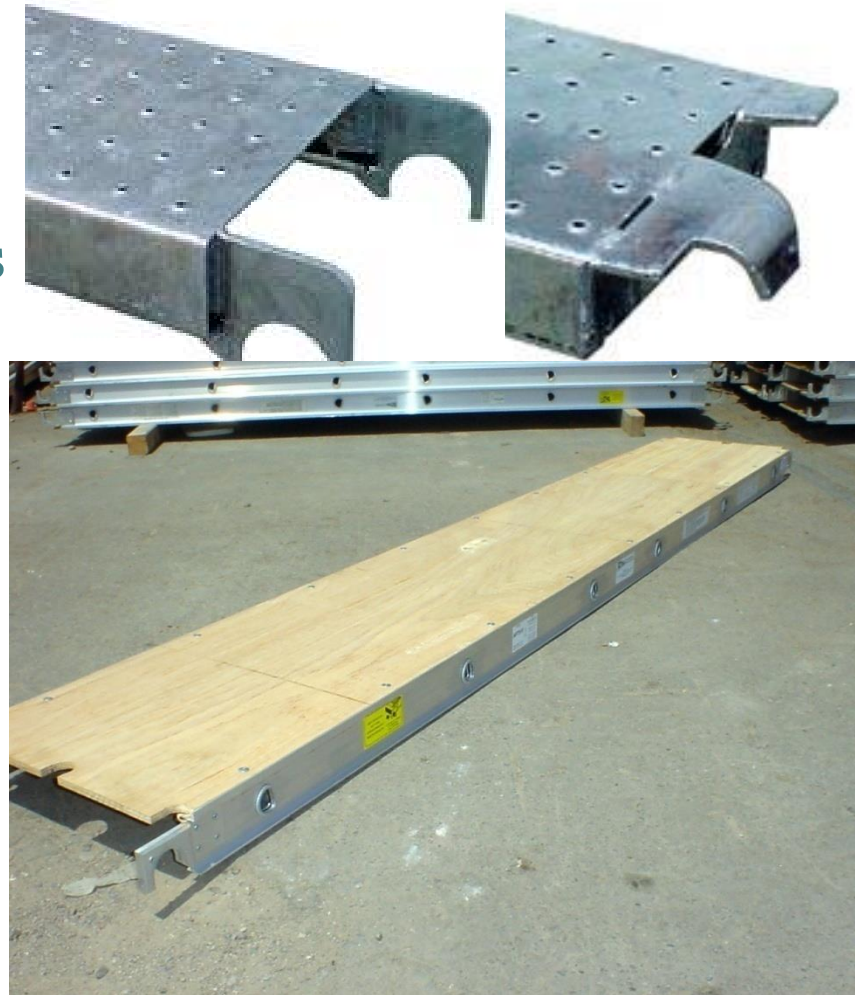
- Edge branding or embossing
- End and/or edge sealers
- End banding
- Edge easing
- Anti-slip (abraded) surfaces
- Fire-treated for specialty applications

Scaffold Plank Identification:

Metal Planks And Decks

Metal Plank & Deck Identification

- Metal scaffold planks & decks
 - Comprised of metal rails, metal and/or plywood decks
 - Loading capacity rated
 - Slip resistant surface – metal planks
 - May have hooks for attachment



Metal Plank & Deck Identification

Non-Hooked Metal Planks

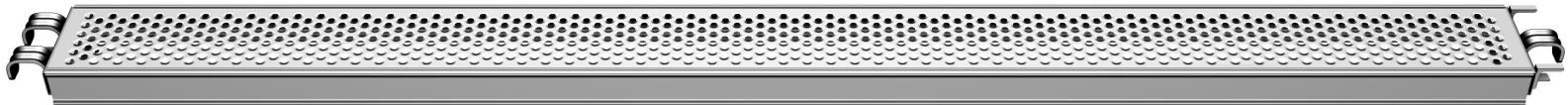
- Manufactured of metal with a slip resistant surface
- Mandatory
 - Must incorporate a slip resistant surface
 - Must not be less than 6-inches wide nor of a length that would allow use on a single span greater than 10 feet



Metal Plank & Deck Identification

Steel Planks

- Manufactured of steel with hooks and slip resistant surface
- Mandatory
 - Must incorporate a slip resistant surface
 - Must have bearer hooks for attachment
 - Must not be less than 6-inches wide nor of a length that would allow use on a single span greater than 10 feet



Metal Plank & Deck Identification

Aluminum Decks

- Manufactured of aluminum with hooks and slip resistant surface
- Mandatory
 - Must incorporate a slip resistant surface
 - Must have bearer hooks for attachment
 - Commonly 12-inches to 32-inches wide and of a length that would not allow use on a single span greater than 10 feet



Metal Plank & Deck Identification

Wood Decked Platforms

- Manufactured of metal rails with hooks for attachment and plywood decking
- Mandatory
 - Decking shall be solid-type and fastened to side rails
 - Must have bearer hooks for attachment
 - Must be marked and identified by rated working load



Scaffold Plank Identification:

Composite
(Fabricated)
Planks And Decks

Composite Plank and Deck Identification

- **Mandatory:**
 - Must be labeled and the load rating must have a 4 to 1 safety factor
 - Must have slip resistant surface



Composite Plank and Deck Identification

- SAIA Recommended Identification Marks:
 - Production date
 - Proof tested stamp
 - “SCAFFOLD PLANK” designation or abbreviation (i.e. “SCAFF PLK”)
 - Manufactured with UV resistant resin
 - Manufactured with Fire Retardant resin
 - Manufactured by factory with ISO 9001:2000 Quality Management System





Composite Plank and Deck Identification

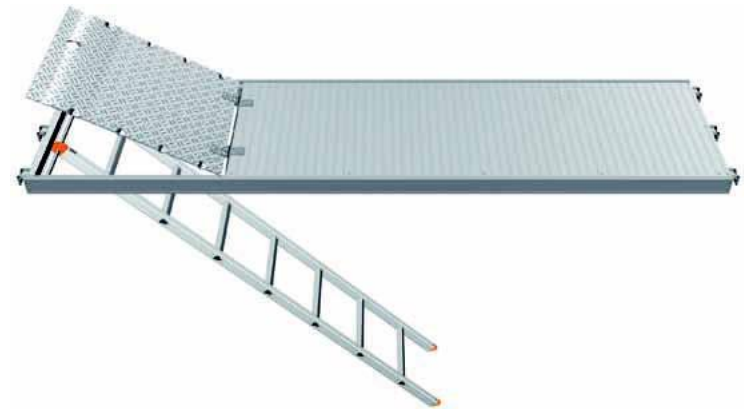
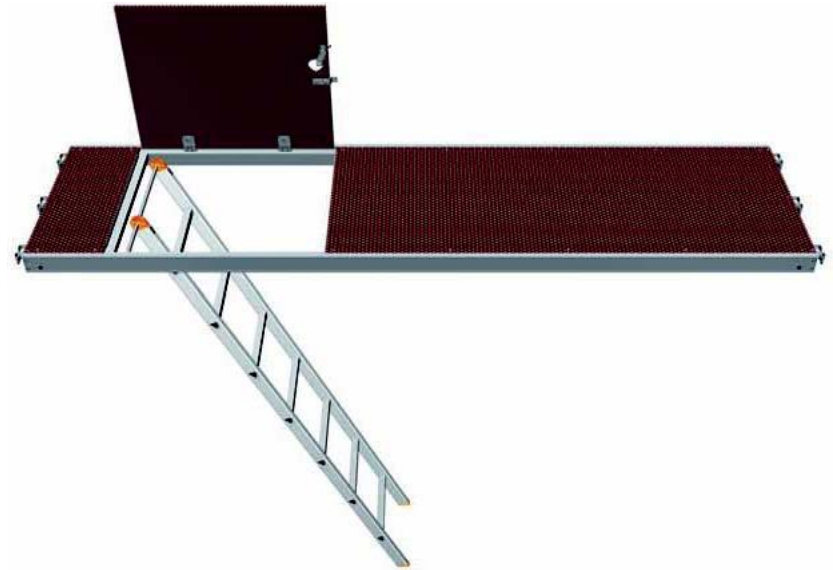
- **Non-mandatory features:**
 - 3rd party random sample testing
 - Custom colors to match company brand
 - End caps
 - Stamp or label with the word “OSHA”

Scaffold Plank Identification:

Inner Access Decks

Inner Access Deck Identification

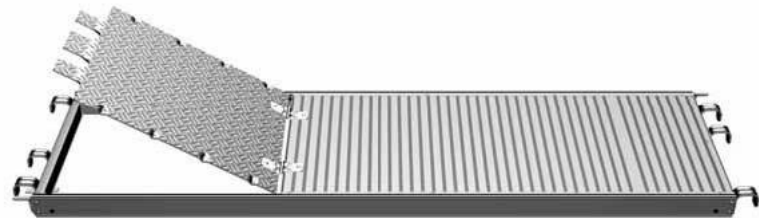
- Manufactured of metal rails with hooks for attachment and metal, composite or plywood decking
- Mandatory
 - Must incorporate a slip resistant surface
 - Must have bearer hooks for attachment
 - Must be marked and identified by rated working load



Inner Access Deck Identification

Non-Mandatory:

- May have separate or integrated ladder
- May have a hatch for access through the deck
- Manufacturer may be identified on the deck
- May have built-in devices to prevent uplift



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- Improper Handling
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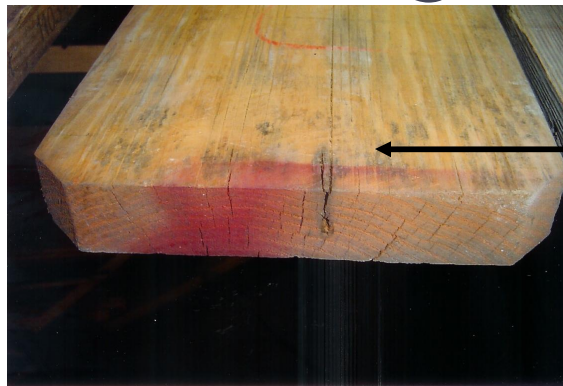


Types of Damage Commonly Found in Solid Sawn and Engineered Wood Scaffold Plank

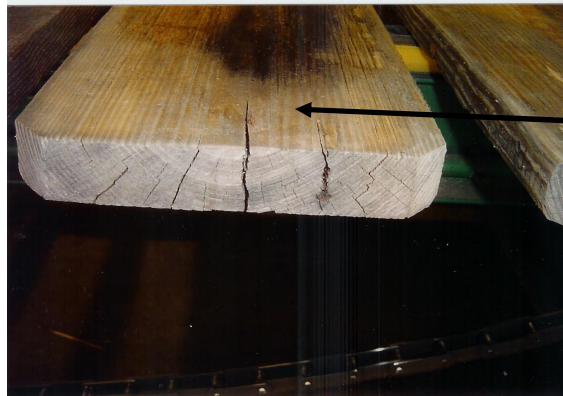
- “ Splits (end splits, narrow face splits)
- “ Delamination (applies to engineered wood)
- “ Handling damage (fork spears, dents, gouges)
- “ Saw kerfs, notches and holes
- “ Face breaks

“Each of these will be considered individually over the next several slides

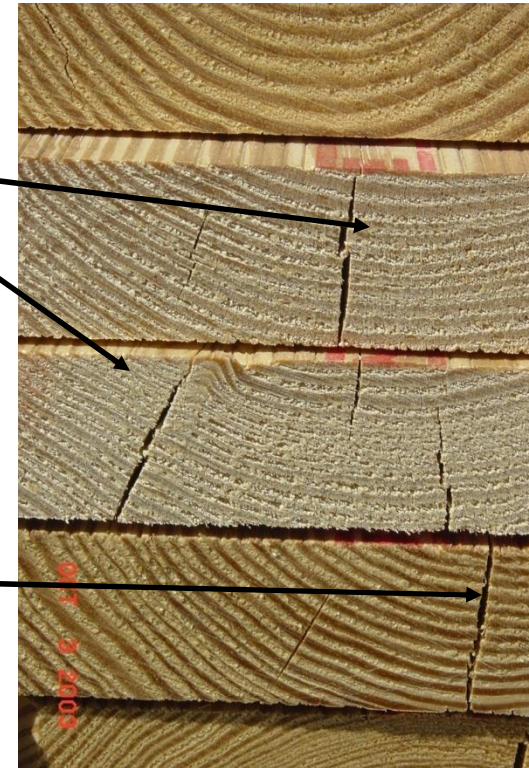
Checking



Checks



Splits



- Checks – Hair-line fiber separation on face or end, where moisture has exited the plank
- **ACTION:**
 - **NONE.** Checks are allowable and unlimited

Splits

- There are two types of splits:
 - End splits
 - Narrow face splits



End Splits



Narrow Face Split

End Splits



- Complete separation of the wood – surface-to-surface.
- End splits with length less than or equal to the plank width are repairable.
- **POSSIBLE ACTIONS:**
 - Banding may be used to arrest repairable splits from further propagation.
 - **SEEK THE REVIEW** of a Competent Person* to determine if plank can be **CUT BACK** or must be **REMOVED FROM SERVICE**.

* See definitions on slide #4.

End Splits



- This end split is less than the width of the plank
- **POSSIBLE ACTIONS:**
 - NONE REQUIRED. Split is allowable
 - Means may be provided to ARREST SPLIT from further propagation.

Face Split



- Open splits on narrow face of plank – Possible internal damage – NOT ALLOWED
- **ACTION:**
 - REMOVE PLANK FROM SERVICE.

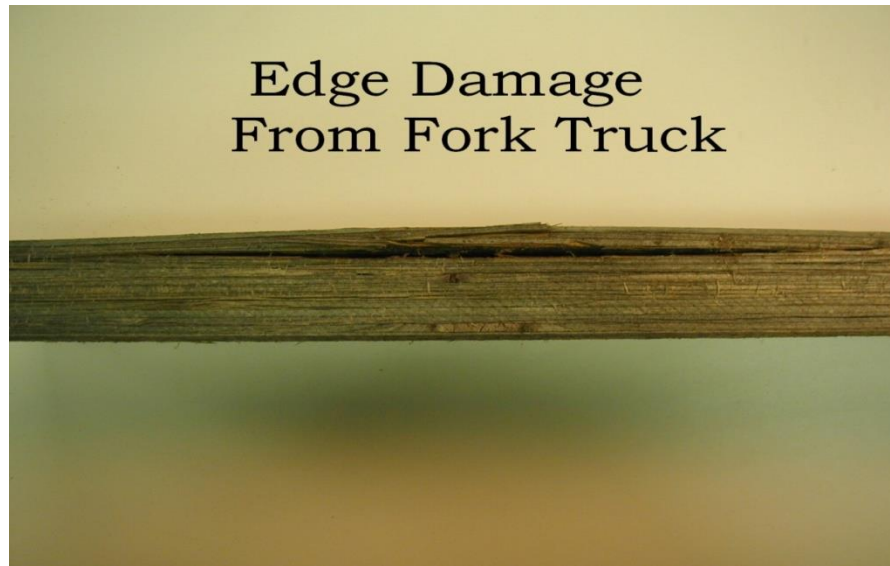
NOTE: In LVL it is possible to have a slightly indented veneer sheet that resembles a narrow face split. A stiff probe may be used to determine depth of the indent; contact your manufacturer for guidance to distinguish a narrow face split from indented veneer.

Delamination



- Delamination is a separation of veneer layers (applicable to laminated engineered wood), and indicates a loss of structural integrity - NOT ALLOWED
- **ACTION:**
 - REMOVE PLANK FROM SERVICE
 - NOTIFY MANUFACTURER

Handling Damage



- Localized handling damage can also indicate possible internal damage - NOT ALLOWED
- **POSSIBLE ACTIONS:**
 - REMOVE PLANK FROM SERVICE
 - SEEK THE REVIEW of a Qualified or Competent Person* if further use of the plank is desired

* See definitions on slide #4.

Other Damage

- Dents, depression & gouges may be caused by dropped objects, planks or machinery; and may indicate internal damage
- **ACTION:**
 - REMOVE PLANK FROM SERVICE
 - SEEK THE REVIEW of a Qualified or Competent Person* if further use of the plank is desired



* See definitions on slide #4.

Saw Kerfs



- Kerfs or cuts result in a reduction of strength – NOT ALLOWED
- POSSIBLE ACTIONS:
 - CUT BACK to remove defect
 - REMOVE PLANK FROM SERVICE

Notches



- Notches result in a reduction of strength. All uses must be at the direction of a qualified person
- **POSSIBLE ACTIONS:**
 - CUT BACK to remove defect
 - REMOVE PLANK FROM SERVICE
 - SEEK THE REVIEW of a Qualified Person* if further use of the plank is desired

* See definitions on slide #4.

Face Breaks



- Tearing or cracking of wood fiber due to overload or abuse; an indication of structural damage to the plank – NOT ALLOWED
- Damage from a break is not always easy to identify and is best observed under load or mechanical evaluation (cracking sounds during loading are audible indicators)
- **ACTION:**
 - REMOVE PLANK FROM SERVICE

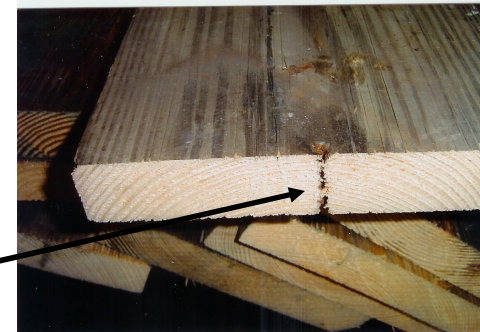
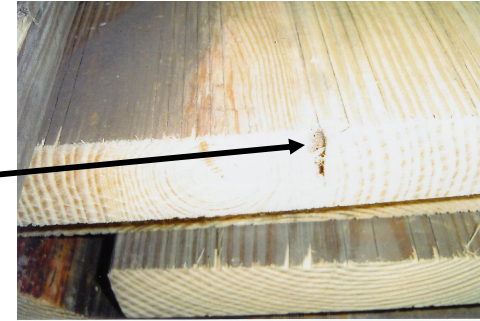
Holes



Drilled
Holes


Nail Hole

Pitch
Pocket



- Pitch & pitch pockets: visible in solid sawn plank – does not compromise structural integrity – ALLOWED. No action required.
- Drill/nail holes – can cause damage due to water penetration, reduced section and possible end splitting.
- Recommend keeping fasteners back a minimum 6-inches from the end of planks.
- **POSSIBLE ACTIONS:**
 - CUT BACK to remove defect
 - REMOVE PLANK FROM SERVICE
 - SEEK THE REVIEW of a Qualified Person* if further use of the plank is desired

* See definitions on slide #4.



Types of Deformation Found in Solid Sawn and Engineered Wood Scaffold Plank

- Crook
- Cup
- Twist
- Bow

Crook

- Crook – deviation edgewise from a straight line end-to-end
- Crook can cause gaps in decking surface
- **POSSIBLE ACTIONS:**
 - REMOVE PLANK FROM SERVICE
 - SEEK THE REVIEW of a Qualified or Competent Person* if further use of the plank is desired



* See definitions on slide #4.

Cup

- Cup – deviation in the face of a plank edge-to-edge
- Can create “rocking” effect or tripping hazard
- **POSSIBLE ACTIONS:**
 - REMOVE PLANK FROM SERVICE – store in well stacked area to dry out (cup may be only “temporary” due to moisture on one side of plank).
 - SEEK THE REVIEW of a Qualified or Competent Person* if cup persists and further use of the plank is desired



* See definitions on slide #4.

Twist



- Twist – curl or spiral movement end-to-end or edge-to-edge
- Can create “rocking” effect or tripping hazard
- **ACTION:**
 - REMOVE PLANK FROM SERVICE
 - SEEK THE REVIEW of a Qualified or Competent Person* if further use of the plank is desired

* See definitions on slide #4.

Bow

- Bow – “ramp effect”; flat-wise deviation
- Possible damage due to overloading or excessive moisture in plank
- **ACTION:**
 - REMOVE PLANK FROM SERVICE
 - SEEK THE REVIEW of a Qualified or Competent Person* if further use of the plank is desired



* See definitions on slide #4.

Types of Contamination Found in Solid Sawn and Engineered Wood Scaffold Plank

- Chemical
- Fungus
- Decay
- Insect Attack

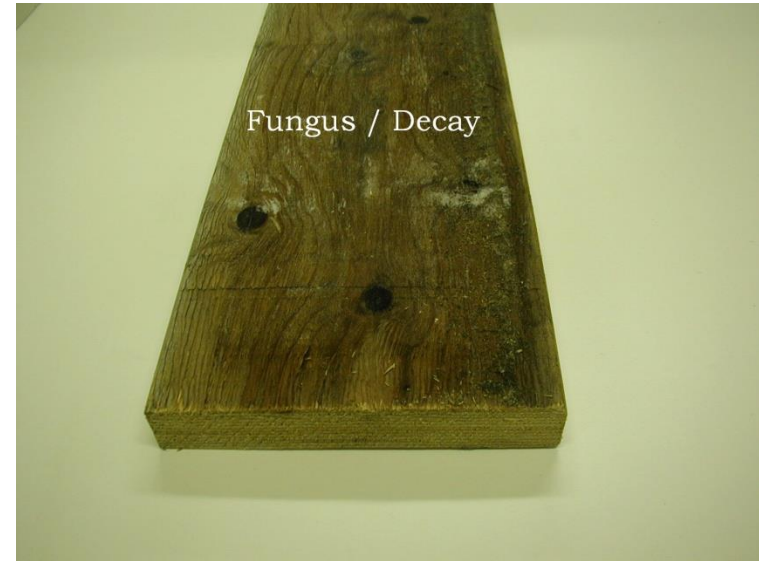
Chemical Contamination



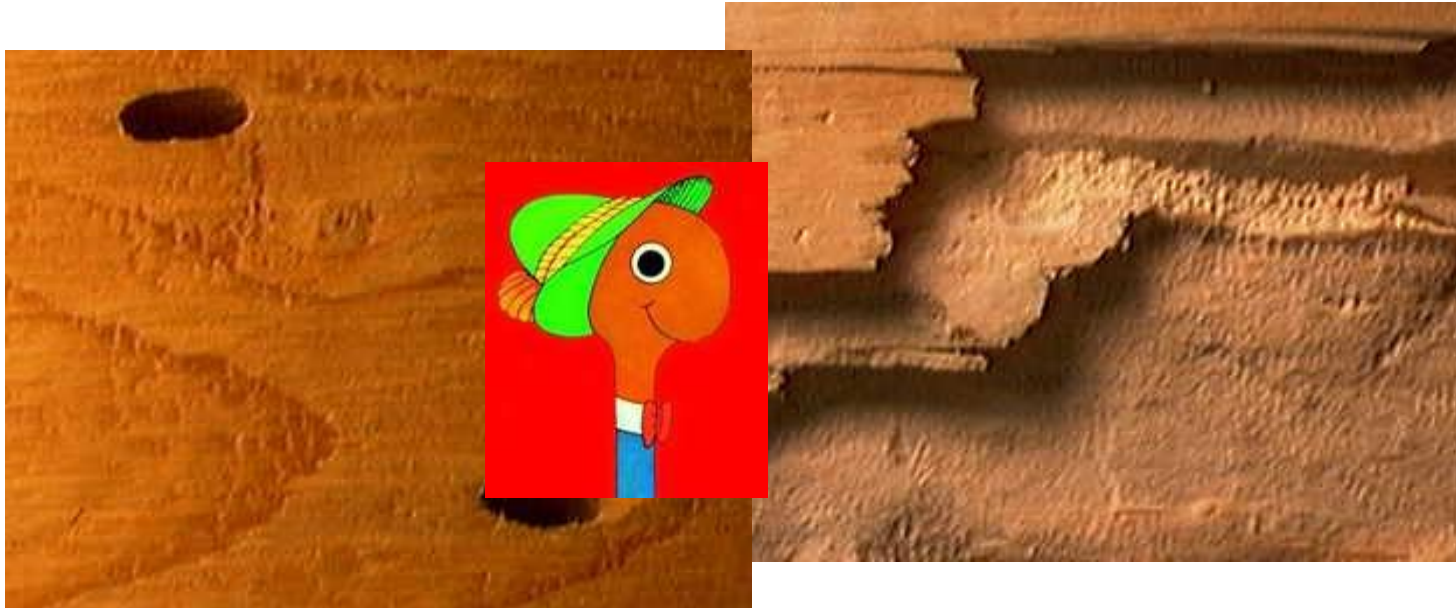
- Usually from acid or alkaline solutions – damage may not be visible
- Decrease in plank weight may be symptom of chemical contamination
- Wood may appear soft, crumbly or carry odor – NOT ALLOWED.
- **ACTION:**
 - REMOVE PLANK FROM SERVICE

Fungus & Decay

- Rot is decay of the fiber due to moisture or improper storage & can lead to fungus growth and decrease in plank strength – NOT ALLOWED
- **ACTION:**
 - REMOVE PLANK FROM SERVICE



Insect Attack



- Insect damage is normally visible, and may compromise plank strength – NOT ALLOWED
- **ACTION:**
 - REMOVE PLANK FROM SERVICE

Damage in Metal Planks & Decks and Composite Planks & Decks

- Normally damage is visible
- Causes:
 - Shipping & Handling - forklift
 - Erection & Dismantling
 - Storage



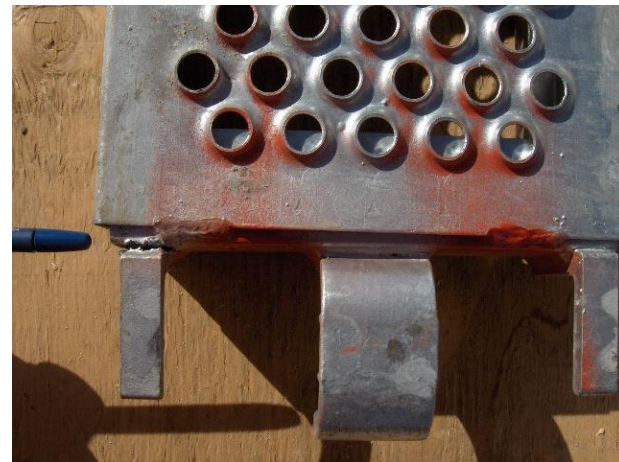
Erection & Dismantling

- Dropping a plank or deck can cause significant damage
- Any damaged metal plank should be removed from service
- **ACTION:**
 - REMOVE FROM SERVICE
 - CONTACT THE MANUFACTURER to decide if damage is repairable



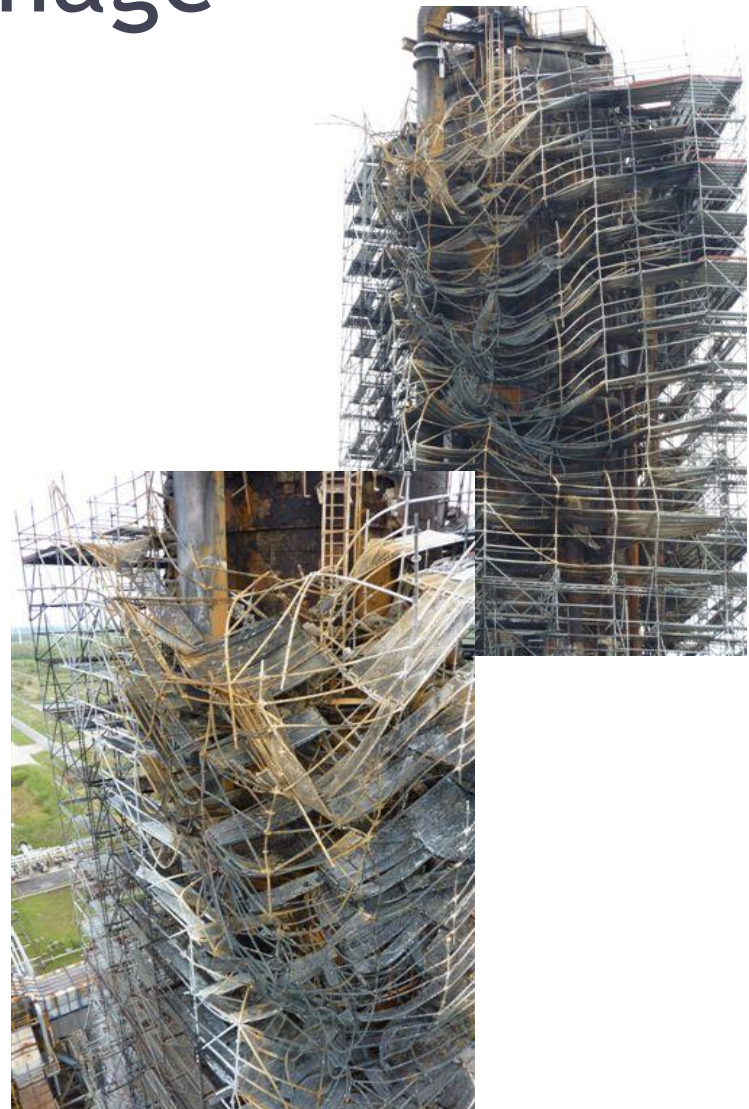
Other Causes Of Damage

- Overloading
- Rot on plywood decks
- Damaged welds
- Composite planks may contain:
 - End splits, saw kerfs face splits, holes and chemical contamination
- **ACTION:** If any signs of these types of damage are present:
 - REMOVE FROM SERVICE
 - CONTACT THE MANUFACTURER to decide if damage is repairable



Other Causes Of Damage

- Excessive heat
 - Damage may not be visible
 - Excessive heat may be exposure to temps in excess of 570F (300C) for steel planks or 210F (100C) for aluminum planks
 - Note that galvanization may become damaged at temperatures lower than 300F
- **ACTION:** If it is suspected that product has been exposed to excessive heat:
 - REMOVE FROM SERVICE
 - CONTACT THE MANUFACTURER to decide if damage is repairable



Other Causes Of Damage

- Rust
 - Usually the result of improper storage or chemical/acid attack
 - White rust is the first stage of corrosion and appears as a chalking of the zinc layer on galvanized steel.
 - Red rust is a latter stage of corrosion and with no attention can compromise the surface.
 - Severity can range from an ugly appearance to compromised structural integrity.
- **ACTION:**
 - REMOVE FROM SERVICE
 - CONTACT THE MANUFACTURER to decide if damage is repairable





Types of Damage in Inner Access Decks

The types of damage described for metal planks in the previous couple of slides are also applicable for inner access decks. In addition to those types listed on the previous slides, the following types of damage may also be seen in inner access decks:

- Damaged hinges
- Hatch does not close or lock properly
- Warped ladder or disfigured ladder rungs
- Broken ladder components

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Visual Inspection Solid Sawn & Engineered Wood Scaffold Plank

- It is a mandatory requirement to visually inspect scaffold planks before each use.
 - Start with a complete visual inspection
 - Pull planks one-by-one from plank pile
 - Check one side, then turn and check the other
 - Check both ends
 - Check both edges
 - Place each plank in a “Usable” pile (free from all suspected or known defects) or in a “Review” pile (review questionable planks with a competent or qualified person) or in a “Scrap” pile
 - Refer to the *Solid Sawn Scaffold Plank Handbook* or *Laminated Veneer Lumber Scaffold Plank Handbook* for further information (A current copy of each of the Pocket Handbook Guides is available at www.saiaonline.org on the “Shop SAIA” section.)

Mechanical Evaluation Solid Sawn & Engineered Wood Scaffold Plank

- It is recommended that a mechanical evaluation program be used to supplement (but not replace) routine visual inspection of scaffold planks.
 - If done properly, mechanical evaluation can help detect damaged planks that are difficult to visibly detect when not loaded.
 - If done improperly, mechanical evaluation can damage planks.
 - DO NOT overload planks or apply impact loads during mechanical evaluation.
 - Check with your manufacturer/supplier or the SAIA for guidance on proper mechanical evaluation techniques for your scaffold plank.
 - Equipment for automating/aiding in mechanical evaluation is available from some suppliers.



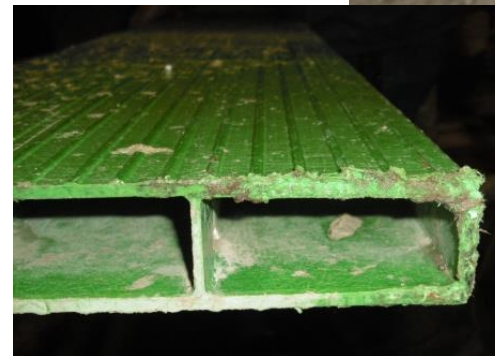
Metal Plank, Deck & Stage Inspection

- Check to see that all hooks are present.
 - Check to see that all hooks have their original shape.
 - Check to see that the hooks are free of cracks.
 - Check to see that all hooks are securely attached.
 - Check to see if the deck rails have their original shape throughout their length.
 - Check to see if the deck rails are straight.
 - Check to see if there are any dents or punctures in the deck rails.
 - Check to see if the walking surface is securely attached to the rails.
 - If the walking surface is wood, check for cracks or damage on both the top and bottom sides.
 - Check to see that all cross-members are present and securely attached.
 - If any item noted above is not correct, take appropriate corrective action
-
- Refer to the *Metal/Composite Scaffold Platform Handbook* for further information (A current copy of each of the Pocket Handbook Guides is available at www.saiaonline.org on the “Shop SAIA” section.)



Visual Inspection Composite Planks & Decks

- Check to see that all hooks are present on decks.
- Check to see that all hooks have their original shape on decks.
- Check to see that the hooks are free of cracks on decks.
- Check to see that all hooks are securely attached on decks.
- Check to see if the plank/deck has its original shape throughout its length.
- Check to see if there are any dents or punctures in the plank/deck.
- If applicable check to see that all cross-members are present and securely attached.
- If any item noted above is not correct, take appropriate corrective action
- Refer to the *Metal/Composite Scaffold Platform Handbook* for further information (A current copy of each of the Pocket Handbook Guides is available at www.saiaonline.org on the “Shop SAIA” section.)



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Proper Storage For Scaffold Planks

- Scaffold planks should be:
 - Stacked on blocking to avoid ground contact
 - Stacked neatly in bundles of same length
 - Stickered between each row
 - Stored under cover (if necessary) with good air circulation



Stickers between plank rows

Blocking (dunnage) between bundles

Improper Handling And Misuse

The Top 10 “DO NOT’s”

- DO NOT...

- 1) Dump planks from trucks or push with the ends of forks
- 2) Drop, toss or throw planks from scaffold
- 3) Drop heavy objects on scaffold planks
- 4) Overload planks
- 5) Use as loading ramps or walkways through mud
- 6) Return scaffold plank to service once it is used as a mud sill
- 7) Jump or bounce on scaffold plank
- 8) Use in any other way than as scaffold planking
- 9) Exceed maximum allowable spans
- 10) Exceed maximum allowable deflection

The Golden Rule

- A Good Rule Of Thumb To Use When Evaluating The Damage Of Any Scaffold Plank Or Platform Is:

When In Doubt, Throw It Out!





Disclaimer

The information contained herein is believed to be accurate as of the date of publication. This provides information on methods of safe use but does not purport to be all-inclusive, or to supplant or replace any manufacturer or other safety and precautionary measures. They are intended to neither conflict with nor supersede the requirements of law or governmental regulations, codes and ordinances. The user must refer to such provisions. Scaffold & Access Industry Association expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information. The ownership of the copyright for this guide belongs to the Scaffold & Access Industry Association.