

ATAS International, Inc.
BUILDING PANEL TRANSIT,
JOB SITE HANDLING AND STORAGE PROCEDURES

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Disclaimer:

This document is intended as a guideline to identify generally accepted practices for transit, handling and storage of products and materials. It does not address the adequacy of the handling equipment or safety practices inherent in handling sheet metal and operating various types of equipment. Unusual site or load conditions are also beyond the scope of this document. Care must be taken to ensure crate is correctly balanced. ATAS assumes no responsibility or liability for the use of the information or damages incurred during the material handling process.

Objectives

- Transport, unload and store materials to prevent physical damage to the panels, scuffing of the finish and damage due to corrosion.
- Identify steps to prevent corrosion during transit and storage by:
 - Reducing site storage time
 - Decreasing water contact
 - Moderating temperature extremes.
- Highlight requirements to safeguard protective, strippable film by preventing UV exposure and minimizing exposure to high heat and moisture so the masking can be easily removed after installation.
- Provide information on correct procedures so as to avoid costly, time-consuming and annoying field problems.

Transit

- Both painted and unpainted products should be kept dry.
- Abrasion, which appears as scuff marks, can result when panels flex during loading or unloading. Long bundles should be lifted with equipment that supports most of the panel length (see Receiving section).
- Bundles should be rigidly packaged with crosswise and lengthwise blocking.
- Truck loading should insure that panel bundles are protected from contact with other items, such as structural components.
- Carriers must be aware of safety requirements and obey all local, state and federal laws, including proper securing of loads.
- When lifting bundles with a forklift, the forks must be a minimum of five feet apart. (See Receiving section for additional precautions.)

Potential problems that can occur if proper procedures are not followed

- Panel scuffing, buckling, corrosion or wetness that can lead to corrosion during job site storage.

Receiving

Bundles of panels are typically unloaded either by forklift or crane. In either case, panels in bundles should be lifted at their center of gravity, and the bundle should be supported along the length. Crates should never be turned over on their sides for lifting. Never ride on the crates that are being transported.

Forklift unloading and handling

- Forks must be spread a minimum of five feet.
- The allowable overhang depends on the strength of the panels in the bundle as shown in [Table 1](#) and [Figure 1A](#).
- When lifting beneath the load, one forklift can be used for bundle lengths up to those specified in [Table 1](#). Longer bundles will require additional forklifts so no more than the specified length overhangs at either side of the forks (see [Figure 1B](#)). Spreader bar must be secured to forklift.
- A forklift can also be used to raise bundles longer than the specified maximum when they are suspended from a spreader bar (see [Figure 2](#)). The maximum distance between pick points and the maximum overhang are shown in [Table 1](#). (See the next section below for additional information on the use of slings and spreader bars.)
- Forks should not extend beneath the load so as to damage material in front of the load when the bundle is placed (see [Figure 3](#)).
- Drive slowly over uneven terrain to prevent panel buckling.
- Do not transport open bundles.

Table 1. Overhang and Span Limits for Lifting Bundles of ATAS Formed Panels

Panel Class and Families	Maximum Overhang (ft)	Maximum Length Between Supports or Pick Points (ft)	Maximum Bundle Length Handled by One Forklift (ft)
<u>Non-Structural Panels:</u> 1" & 1 ½" Field-Lok PC Panels Rumba Shake Bermuda Belvedere Grand C & V Metafor Multi-Purpose Opaline Versa-Seam Linear Ceilings	5	10	15
<u>Structural Panels:</u> 2" & 2 ¾" Field-Lok Monarch Dutch Seam & Batten Seam Techo Tile & Scanroof Belvedere (Except Grand C & V) Design Wall Corra-Lok Rigid Wall	10	20	25

Figure 1. Bundles of panels may be handled using a forklift with the load resting on the forks. (See [Table 1](#) for restrictions).

Figure 1A. Limitations using a single forklift

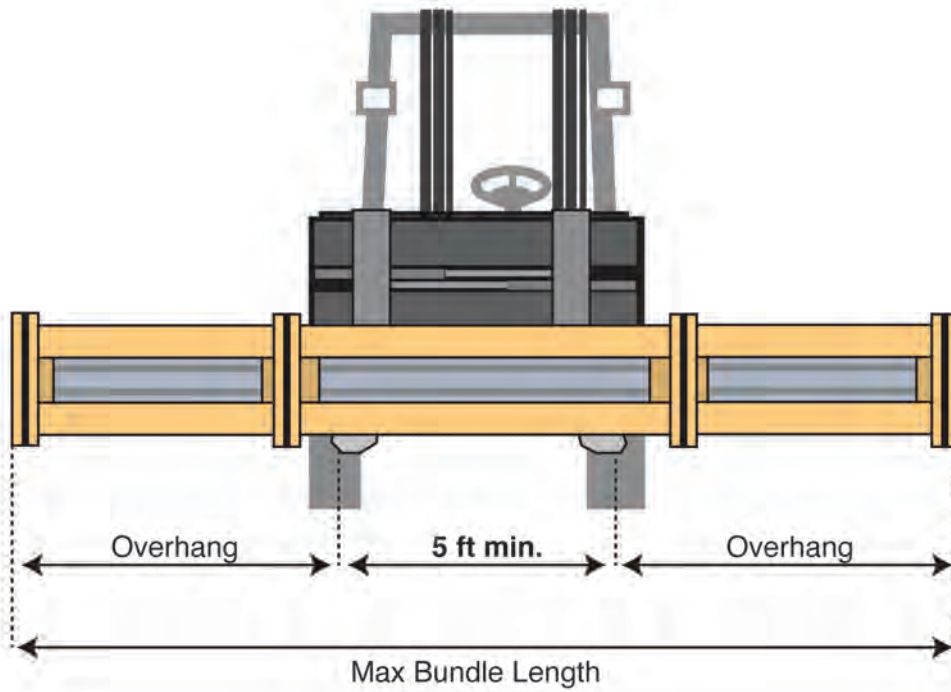
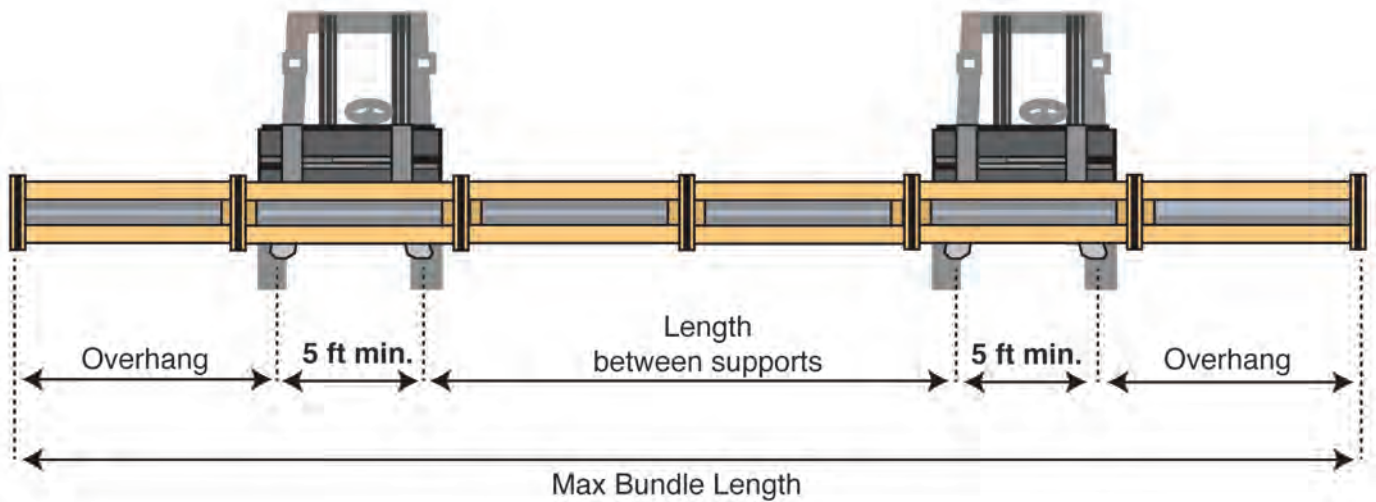


Figure 1B. Procedure for long bundles using multiple forklifts.



(See [Table 1](#) for allowable overhang and distance between supports)

Figure 2. Long bundles may be handled using a single forklift if the load is suspended below the forks from a spreader bar. (See Table 1 for restrictions.) Stack bundles so banded wooden frames are supported by banded sections on the bundle underneath.

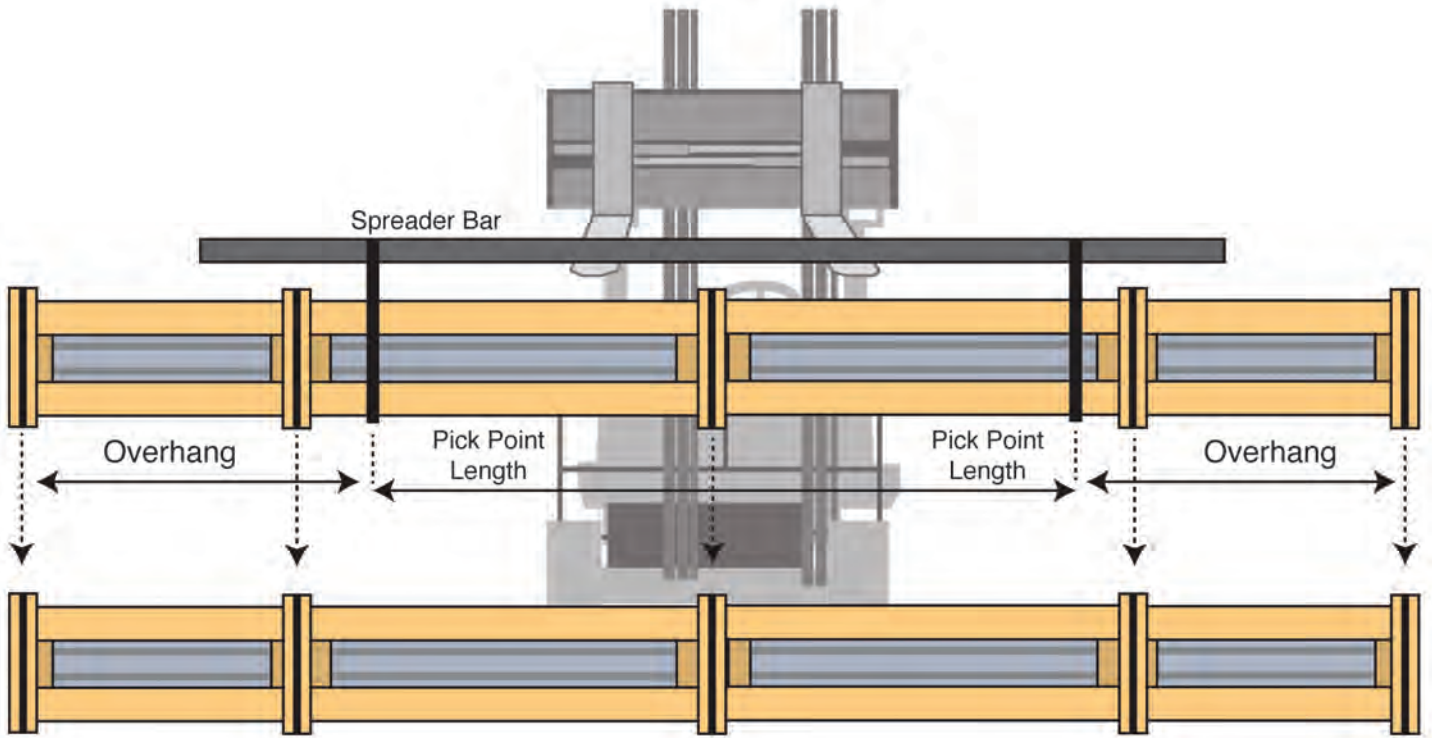
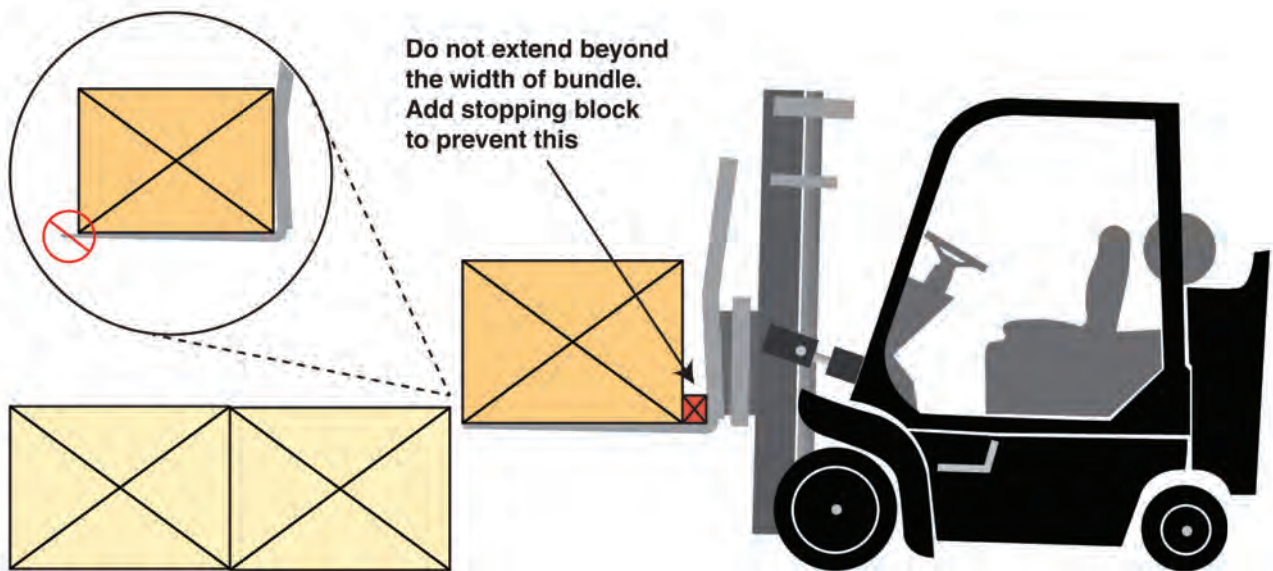


Figure 3. If forks extend too far under the load, the tips may damage material in the adjacent bundle.



Crane unloading and handling

- When lifting bundles with a crane, nylon straps at least 2 inches wide should be used. Never use wire rope slings or chains.
- Whenever possible, place the nylon straps beside the wooden frames that surround the bundle. The nylon straps must not damage the panels. Use spreader planks when required beneath and above the bundle to protect the panels (see [Figure 4](#)). The plank at the top of the bundle is especially important if a choker is used.
- Lift points must be no farther apart than either the value specified in [Table 1](#) or the length of each suspending cable, whichever is less. Overhangs must be no more than specified in [Table 1](#) (see [Figure 5](#)).
- A spreader bar should be used if the distance between the outer pick points is greater than the length of the cable or if the overhang would be more than the lengths specified in [Table 1](#).
- Use a spreader bar light enough so that the crane can lift the combined weight of the bundle and the spreader bar. Several slings can be supported by a single spreader bar (see [Figure 6](#)).

Figure 4. When using nylon straps to lift a bundle, spreader planks placed beneath and above the crate will prevent damage to panel edges.

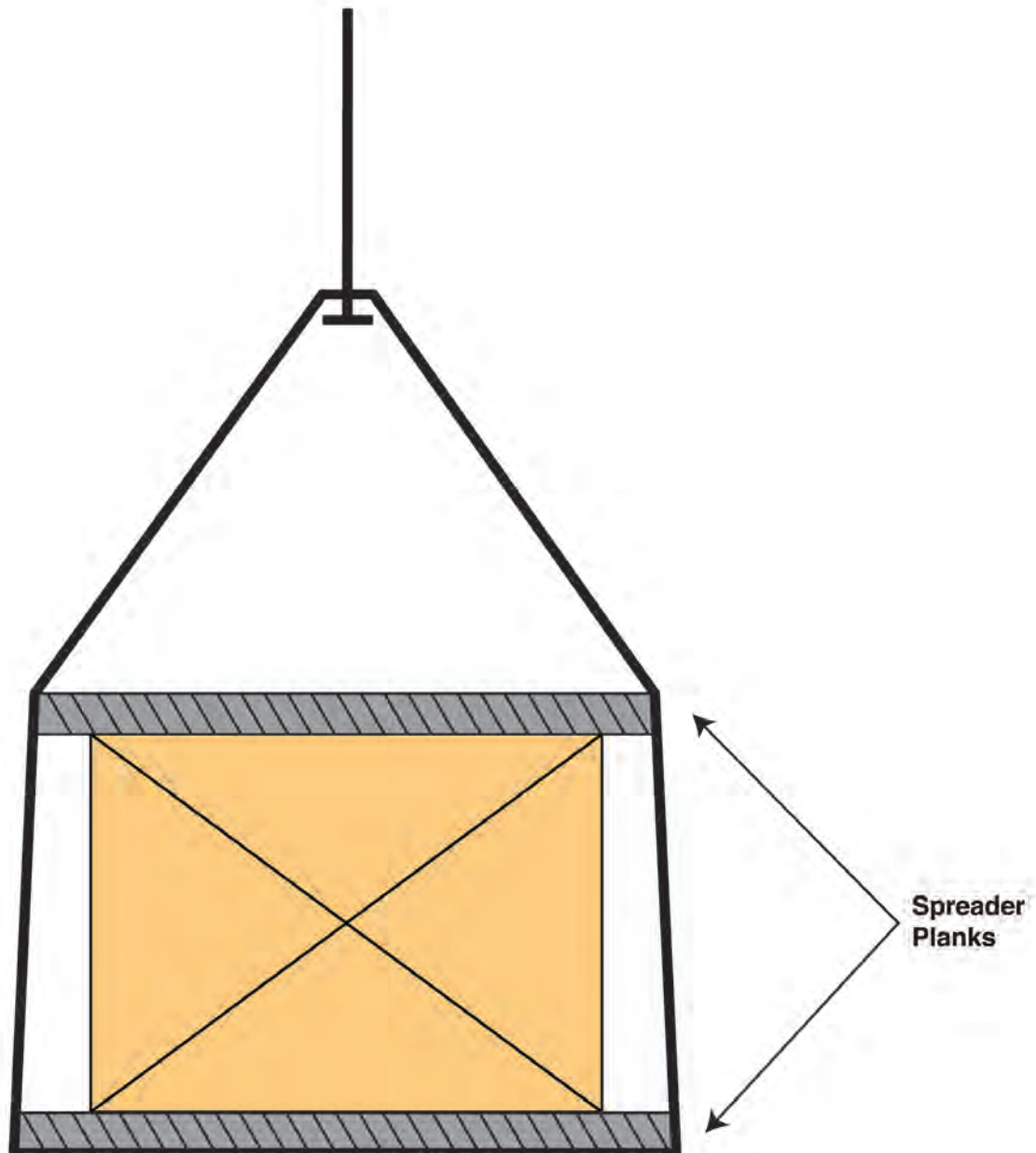


Figure 5. When handling bundles with a crane as shown, the distance between pick points must be no greater than the length of the cable or the specified distance in [Table 1](#), whichever is less. When possible, straps should be placed close to the supporting framework.

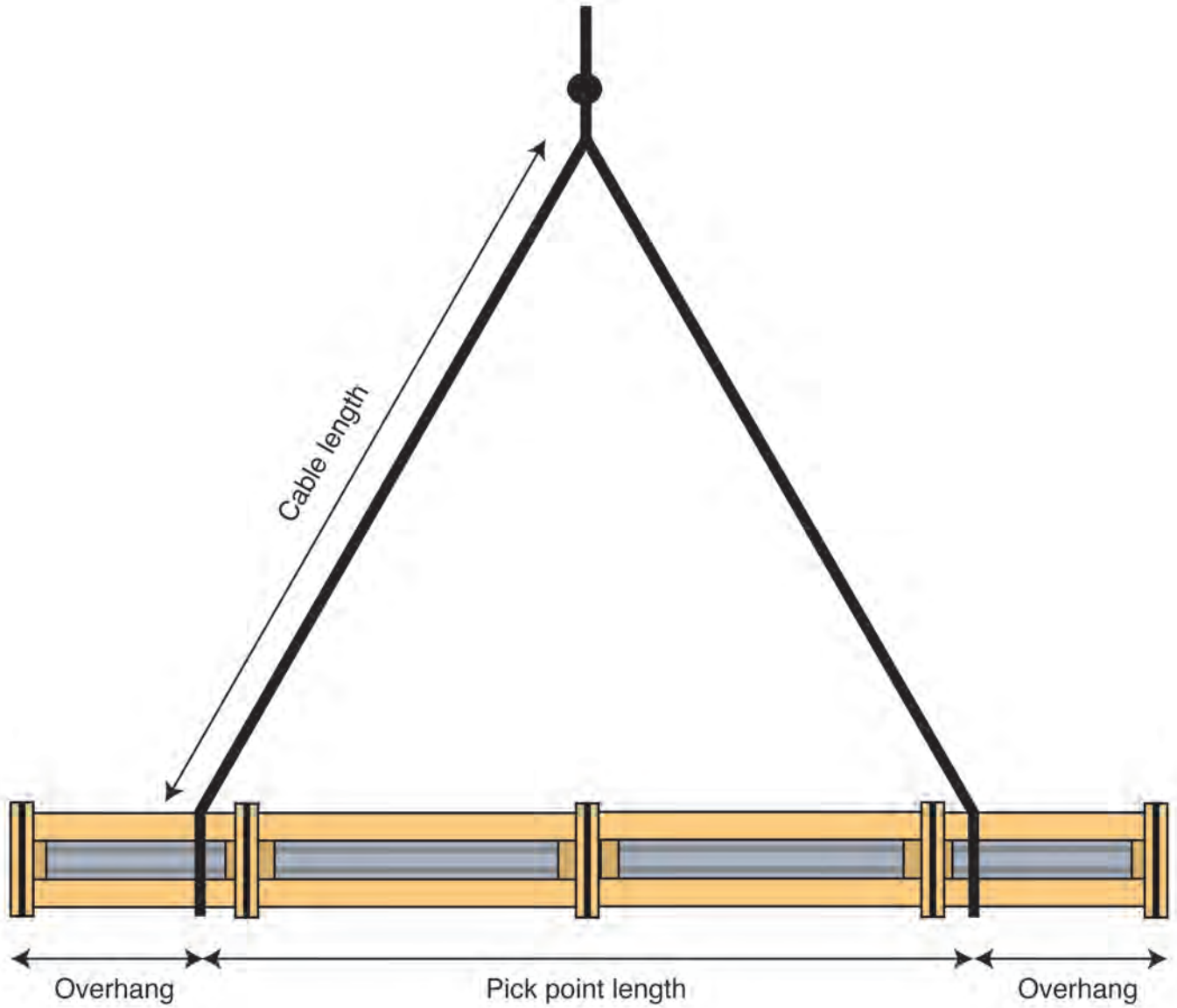
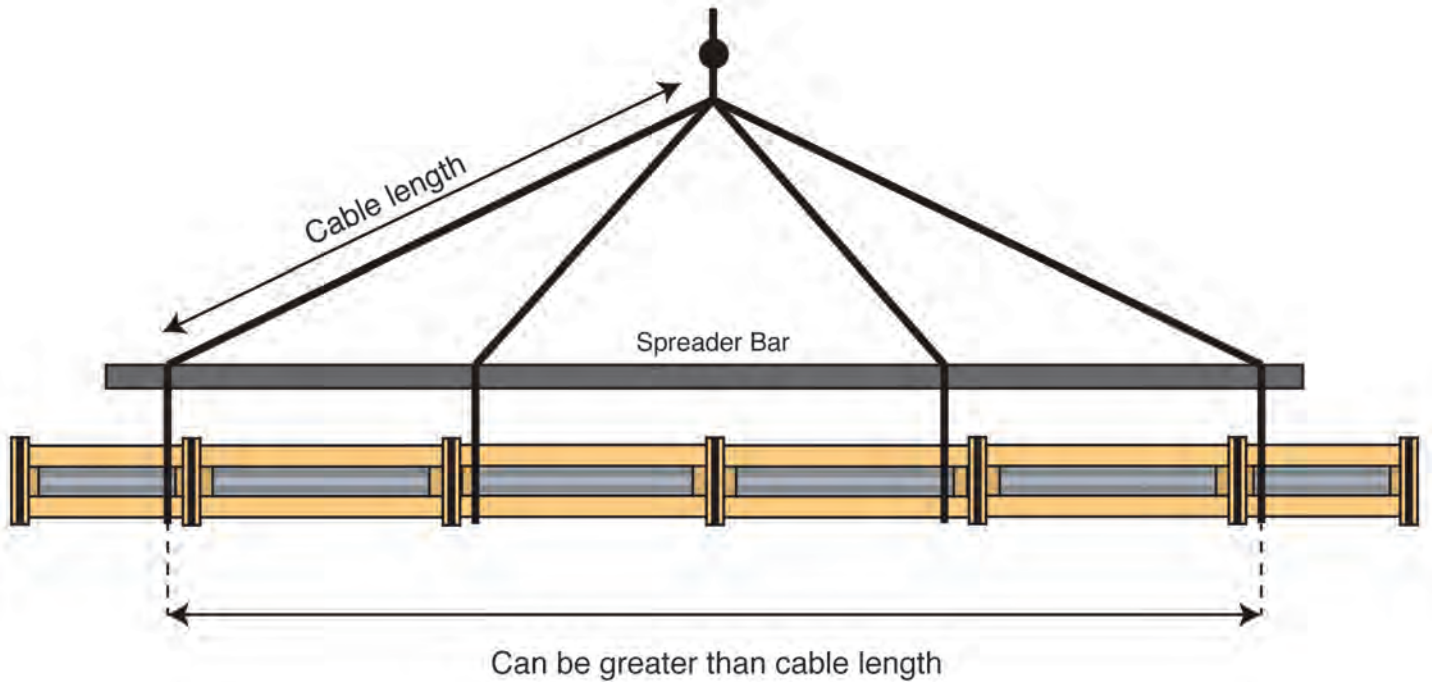


Figure 6. Bundles that are too long to be lifted as shown in Figure 5 can be handled using a spreader bar. In this case, the distance between outer pick points can be greater than the cable length. Restrictions in Table 1 apply.



Inspection

- Panel bundles must be inspected when received at the job site.
- Examine for mechanical damage, rips and tears in the packaging and the presence of water.
- Rips and tears in the paper wrapping must be repaired using water-resistant tape.
- If water is present in bundles of tightly stacked panels, the panels must be separated, wiped dry with a clean cloth and stacked with space between the panels so air can circulate and finish the drying process.
- Wet panels should also be inspected for evidence of blisters or corrosion. If found, these conditions should be noted on the receiving documents and reported to the panel supplier.

Potential problems that can occur if proper procedures are not followed

- Panel scuffing, buckling, bending, corrosion or wetness that can lead to corrosion during job site storage.

Storage

- The best way to reduce the possibility of damage during storage is to minimize the storage time.
- Other steps are designed to reduce the intrusion of water from rain, snow or condensation. A primary objective is to keep both painted and unpainted panels dry.
- Storage under roof is always preferable.
- Store away from materials that may contaminate the surface (such as diesel oil, paint, grease) and away from site traffic.
- If panels must be stored outdoors:
 - Store in a level area away from construction activities to minimize the number of movements.
 - Bundles stored on the ground must be placed on a plastic ground cover to minimize condensation of water from the ground on the panels.
 - Bundles must be raised several inches above the plastic ground sheet to avoid contact with puddles and to allow for air circulation.
 - Wet or treated lumber must not come in contact with the bundles.
 - The panels must be stored at an angle to promote drainage, taking care that the bundle is properly supported at each crosswise runner along its length (see [Figure 7](#)).
 - The bundle must be completely sheltered with a loose-fitting, waterproof tarp to protect the bundle from rain or snow while allowing for air circulation and drying of condensed water. The tarp also shades the bundle from direct sunlight, which helps to moderate temperature extremes and UV damage to protective masking.
 - Though it may seem like a good idea to wrap bundles in tightly sealed plastic wrap, this practice should be avoided because moisture can be trapped inside.
- If bundles of nested panels become wet, sheets should be separated, wiped with a clean cloth without delay and then placed so that air circulation completes the drying process. This is true for both painted and unpainted panels.
- When storing building panels, keep in mind that you are preserving both the integrity of the panels and the ability of the protective masking to release easily and with no residue after installation.

Potential problems that can occur if proper procedures are not followed

- Coatings on unpainted materials may deteriorate, resulting in non-uniform appearance that cannot be reversed.
- Prolonged exposure of bundled, prepainted panels to wet conditions can cause paint blistering or substrate corrosion.
- Adhesion of strippable film will increase over time and can cause removal problems.
- If panels are exposed to extreme heat or extensive solar radiation during storage or after installation, the strippable film may be very difficult to remove, and a residue may be left behind. In extreme cases, the film may be impossible to remove.

Figure 7. Take proper precautions when bundles must be stored outdoors, including a) Using a plastic ground cloth beneath the bundle; b) Supporting the bundle several inches above the ground cloth, along its length and at a slight slope for drainage; and c) Sheltering the bundle with a loose-fitting, waterproof tarp to provide air circulation while protect against water intrusion, temperature extremes and UV damage

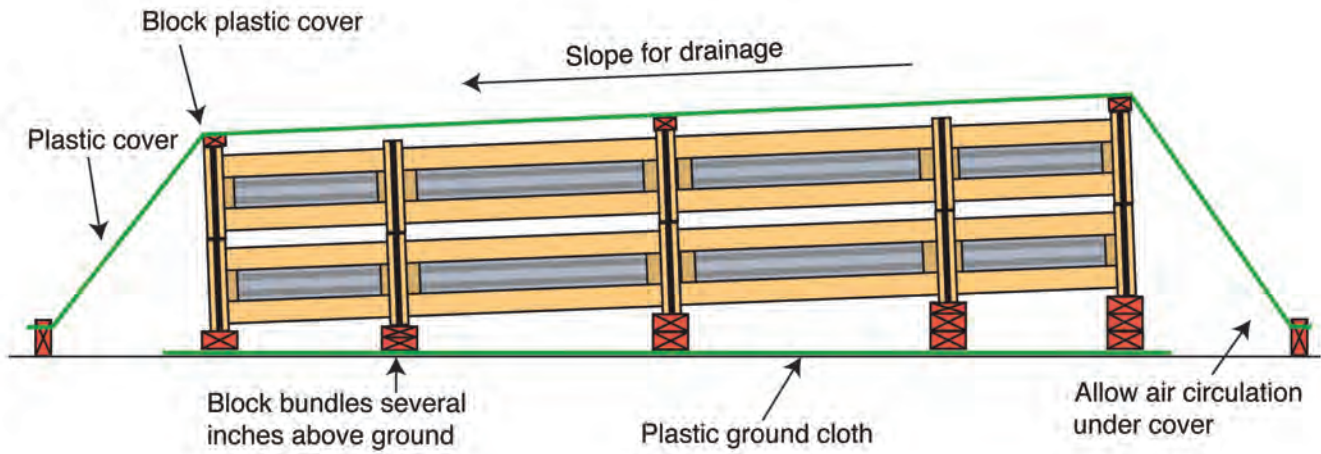
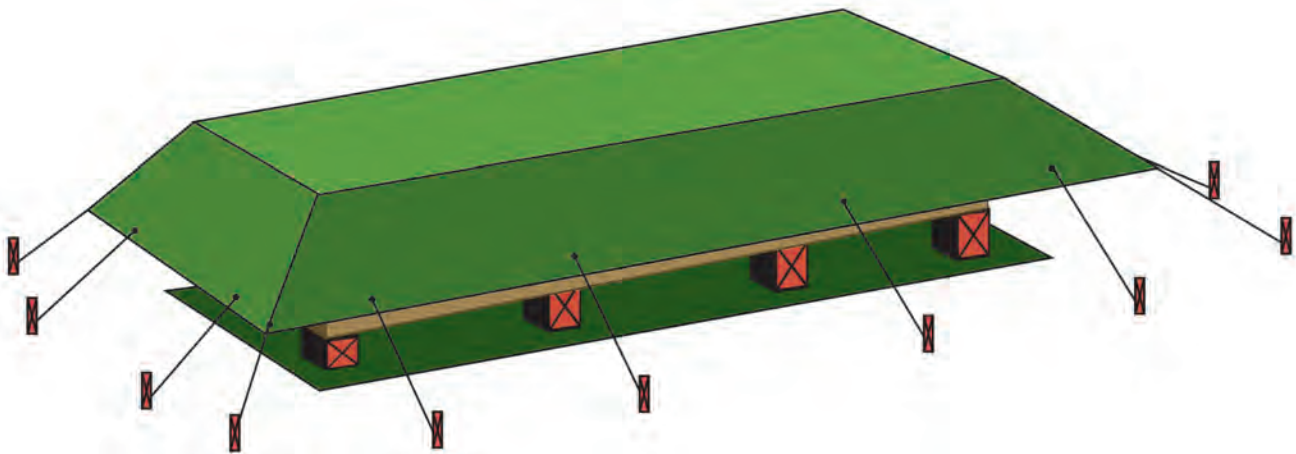


Illustration of Proper storage and tarp covering.



Handling Panels on the Job Site

- Individual panels should be lifted vertically by the seam. Do not pick up panels by the ends.
- If the panel is over 10 feet long, lift it with two or more people on one side to prevent buckling (see [Figure 8](#)).
- Unpainted panels should be handled and installed using clean, dry gloves.
- Remove strippable film as soon after installation as possible (see [Figure 9](#)). Caution! The masking is a translucent plastic film that may not be readily apparent. Be sure that it is removed from all panels and accessories.
- Exercise extreme caution when handling panels on windy days. Panels can catch the wind and knock a worker down, even on the ground.

Potential problems that can occur if proper procedures are not followed

- Panels may buckle.
- Unpainted panels will show fingerprints if gloves are not worn.
- Masking may be difficult or impossible to remove.
- Workers may be injured

Figure 8. Building panels must be lifted by the seam to prevent buckling. Additional people may be required to transport the panel safely and without damage.

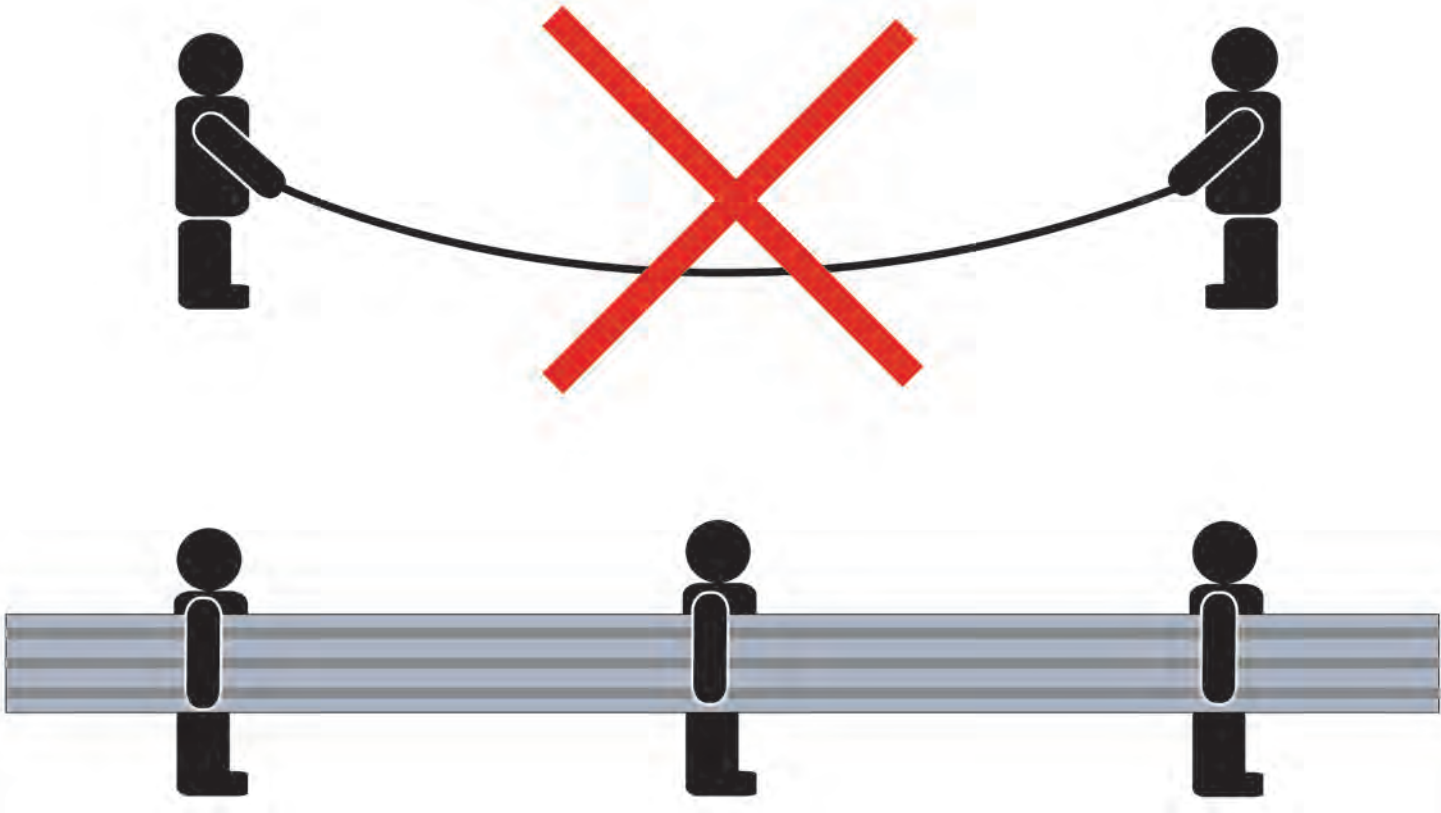
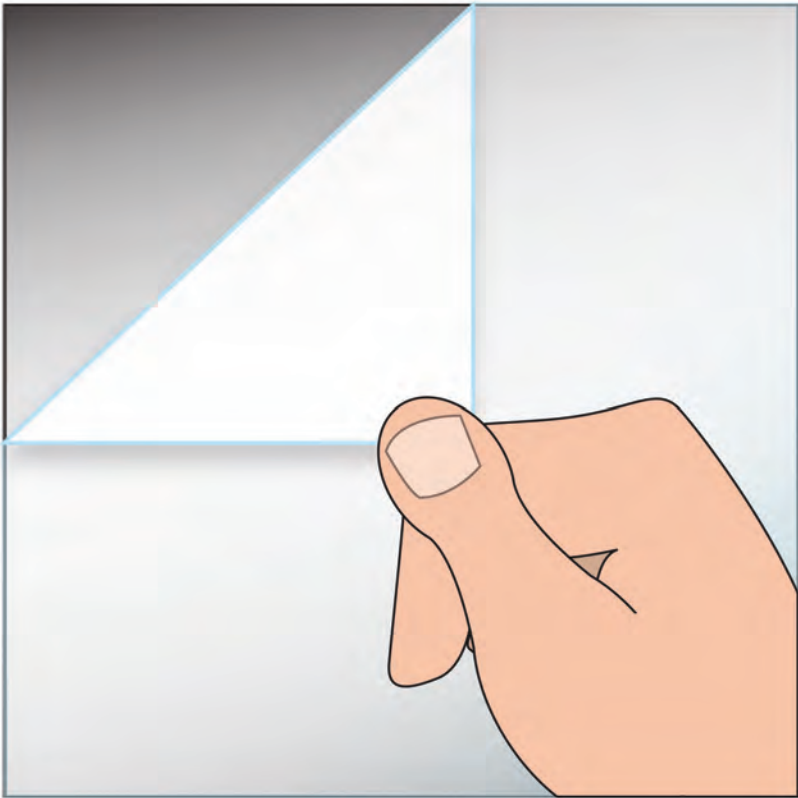


Figure 9. Remember to remove the protective, strippable film from panels and accessories immediately after installation. If left applied to panels too long, it may be difficult or impossible to remove.



Appendix A

Handling Procedures for Bundles of Flat Sheets

Skids of flat sheets are transported for a variety of applications, and correct procedures are required to prevent damage during loading or unloading. Flat sheets are stacked on skids with runners parallel to the long axis as shown in [Figure A1](#). Cross-wise runners are placed beneath the bottom skid and between skids that are stacked to provide for ease of handling from either the short or long side.

Crane Unloading and Handling Procedure

- The preferred method for handling bundles of flat sheets is with the use of a below-the-hook lifting device such as shown in [Figure A2](#). The material is supported uniformly along the long edges of load.
- Nylon slings can also be used so long as the material is adequately protected where the slings contact the load (see [Figure A3](#)). The success of this point-loading method is dependent on the soundness of the runners that support the load.

Forklift Unloading and Handling Procedure

- Although less desirable, forklifts must be used sometimes because an overhead crane is not available or material must be moved from one crane bay to another.
- A forklift with long forks that support at least 66% of the skid length can be used to move material so long as the driver is careful to support the material uniformly along the length and width of the forks and avoid damaging material on the narrow edge when approaching the load ([Figure A4](#)).
- Handling long skids of material with short forks is more problematic and should be avoided. Unfortunately, pushing or pulling long skids is common. Of the two methods, pushing the skid is preferable, but the skid and the material are often damaged.
- Relatively short skids less than 12 feet long can be safely transported by approaching the load from the long side as shown in [Figure A5](#), so long as the forks are long enough to support all of the lengthwise runners. Forks must be spread so the load is stable and supported evenly. For example, for a 12-foot long skid, the forks would be spread to 4 feet wide, with a 4-foot overhang on each side. To lift a 10-foot long skid, the forks would be spread to 4 feet wide with a 3-foot overhang on each side.
- When skids of flat sheets are being readied for shipment, the hold-down straps should be placed in a vertical line with the cross-wise runners as shown in [Figure A6](#) to prevent damaging the edges of the sheets when the straps are tightened.

Figure A1. Typical arrangement of flat sheets packaged for shipment on a skid. Crosswise runners beneath the skid allow access from all four sides.

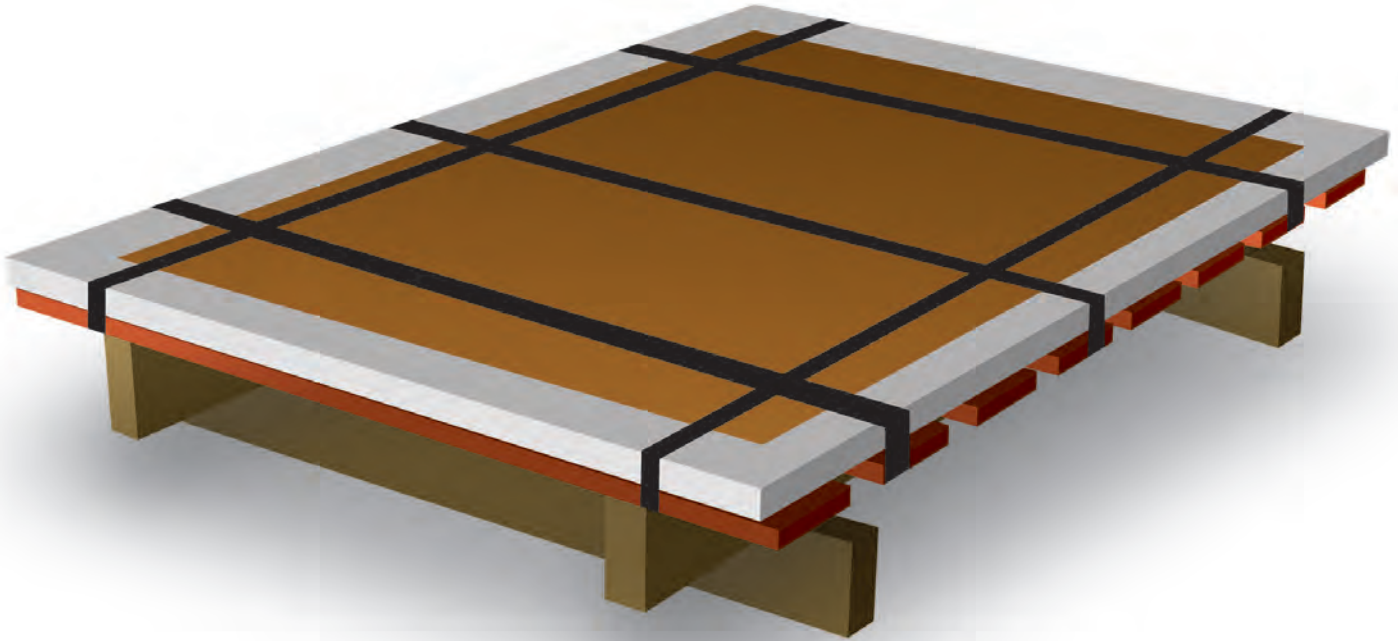


Figure A2. A crane with a below-the-hook lifting device is the preferred method for handling skids of flat sheets because the load is supported uniformly along the long edges.

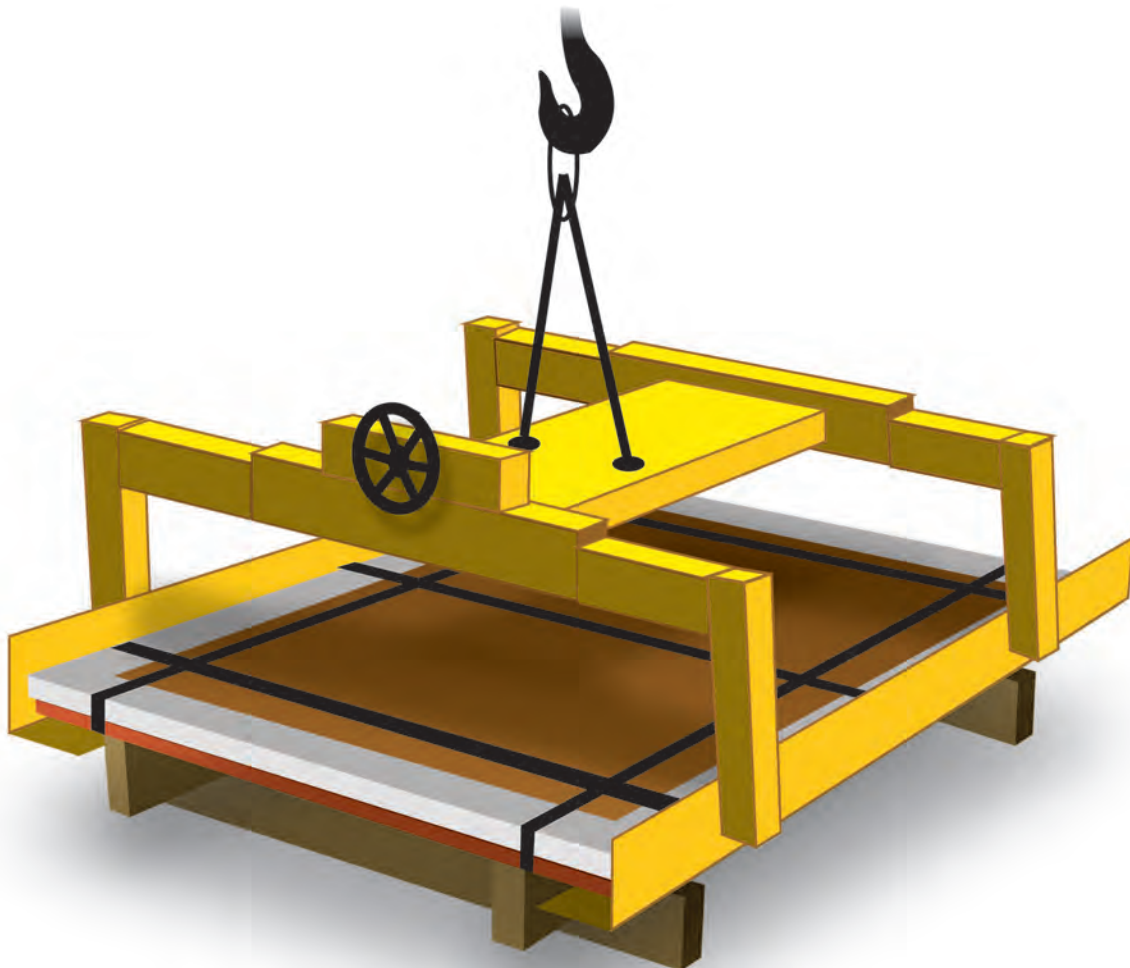


Figure A3. Nylon slings may also be used for crane handling so long as precautions are taken to prevent damage where the slings contact the sheets.

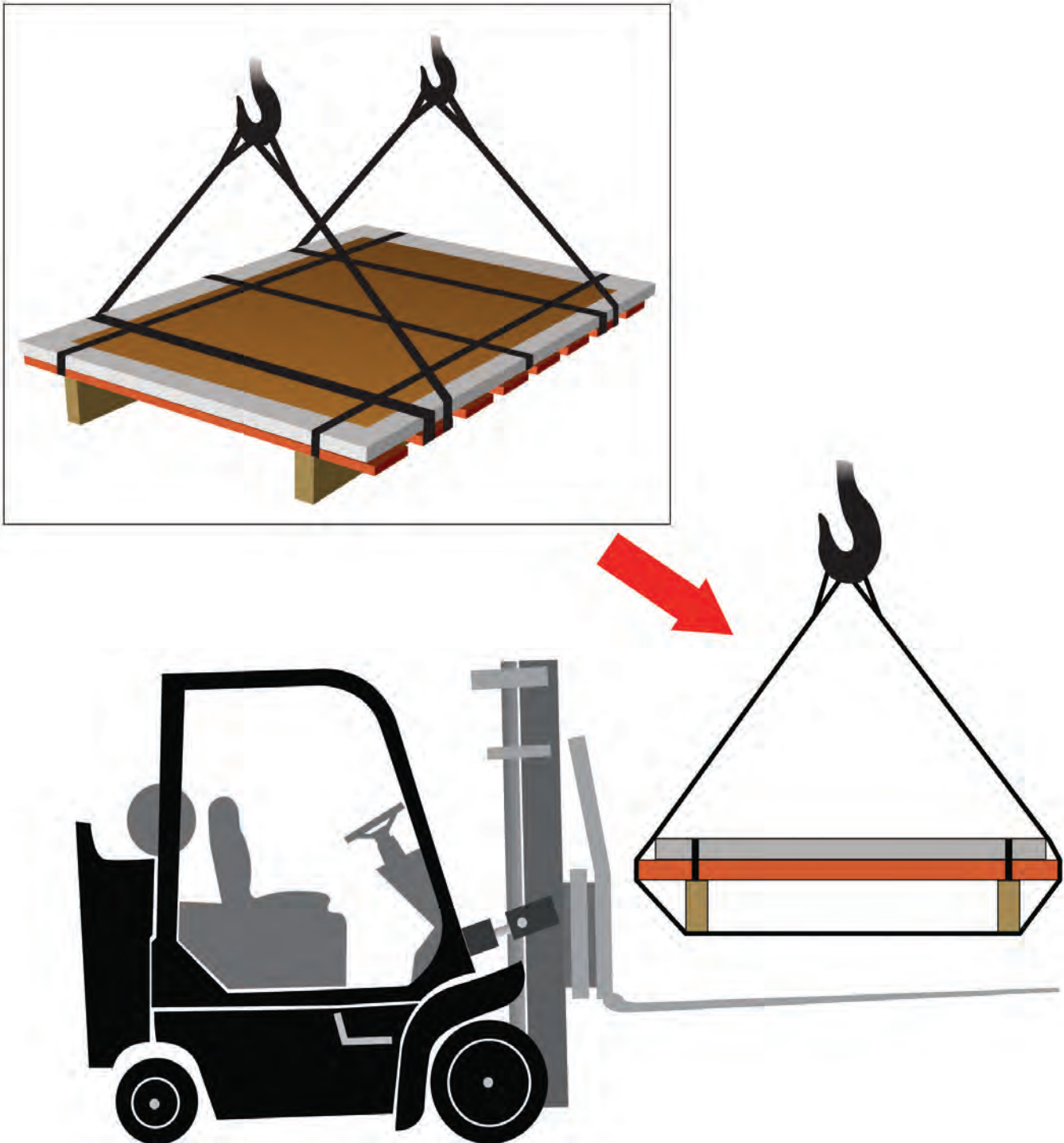


Figure A4. A forklift with forks at least 66% of the skid length may be used to lift skids from the short side, so long as the load is well balanced.

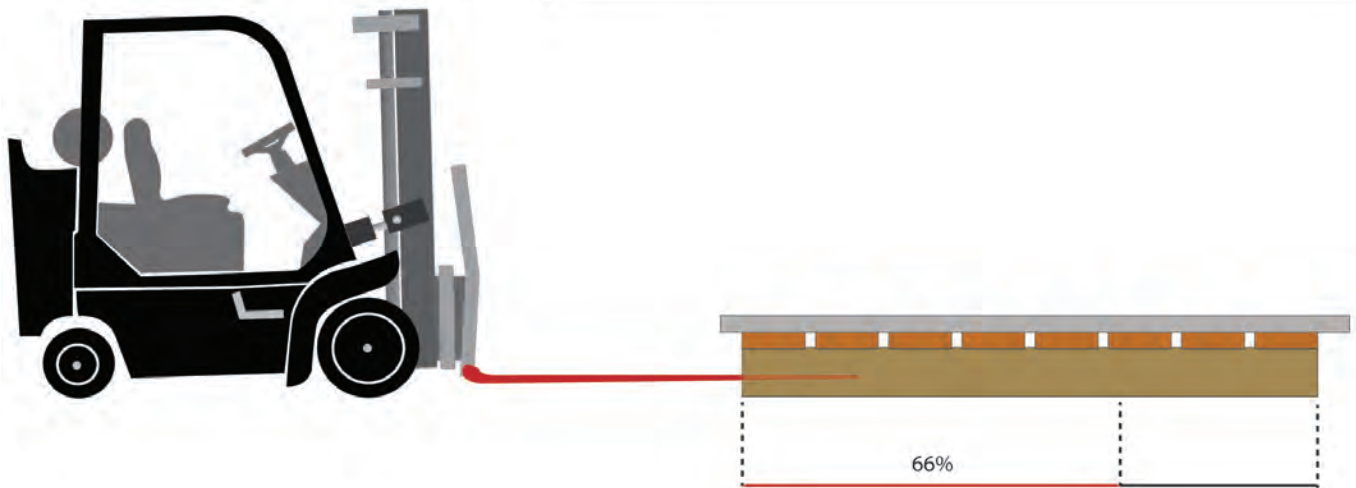
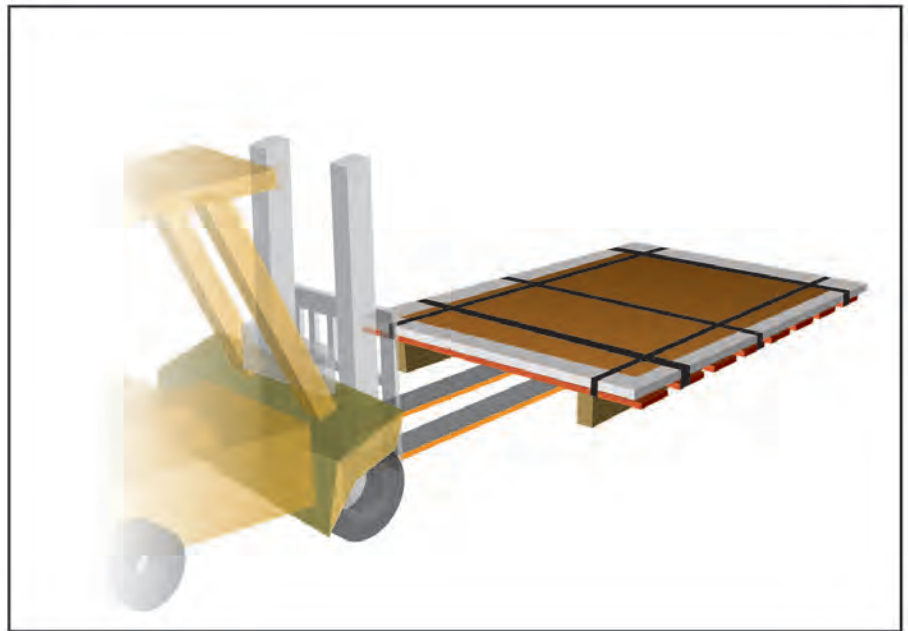


Figure A5. Skids less than 12 feet long can be lifted from the long side, so long as the forks support all of the lengthwise runners. Forks must be spread so the load is stable and well supported.

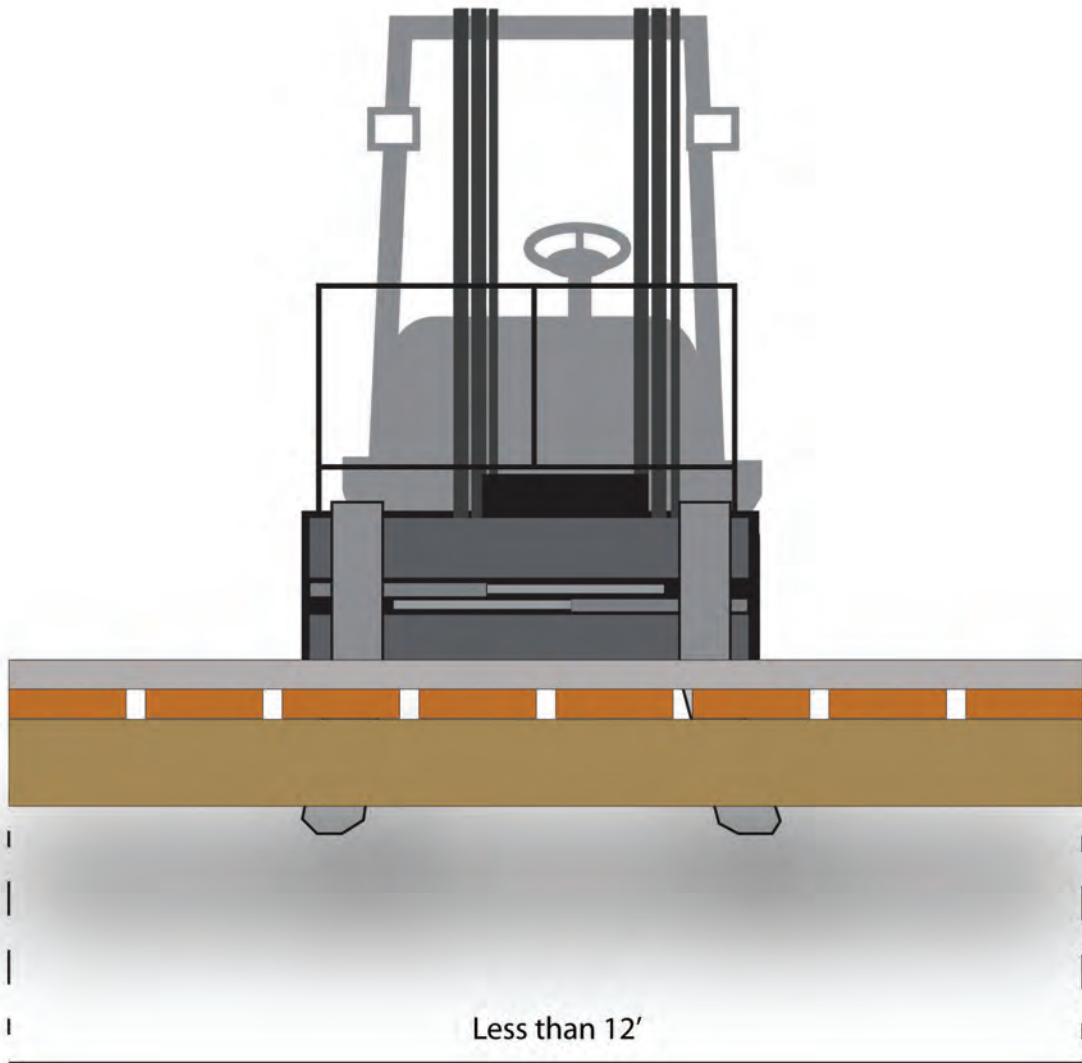


Figure A6. Stacks of skids being readied for shipment must have hold-down straps and crosswise runners aligned.

