

## Lifting and Rigging

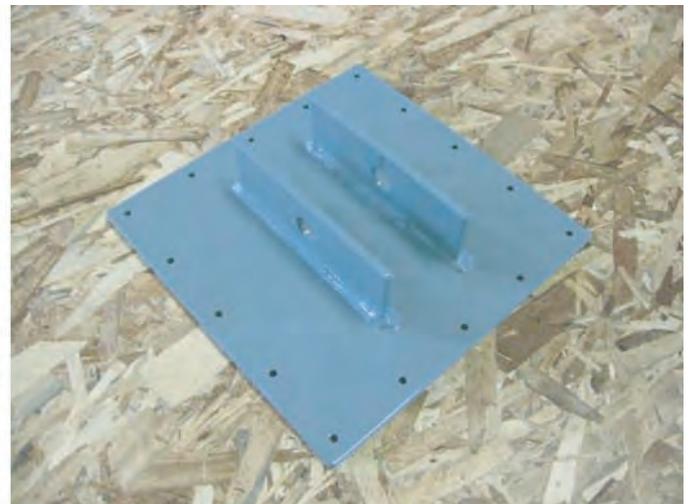
The most common method of lifting roof panels is to use lifting plates. They can be attached and detached from the top side of the panel. Using a wrap-around sling on panels can damage the SIP edges if not blocked, is difficult to release, and is not recommended. Through bolting with eye bolts, though safe and effective, requires access to the bottom side for attaching and detaching.

Always use at least two points for lifting. Install two lifting plates approximately 6" closer to the top of the SIP panel. This will ensure that the panel is hung at an angle that matches the roof slope. If necessary, relocate lifting plates to better match the roof slope.

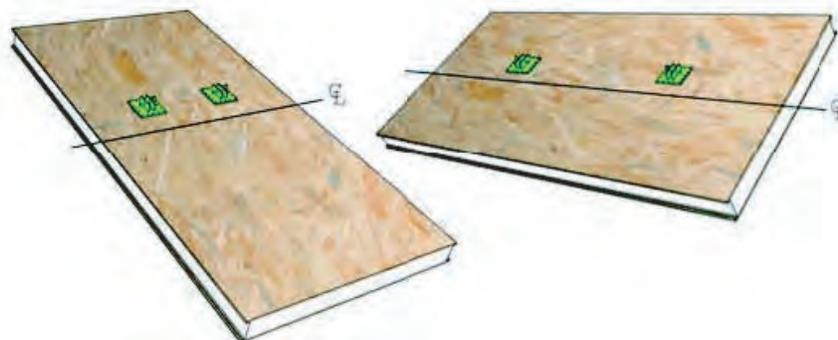
Attach the lifting plates with screws to the top OSB surface. Use #10 type A metal screws (16) per plate. Take care not to "over drive" the lift plate screws.



Lifting a SIP with Lifting Plates



Lifting Plate



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## Lifting and Rigging

Screw Capacity Determination Per APA Technical Bulletin TT-051C:

REF: Table 1 Withdrawal Values				REF: NDS Equation 11.2.2				LIFT PLATE
OSB THICK	DESIGN LOAD (LB/IN)	COMPUTED VALUE (LBS)	SEVEN DAY DURATION INCR 25% (LBS)	OSB THICK	DESIGN LOAD (LB/IN)	COMPUTED VALUE (LBS)	SEVEN DAY DURATION INCR 25% (LBS)	USE LOWEST (LBS)
7/16"	110	48.1	60.1	7/16"	109.6	48.0	60.0	60.0

Plate Capacity Determination:

MAX WIDTH (FT)	MAX LENGTH (FT)	PANEL WT. 12.38" (PSF)	MAXIMUM PANEL WT. (LBS)	PLATES PER PANEL	SCREWS PER PLATE	#10 SCREW CAPACITY	LIFTING CAPACITY	
							TOTAL FOR PLATE	TOTAL FOR TWO
8	24	3.81	732	2	16	60.0	960	1920

**NOTES:**

- Screws are to be #10 with threads extending to head to ensure full embedment in to OSB.
- Screw length must ensure full penetration of 7/16" OSB skin.
- All screw holes in steel plate to be filled prior to lifting the panel.
- Lift plates must be used in pairs for large panels.
- Screw capacity is based on an approximate safety factor of five without the load duration increase.
- Ensure an additional factor of safety of 2.5 when using the plate lifting capacity to the weight of the panel.

**Tips for Lifting and Rigging Safely:**

- Keep the load fairly balanced.
- Inspect the load thoroughly.
- Ensure the people working on the task are qualified.
- Don't use damaged or broken machinery.
- Make sure no people are in the work area.
- Don't operate during extremely windy conditions.
- Have a spotter assist.
- Use a tag line.