

StresCore Inc.

Producers of
Corefloor

Prestressed Hollowcore Slab Erection Brochure



RECOMMENDED PRACTICE FOR ERECTING STRESCORE PRECAST HOLLOWCORE PLANKS

Crane and Handling

The erector is responsible for determining the size and load capacity of any spreaders, chokers, cables or any device used in the erection of the hollowcore. The crane company or erector are responsible for providing all lifting equipment. Adequate crane sizing must also be considered prior to the erection. Typical unit weights of the hollowcore are as follows:

Plank Unit Weight (psf)				
6" Slab	8" Slab	10" Slab	12" Slab	14" Slab
49	56	67	73	98

Note: The erector is encouraged to review shop drawings weights or contact StresCore for actual pick weights. Planks may have cores filled or other details that may significantly increase the weight from what is shown in the adjacent table.

On planks ranging in lengths from 0 feet to 25 feet in length, spreader cables from the lifting hook on the crane to the plank should be a minimum of 20 feet in length. The chokers to be placed around the planks should be 14 feet in length with one choker at each end of the plank and located approximately 2 to 3 feet in from each end of the plank. See Figure 1.

Other suggestions include:

- On planks 25' to 45' in length, use spreaders 30' to 35' in length with 14' chokers. Keep chokers 2' to 3' from each end of plank. **Do not** pick the piece with chokers further than 3' without contacting StresCore.
- Planks from 0' to 10' in length can be picked up in the middle with a fork lift with forks spread apart as far as possible.
- **Do not** pick up any planks with just one choker around the middle. Picking a plank in the middle will result in significant damage to the plank along with an unbalanced load.
- If lifting inserts are provided, always pick the piece using all inserts.
- Where planks need to be erected inside, with minimal head room, a spreader beam can be used.
- Always contact StresCore for non-typical handling, picking and handling adjacent to openings in the plank.

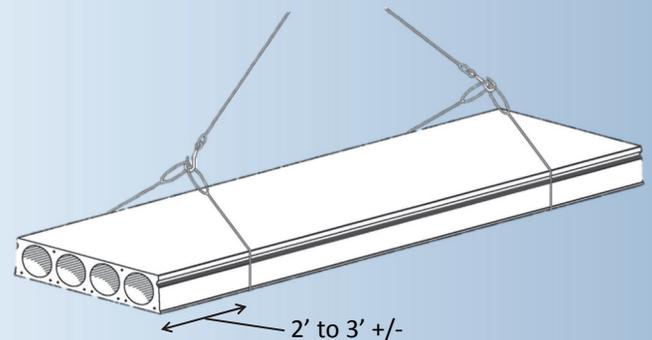


FIGURE 1



RECOMMENDED PRACTICE FOR ERECTING STRESCORE PRECAST HOLLOWCORE PLANKS

Crane and Handling

Prestressed hollowcore units can not be turned over for any reason and must be picked level. They are designed to set only one way. By design, the slabs have significant stresses and may fail if they are turned upside down. The bottom of the slab typically has numerous strands and the top of the slab typically has no more than 2 or 4 strands. See Figure 2.

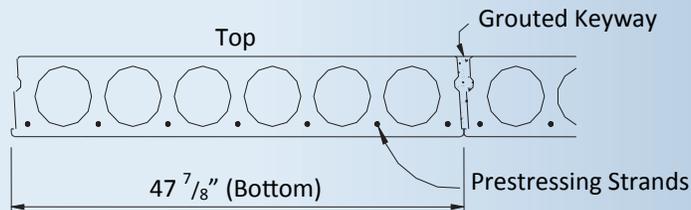


FIGURE 2

Storage

If the hollowcore is to be stacked on the ground, the boards must be kept in a straight vertical line on each end of the plank. Boards should be placed approximately 2'-0" from each end. If stacking planks on soft ground, be sure bottom boards do not sink and the bottom plank does not touch the ground. The planks should be stacked level. The planks have significant stresses in them and planks that aren't stored level are subject to damage. Planks should be stacked no higher than five high. See Figure 3.

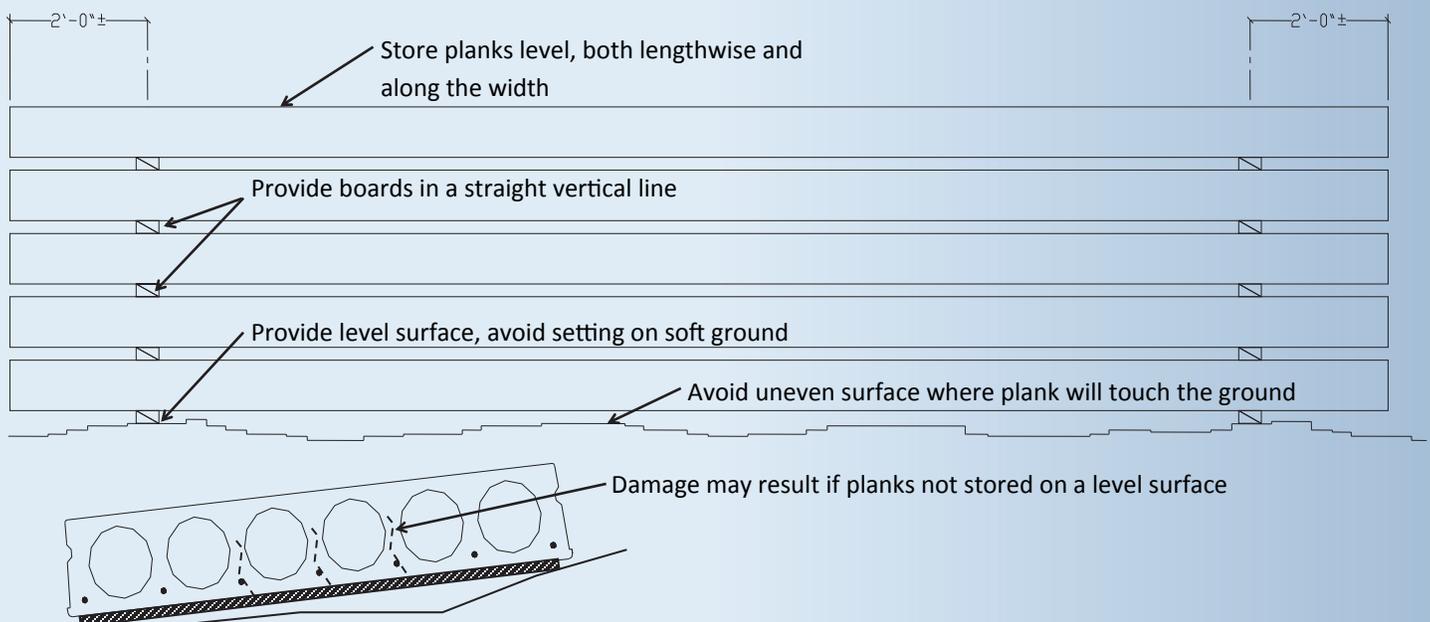


FIGURE 3

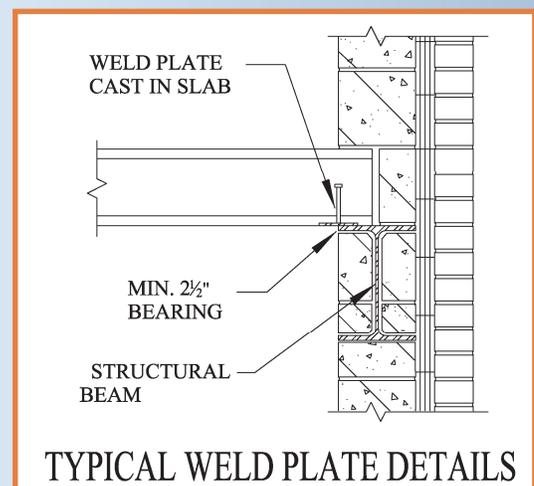
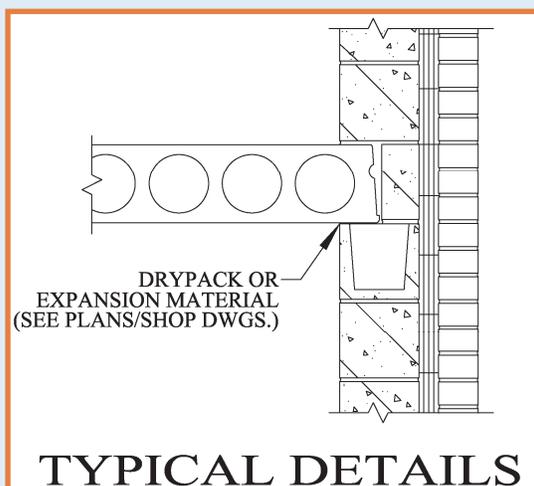
GROUTING AND MISC. DETAILS

Grouting of the keyways should occur immediately after the planks have been set. Once the grout has been placed and set, the surface may be suitable for light duty equipment. The planks may potentially be suitable for larger equipment, however coordination is required with StresCore on any loading conditions. Some suggestions during grouting operations include:

1. $\frac{1}{2}$ " Ethafoam rope shall be placed in the bottom of the grout joint. The rope shall be placed securely so as not to permit grout to seep through the joint.
2. Slabs shall be grouted by a 1:3 cement-sand mix with proper care taken to see that the joints are properly filled. For estimating, the typical grout requirements are: 1 cubic yard per 2500 square feet.
3. Review any locations of reinforcing steel that are to be placed within the keyways, slab ends or cutouts in the planks. Verify what reinforcing steel is provided by StresCore and what is provided by others.



4. Review the plans and shop drawings for additional locations of grouting, including grouting cores at the ends of the slabs and cutouts.
5. Review locations where weld plates are required for connections. Due to the camber of the beams, steel shims may be required to offset elevation differences. The Contractor should have additional steel shims on hand if weld plates are required. Weld plates may transfer loads to the slabs and should be welded before walls are loaded with backfill or other transverse loads.
6. Review locations where misc. details are required. Some typical details may include:



PREPARATION FOR TOPPING

ACI standards provide guidance on the preparation and treatment of the concrete topping. This guidance helps ensure that the topping will have a good bond with the hollowcore and concrete delaminations will not occur. Since the concrete topping is often designed as composite with the hollowcore, a well bonded topping is required to meet design parameters. A poorly bonded topping may result in a reduction in the structural capacity of the hollowcore and topping or have a reduction in the long term durability of the topping.

Recommendations for the topping include:

1. Precast must be thoroughly cleaned of all debris that would prevent bonding. This includes sawdust, trash, dirt, masonry material, oils, etc.
2. A suitable bonding agent or bonding procedure is recommended. The design plans or shop drawings may include these details. They may include treatment of the slab surface with a cement slurry mixture, an epoxy bonding agent or applying a broom finish at the plant to roughen the top surface of the hollowcore precast slabs. It is imperative that the bonding agent does not reach the initial set prior to placement. This may act as a bond breaker if allowed to set prior to topping placement.
3. Moisten the hollowcore surface prior to placement of the topping. The surface should be fully saturated prior to the topping placement, but all standing water should be removed. Moistening should follow manufacturers guidance if a bonding agent is utilized.
4. Review topping details in relation to camber. Adjust concrete quantities for longer span slabs and slabs with large camber. See Figure 4.

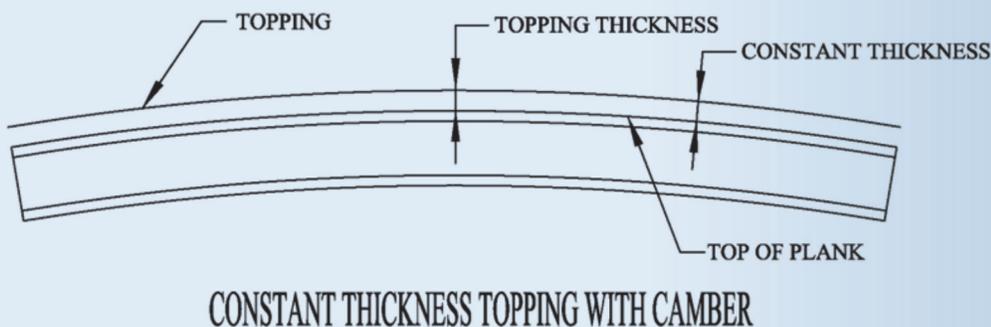
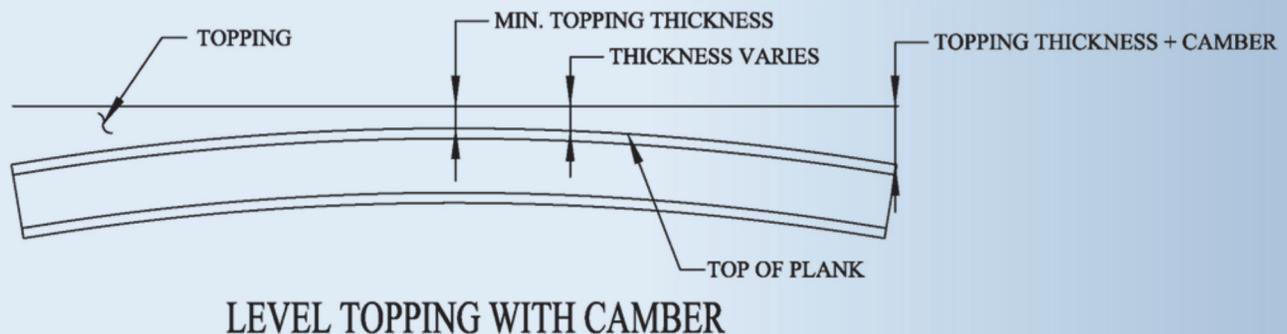
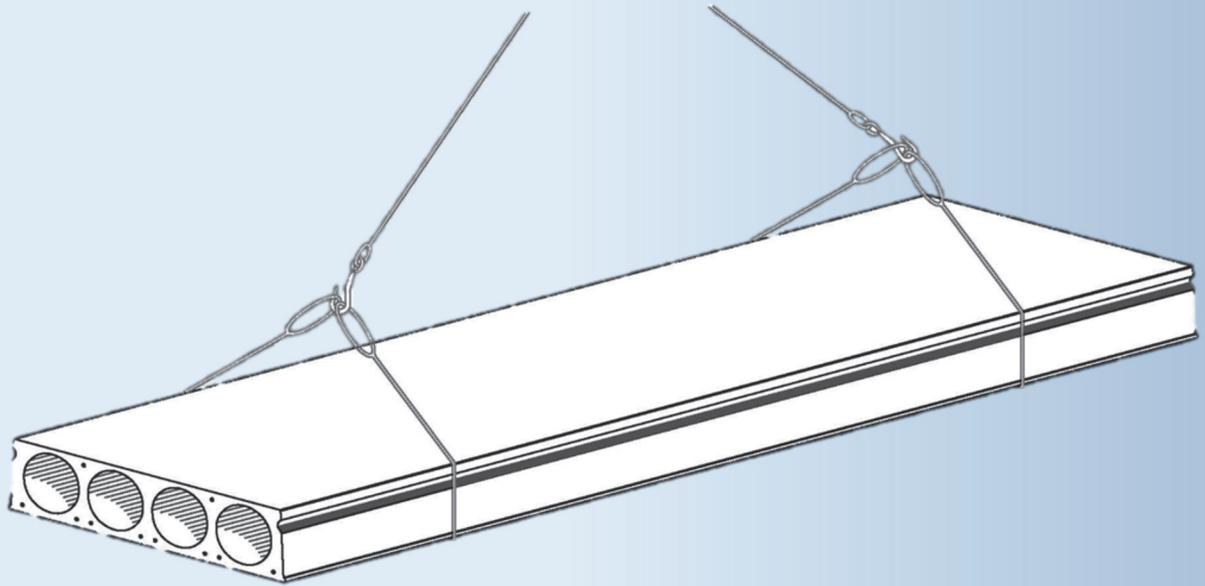


FIGURE 4

Notes



StresCore Inc.

24445 State Road 23

South Bend, IN 46614

Office: (574)233-1117

Fax: (574)288-0050

Email: sales@strescore.com

www.strescore.com