

Hollowcore 101



Oldcastle Precast[®]
Building Systems

Oldcastle Precast can help with your finished floor system

Hollowcore plank is used on a wide variety of building types and supports an equally wide variety of final applied floor finishes. When used with a structural concrete topping (typically 2 inches or more) follow the manufacturer's recommendations for installation.

This guide addresses applications where the starting substrate is the untopped hollow core plank.

All floor systems require some form of plank preparation prior to application. If a level floor substrate is

required then the project designers should consider the use of either a thin self-leveling overlay system or a fully composite concrete topping.

Leveling systems remove the irregularities of the segmental construction and relieve some of the plank camber. Fully composite toppings will relieve both joint and camber issues and have the added benefit of increasing the system's strength.

Common Practice: Finished Floors

Whether you know it or not, floors are the

key element when it comes to architectural freedom and design: their load bearing capacity has a direct influence on the need for partition walls and other structural elements of a building. Hollowcore slabs are prestressed floor elements with voids. The excellent load-bearing capacity and structural efficiency allows you to build large areas with fewer partition walls. Ultimately, this means greater freedom in design and architecture during and after construction as well as savings in material costs.

See our web site for additional topics on hollowcore plank: camber, topping, openings, specifying, installing and more.

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Carpet systems are the easiest to use with untopped plank floors, but a proper leveling material at the joints should be used in order to reduce differences in joint elevations. Regardless of how the carpet is installed, directly adhered or set with tack strips, a pad of sufficient thickness and density will minimize the irregularities in the untopped plank system. For systems utilizing thinner padding it is best to provide a leveling material either in spot locations or throughout the carpeted area. For directly adhered systems, the installers should test the compatibility of the adhesives with the concrete. With tack strip systems the installer should be aware of the higher strength concretes associated with hollowcore planking. Hardened nails and/or power actuated fasteners may be needed for the installation of these elements.



Get to know more about Finished floor systems and how they work with hollowcore

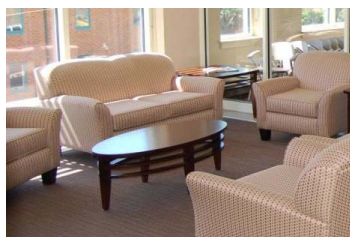
Ceramic Tile

This brittle floor system requires the most attention when preparing the plank. Tile suppliers do not recommend applying tiles directly to the plank system whether it be topped or untopped. A slip sheet or debonding board should be used between the tile and slabs for both thin set and full depth mortar beds. A leveling course may not be needed with an adequate thickness of the tile setting bed.

Wood floors are typically set as floating or sleeper systems. For sleeper systems set upon a grillage of wood nailers, there is little preparation required. The installer should check the entire floor area for elevation prior to setting the first nailer. The plank camber will create a curvature in the floor and the nailers will require shims to set the system level. Like carpet tack strips, the high strength concrete in the plank will require the use of hardened nails or power actuated fasteners if they are attached to the floor. Floating floor systems can be applied directly to the untopped system. However, leveling materials are recommended so that the finished system does not reflect the plank irregularities. These irregularities can cause uneven wear in the flooring and damage at the interlocking joints where pressure points occur. Wood floor systems anchored directly to the plank system are not recommended due to the difficulty in installing the anchors through the finished wood directly into the concrete. Follow the recommendations of the supplier of the specified material for your type of flooring so that all warranties are met.

Vinyl Floors

Most vinyl floors are fully adhered to the substrate. They require relatively level floors and should not be applied directly to the untopped planks. In areas limited in size, such as bathrooms and



kitchens or commercial service areas, a leveling system can be used. Large areas such as classrooms, assembly areas and open offices should have a composite concrete topping applied to the plank. Like other adhered systems the materials should be tested to insure the compatibility of the glue with the concrete substrate.

Hardwood Flooring

Hollowcore plank can be used with all types of floor finishes: carpet, vinyl, wood or tile. The preparation differs with each floor.

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