

Hollowcore 101



Oldcastle Precast®
Building Systems

Precast Stairs complement Hollow Core plank projects

From construction workers in the early stages of your project, through the operating life of the building until deconstruction, stairs provide access and egress to every level of your structure. Oldcastle Precast Building Systems manufactures precast concrete components to complete the entire building system that includes stairway walls, floors, landings and steps.

Because stairway design is such an essential component in the circulation and egress of most structures, it is strictly controlled by building codes

and regulations.

In addition to code compliance precast concrete stairs provide fast erection and durable access. The precast stairs will require little maintenance, are non-combustible and blast resistant.

Precast stairways save money by eliminating temporary systems, wood forms, set-up and tear-down, and delays caused by lack of access to upper floors.

Common Practice: Stairs and Landings

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 hollow core plank: camber, toppings, finished floor systems, openings, installation and more.

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Risers and treads shall be of uniform size and shape. Risers shall be between 7 inches maximum and 4 inches minimum. The tread depth shall be 11 inches minimum. The most common rule for the comfortable proportioning of stairs is: 2 times the riser height plus the tread depth equals 25 inches.

Landings shall not be less than the width of the stairway they serve and are required at the top and bottom of stairs and intermediate points to ensure that no single flight of stairs has a rise greater than 12 feet.



Get to know more about precast concrete stairs

Precast Stairs and landings.

Precast Stair Components are typically made as "open Z" stair components where the upper and lower landings are cast monolithically with the tread/riser sections.

They can also be cast as shorter pieces, consisting of only the tread/riser sections which are supported by separate landing components that span transversely to the stair sections.

Oldcastle Precast typically casts stair components "upside down". This method of production allows for the option of abrasive nosings to be cast into the treads to create a non-slip surface.

The underside of the stair units receive a troweled finish and remain exposed to view in place.

Once Oldcastle Precast erects the stairs they provide immediate and permanent safe access to allow the interior trades people to come and go without the use of ladders.



Stairs can be aesthetically pleasing as well as functional

Code Considerations

Handrails are required on both sides of stairs and may project into the required stairway width no more than 4.5 inches on each side. They shall be uniform in height and located 34 inches to 38 inches above the stair tread nosing. Handrails must be continuous or the ends must project beyond the top and bottom of the stairs and return to a wall or guard.

Guardrails shall be no less than 42 inches high, measured vertically from the leading edge of tread and shall have balusters or ornamental patterns so that a 4-inch diameter sphere can not pass through.

Buildings over four stories (with a roof slope less than 4 in 12) require stair access to the roof. Typically the minimum stairway width (for egress stairways) shall not be less than 44 inches wide for enclosed exit stairways.

These are typical requirements common to our region, but designers should verify that with the most recent local and national building codes.

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