Durability: Fire Resistance

An all-precast concrete structure provides an exceptionally safe and secure envelope. Steel begins to fail at 1,200°F and completely fails at 1,600°F—temperatures fires reach easily. The mass of concrete building elements and their behavior under high temperatures allow them to continue to support loads long after steel structures exposed to the same heat will have failed.

Precast wall panels can extend into a building’s footings, which helps facilities cope with interior fire, water damage, and accidental impact. Fire typically destroys a building’s roof.

When a structure is built on-grade, the collapsing roof often pulls the walls down into a building. To avoid this problem, continuous panels—unlike masonry or concrete block walls—are firmly anchored into the ground. As a result, they will not break apart.

A dramatic chemical fire in Minnesota included high heat and multiple explosions. However, the precast, which extended to the footing, stayed in place. The roof collapsed, but the walls did not.

Precast walls make it safer to fight fires due to the wall stability; firefighters are not endangered by collapsing walls.

Precast walls can minimize damage outside the perimeter. In this specific example, a propane tank adjacent to the exterior of the precast didn’t burn. The grass wasn’t even singed.

Some manufacturers’ core filled panels range from a three-to four-hour fire rating for 8-inch and 8.5-inch panels.

FIRE RATINGS

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<tr>
<th>Versacore+Green Sandwich</th>
<th>Versacore Edge</th>
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<td>Up to 4 hours</td>
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