Science Backs Superior Fire Resistance for Brick Exteriors

Clay Brick Exceeds One-Hour Fire Resistance Rating -- by Itself

RESTON, VA, UNITED STATES, October 4, 2021 /EINPresswire.com/ -- As October launches Fire Safety Month, independent tests show the innate superior fire resistance of brick home and commercial exteriors.

Clay brick exteriors provide a minimum one-hour fire resistance rating.

Made from abundant natural materials, fired-clay brick is free of volatile compounds that will not burn, melt or combust.

"Brick's inherent fire resistance consistently outperforms other home and building exteriors and can also reduce property damage," said Ray Leonhard, president and CEO, the Brick Industry Association (BIA).

In a one-hour fire test conducted independently at the Southwest Research Institute in San Antonio, Texas, hollow brick was tested alongside vinyl siding and fiber cement in typical residential exterior wall sections. Clay brick passed easily. Vinyl siding burned after only 18 minutes, and fiber cement – which outperforms wood and vinyl siding – failed in under an hour.

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> *Ray Leonhard, president and CEO, Brick Industry Association*

The study showed that clay brick cladding provides a minimum one-hour fire resistance rating alone—unlike other exterior cladding materials that need to incorporate other fire-resistant materials in their wall systems in order to achieve this rating when tested in accordance with ASTM E119, Standard Test Methods for Fire Tests of Building Construction and Materials as recognized by the International Building Code (IBC).

Each wall clad in a different material was subjected to fire for one hour or until it succumbed to one of the failure criteria — the wall collapsed, flame or hot gas penetrated the wall, or the temperature rose more than 250°F on the unexposed (interior) side.

Firefighters report that it takes about 1.5 hours for a fire to breach a brick home—versus fiber cement in under an hour and vinyl siding in minutes.

Fire resistance can also be achieved using thin brick. Independent testing reports show that a wall assembly with thin brick veneer thin set into polymer modified mortar provides a one-hour fire resistance rating on both the exterior and interior sides of the wall when tested in accordance with ASTM E119.

The thin brick veneer wall system, which included 4 inches of extruded polystyrene insulation and a drainage mat also met code limits on fire propagation to combustible components within the wall by successfully passing NFPA 285, Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.

An engineering analysis by an independent fire safety consultant justifies for building code authorities that a wall containing the alternative wall components listed provides the same or better fire resistance and flame spread propagation performance as the wall system tested.

Significantly, one of the alternative wall components listed allows using a thick set lath and scratch coat mortar in lieu of polymer modified mortar.

For details, go to Fire Prevention at www.gobrick.com.

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BIA is the nationally recognized authority on clay brick construction representing the nation's distributors and manufacturers of clay brick and suppliers of related products. Contact: www.gobrick.com. 703-620-0010.

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