

Code Red Stack Fitting

The NOVA Award was presented to the Code Red Stack Fitting for innovation in stopping the spread of fire through plastic pipe penetrations in fire-rated floors.



Plumbing waste lines and stacks made of PVC are highly combustible. In a multi-story structure, they often become chimney-like conduits for carrying fire from floor to floor.

In 1983, Kenneth Cornwall, president of ProSet Systems, invented the Code Red Stack Fitting to prevent the spread of fire and smoke through stacks of PVC pipes. They are temperature-activated, gravity-powered mechanical seals that close off the upper length of a stack at the floor slab.



Designed to be installed easily with conventional plumbing tools, the Code Red Stack Fitting is suitable for concrete-floor and wood-framed construction, for multi-story commercial buildings and residential buildings. It has been fire tested in accordance with ASTM standard E-814 and is classified by Underwriters Laboratories Inc. Code Red Stack Fittings are y-shaped. A cast-iron plug is held inside the "y" branch of the fitting by a temperature-sensitive polyethylene harness. When the temperature inside the pipe reaches 250 degrees Fahrenheit, the harness melts and releases the plug. The plug drops into a cast-iron lining pipe in the bottom of the fitting.

Code Red Stack Fittings proved their value in 1988, when a multi-story building, in which the fittings were installed, was set on fire. An arsonist set fire to construction materials stored in a lower-level garage. All of the Code Red Stack Fittings performed as expected, preventing the fire from entering the floors above. After just two hours, the blaze was extinguished.

The Code Red Stack Fitting has been installed in a number of buildings including several hotels at Disneyworld-including the Swan, Dolphin, Grand Floridian, and Marriott.

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