

APA Performance-Rated Wood Structural Panels as Thermal Barriers for Foam Plastics

Tests conducted in 1986 and 1990 for APA by an approved independent fire test laboratory demonstrated that APA-trademarked wood structural panels with a minimum 23/32 Performance Category [plywood manufactured with faces of Douglas-fir veneer and western species in the inner plies or oriented strand board panels (OSB) with aspen species] meet the 15-minute temperature rise requirements of the thermal-resistance test standard, NFPA 286 as specified in the 2009 International Building Code (IBC) Section 2603.4 and NFPA 275 as specified in the 2012 IBC Section 2603.4, for the use with foam plastic. This test limits the rise in temperature on the unexposed surface to 250° F or less when the barrier material is subjected to the ASTM E119 time/temperature exposure. Test results apply when panel edges are blocked (e.g., supported by and fastened to nominal 2-inch wood framing).

The original tests were accomplished in accordance with Uniform Building Code Standard 17-3 entitled *Test Method for the Evaluation of Thermal Barriers*. This test method is the same as required in the 2009 and 2012 IBC Section 2603.4. However, the tests did not address the requirement of no flashover in accordance with NFPA 286 referenced in the 2009 IBC and NFPA 275 referenced in the 2012 IBC.

When foam plastic roof insulation is installed over minimum 15/32 Performance Category wood structural panel roof sheathing “with edges supported by blocking, tongue-and-groove joints or other approved type of edge support, or an equivalent material,” the 2009 and 2012 IBC Section 2603.4.1.5 permits an exemption from the 15-minute thermal barrier requirements (i.e. 15/32 Performance Category wood structural panels with an appropriate edge support prescriptively meets the requirements of the code without the need to meet the 15-minute thermal barrier requirements).

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