

Flame Spread Index Of APA Performance-Rated Wood Structural Panels

Tests conducted by Underwriters Laboratories in 1974 demonstrated that APA-trademarked plywood conforming to U.S. Product Standard PS 1 has a flame spread index in the range of 76 to 200 when tested in accordance with ASTM E84, *Standard Test Method for Surface Burning Characteristics of Building Materials*. This range is referred to as Class C, Class III or Class 3, depending on the particular code or regulation referenced. The smoke developed index for plywood panels averaged 130 or less, with occasional panels up to 200.^(a)

ASTM E84 tests conducted in 1985 and 1989 for APA by an approved independent fire test laboratory demonstrated that nonveneer APA Rated Sheathing and APA Rated Sturd-I-Floor panels, such as oriented strand board (OSB), also have a flame spread index within the Class C range. Also nonveneer APA Rated Siding panels with a medium density phenolic paper overlaid face (pre-primed) and grooved surface pattern, have a flame spread index within the Class C range. Production panels used for these tests were selected as representative of commonly produced panel types and constructions, including surface species of aspen, Douglas-fir, southern pine or mixtures of other hardwoods and/or softwoods, and with phenol-formaldehyde or isocyanate resin bonding systems, or a combination of both. The flame spread index for most panels was 150 or less, with an occasional panel up to approximately 170, and some panels less than 100. The smoke developed index for most panels was 200 or less, with occasional panels up to approximately 270.

Thus, all of these APA-trademarked products can be used as interior finish in rooms or other areas in most building occupancies. There are some exceptions where Class A (or 1, or #1) interior finish materials are required – for instance, in certain assembly occupancies, some institutional occupancies and in hazardous occupancies over two stories. Exitways also require lower flame-spread materials unless the building is sprinklered. However, these limitations apply only to the interior finish requirements and would have no effect on the use of these products for roof sheathing, subflooring, single-layer flooring or exterior wall sheathing.

(a) Benglesdorf, M.F. 1979. *Fire Hazard Classification of PS 1 Plywood*, Research Report 128, Form Y380 (www.apawood.org). American Plywood Association, Tacoma, WA 98466.

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