

RE: Flame Spread of HP-1 Decorative Interior Hardwood Plywood

Capital Testing and Services, Inc., is an independent laboratory accredited for flame spread testing on a variety of composite wood products, including hardwood plywood with various decorative face species in accordance with test method ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials: [ASTM E84 - Surface Burning Characteristics Laboratory Testing \(capitaltesting.org\)](http://capitaltesting.org)

Periodic findings from these and other, earlier omnibus test efforts by industry are featured in the DCA1 Design for Code Acceptance, Flame Spread Performance of Wood Products as published by the American Wood Council where an additional overview of the E-84 Steiner Tunnel Test method (including sample conditioning) is provided. [DCA1 - Flame Spread Performance of Wood Products Used for Interior Finish \(awc.org\)](http://awc.org)

The test examples offered included hardwood lumber, raw composites, wood, softwood plywood and thirty-seven HP-1 hardwood plywood assemblies including panel constructions with veneer, composites and combinations of the two in varying thickness, with popular decorative wood species including birch, maple and oak.

The flame spread rating system in use today is set forth by the National Fire Protection Association, Life Safety Code NFPA 101. The NFPA classifies flame spread index in the following manner:

| Class | Flame Spread Index | Smoke Developed Index |
|----------|--------------------|-----------------------|
| A | 0 - 25 | 0 - 450 |
| B | 26 - 75 | 0 - 450 |
| C | 76 - 200 | 0 - 450 |

These ratings for both Flame Spread and Smoke Developed are based on arbitrary values of 0 for fiber-cement board and 100 for solid red oak flooring¹. DCA1 offers this observation: “As can be seen from the listed indices, most tested products have a flame spread index less than 200 making them acceptable under current building codes for a wide range of interior finish uses.”

As the published values show, all panels tested, which included every assembly provided by Columbia, did not exceed a flame spread index value of 200, which is “Class C” as defined by NFPA 101.

Should you require information specific to a particular panel construction, testing by an independent laboratory can be arranged. In addition to the cost of the panels to be tested, there is a fee charged by the lab for the actual test. For more information on how to coordinate a flame spread test at your expense, contact Capital Testing Services, Inc. web form: [Fire & Flammability Testing | Capital Testing \(formerly HPVA Laboratories\)](http://capitaltesting.org)

REVISION 03-26-24 NOTES: REPLACED NON-FUNCTIONING LINKS

FOOTNOTES:

¹ - Smoke calibration using heptane replaced the smoke calibration using red oak flooring in 2019 (Ref E87 4.2.7 and 7.13 through 7.15), although E84 still references the historical data obtained with red oak. All of Columbia’s reports were based in Oak measure but future tests will adopt the new heptane measure.