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For the Account of:

Pierre Frey Inc.
1692 Chantilly Drive NE
Suite C
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Client's Identification: FP647 Alba

CERTIFICATE OF TESTING

TEST PERFORMED: Standard Method of Test for Surface Burning Characteristics of Building Materials ASTM E 84-16
Adhered to GRC Board

TEST RESULTS

	Flame Spread Index	Smoke Developed Index
FP647 Alba	5	25
Reinforced Cement Board	0	0
Red Oak Flooring	100	100

Specimen Data

Time to Ignition	00.15	(min)
Maximum Flame Spread	01.82	(ft)
Time to Maximum Flame Spread	05.15	(min)

ACCEPTANCE CRITERIA

Class	Flame Spread Index	Smoke Development Rating
1 or A	0 - 25	0 - 450 maximum
2 or B	26 - 75	0 - 450 maximum
3 or C	76 - 200	0 - 450 maximum

CONCLUSION Based on the above Results and Acceptance Criteria, the item tested is:

- ☒ Class 1 or A
- ☐ Class 2 or B
- ☐ Class 3 or C
- ☐ Unrated

DISCUSSION

This test is certified for ASTM E84 by the Southern Building Code Congress International (SBCCI) as a testing laboratory for Fire and Materials testing, Evaluation Report Number TL-9606 (Commercial Testing), and by the United States Department of Commerce, National Institute of Standards and Technology (NIST), through the National Voluntary Laboratory Accreditation Program (NVLAP) for compliance with criteria set forth in NIST Handbook 150:2001, all requirements of ISO/IEC 17025:2005, and relevant requirements of ISO 9002:1994.

This report is provided for the exclusive use of the client to whom it is addressed. It may be used in its entirety to gain product acceptance from daily-constituted authorities. The test results presented in this report apply only to the samples tested and are not necessarily indicative of apparent identical or similar materials. The client provided sample selection and identification. A sampling plan, if described in the referenced test procedure, was not necessarily followed. This report shall not be used under any circumstance in advertising to the general public.

INTRODUCTION

This report is a presentation of results of a surface flammability test on a material submitted by the client identified above.

The test was conducted in accordance with the most recent version of the ASTM International fire-test-response standard E84 *Surface Burning Characteristics of Building Materials,* sometimes referred to as the Steiner tunnel test. ASTM E84 is an American National Standard (ANSI) and has been approved for use by agencies of the Department of Defense. The ASTM E84 test method is the technical equivalent of UL No. 723. The test is applicable to exposed interior surfaces such as walls and ceilings. The test is conducted with the specimen in the ceiling position with the surface to be evaluated face down toward the ignition source. Thus, specimens shall either be self-supporting by its own structural quality, held in place by added supports along the test surface, or secured from the back side.

This standard is used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled conditions, but does not by itself incorporate all factors required for fire-hazard or fire-risk assessment of the materials, products, or assemblies under actual fire conditions.

Purpose

The purpose of the test is to provide only the comparative measurements of surface flame spread and smoke development of materials with that of select grade red oak and reinforced cement board under specific fire exposure conditions. The test exposes a nominal 24-foot long by 20-inch wide test specimen to a controlled airflow and flaming fire adjusted to spread the flame along the entire length of a red oak specimen in 5½ minutes. During the 10-minute test duration, flamespread over the specimen surface and density of the resulting smoke are measured and recorded. Test results are calculated relative to red oak, which has an arbitrary rating of 100, and reinforced cement board, Grade II, which has a rating of 0.

The test results are expressed as Flame Spread Index and Smoke Developed Index. The Flame Spread Index is defined in ASTM E 176 as a number or classification indicating a comparative measure derived from observations made during the progress of the boundary of a zone of flame under defined test conditions. The Smoke Developed Index, a term specific to ASTM E-84, is defined as a number or classification indicating a comparative measure derived from smoke obscuration data collected during the test for surface burning characteristics. There is not necessarily a relationship between the two measurements.

The method does not provide for measurement of heat transmission through the surface tested, the effect of aggravated flame spread behavior of an assembly resulting from the proximity of combustible walls and ceilings, or classifying a material as noncombustible solely by means of a Flame Spread Index.

The zero reference and other parameters critical to furnace operation are verified on the day of the test by conducting a 10-minute test using 1/4-inch reinforced cement board, Grade II. Periodic tests using NOFMA certified 23/32-inch select grade red oak flooring provide data for the 100 reference.

Test Sample

The test sample, selected by the client, is identified in the header section of this report. Three test panels, each measuring two feet wide by eight feet in length, were prepared by adhering the material to a 1/4-inch thick fiber-cement board complying with ASTM Specification C1186 (Grade II) and passing ASTM Test Method E136, using Gardner-Gibson Dynamite 111 Heavy Duty Wallcovering Adhesive. The adhesive was applied with a roller to the back of the wallcovering, booked 5 to 7 minutes, the material placed onto the smooth side of the cement board, and smoothed with a brush and roller. This method of sample preparation is described in ASTM E2404-15a, *Standard Practice for Specimen Preparation and Mounting of Textile, Paper, or Polymeric (including Vinyl) Wall or Ceiling Coverings, Facings and Veneers to Assess Surface Burning Characteristics,* Section 8.2, Wall or Ceiling Coverings Intended to be Applied Directly to a Noncombustible Wall or Ceiling Surface. After dead-stacking overnight, the prepared panels were transferred to storage racks and conditioned to equilibrium in an atmosphere with the temperature maintained at 71 ± 2ºF and the relative humidity at 50 ± 5 percent. For testing, the panels were placed end-to-end on the ledges of the tunnel furnace and tested with no auxiliary support mechanism.

Test Results

The test results, calculated on the basis of observed flame propagation and the integrated area under the recorded smoke density curve, are presented above. The Flame Spread Index obtained in E-84 is rounded to the nearest number divisible by five. Smoke Developed Indices are rounded to the nearest number divisible by five unless the Index is greater than 200. In that case, the Smoke Developed Index is rounded to the nearest 50 points. The flame spread and smoke development data are presented graphically in the computer printout at the end of this report.

Classification

The Flame Spread Index and Smoke Developed Index values obtained by ASTM E84 are frequently used by code officials and regulatory agencies in the acceptance of interior finish materials for various applications. The most widely accepted classification system is described in the National Fire Protection Association publication NFPA 101 *Life Safety Code*, where the Standard Classification System is as cited in the Acceptance Criteria section of this report

Class A, B and C correspond to Type I, II, and III respectively in other codes such as SBCCI, BOCA, and ICBO. They do not prelude a material being otherwise classified by the authority of jurisdiction.

The description of the test procedure and specimen evaluated, as well as the observations and results obtained, contained herein are true and accurate within the limits of sound engineering practice. These test results were obtained from an outside source. A copy of the original document is kept on file at Applied Textiles.

CERTIFICATION I certify that the above results were obtained after testing specimen in accordance with the procedures and equipment specified by the standard stated above. These test results were obtained from an outside source

Berta Stiver

Authorized Signature

Date Order Completed: 07/24/2020