Flammability Certificate
4118 Chiyogami

DESIGNTEX

4118 Chiyogami was tested and met the following flammability requirements:

ASTM E 84 Unadhered Class A
IMO FTPC 7
NFPA 701 TM#1
UL Listed

800.221.1540
designtex.com
Updated 06.05.23

Date of Issue: 10/19/2021
Report Number: 21-005537
Revision Number:1
Date Order Received: 10/07/2021

For the Account of: Designtex
357 County Ave
Secaucus, NJ 07094

Client's Identification: Chiyogami

CERTIFICATE OF TESTING

TEST PERFORMED: Standard Method of Test for Surface Burning Characteristics of Building Materials ASTM E 84-21
Unadhered

TEST RESULTS

	Flame Spread Index	Smoke Developed Index
Chiyogami	5	55
Reinforced Cement Board	0	0
Red Oak Flooring	100	100

Specimen Data

Time to Ignition	00.05	(min)
Maximum Flame Spread	01.20	(ft)
Time to Maximum Flame Spread	00.58	(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 fiber-reinforced cement board, Grade II, under specific fire exposure conditions with the smoke area of heptane used to establish the smoke-developed index. The test exposes a nominal 24-foot long by 20-inch wide test specimen to a controlled air flow 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, flame spread over the specimen surface are measured and recorded. Test results are calculated relative to red oak, which has an arbitrary rating of 100, and fiber-reinforced cement board, Grade II, which has a rating of 0. The 100 smoke-developed index is calculated using the smoke area of heptane.

The test results are expressed as Flame Spread Index and Smoke-Developed Index. The Flame Spread Index is defined in ASTM E176 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 E84, 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 fiber-reinforced cement board, Grade IL Periodic tests using NOFMA certified 23/32-inch select grade red oak flooring provide data for the 100 flame spread reference with heptane providing data for calculating the 100 smoke-developed index. These procedures are more fully described in Section 7of the E84 Standard.

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 received. They were physically self-supporting and required no additional sample preparation. The panels were transferred to storage racks and conditioned to equilibrium in an atmosphere with the temperature maintained at 71 ± 2°F and the relative humidity at 50 ± 5 percent. For testing, the panels were placed end-to-end on the ledges of the tunnel furnace to make up the necessary 24-foot test sample and the test conducted 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 below. The Flame Spread Index obtained in E84 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 rounding procedures are more fully described in Sections 9.1, 9.2, and X3 of the E84 Standard. The flame spread and smoke development data are presented graphically at the end of this report.

Classification

The Flame Spread Index and Smoke-Developed Index values obtained by ASTM E84 tests 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:

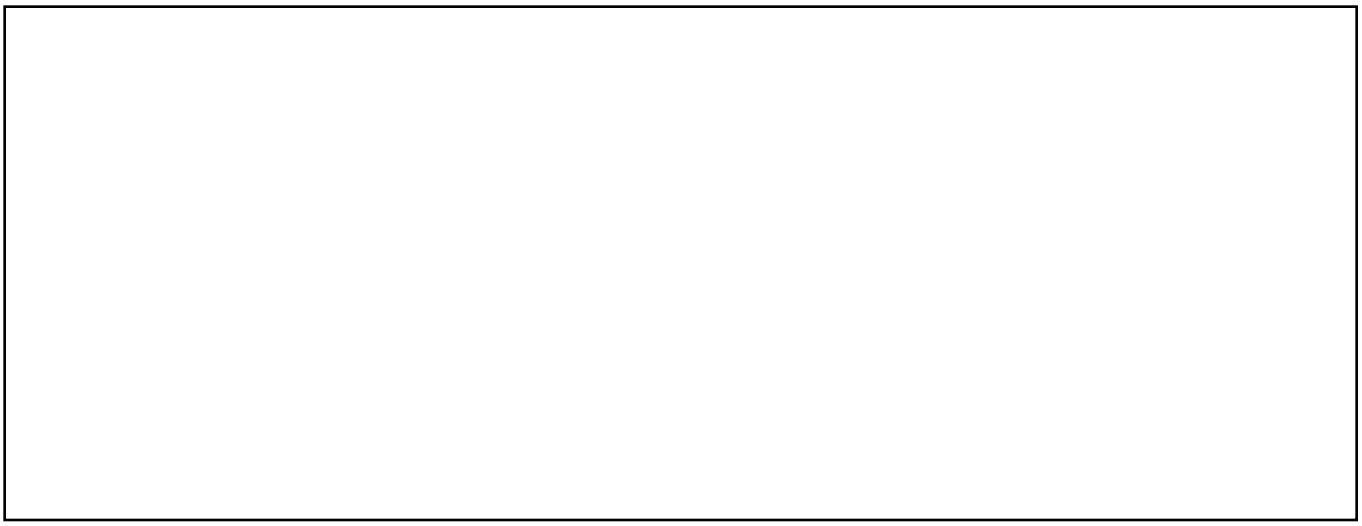
Class A	0 - 25 Flame Spread Index	0 - 450 Smoke-Developed Index
Class B	26 - 75 Flame Spread Index	0 - 450 Smoke-Developed Index
Class C	76 - 200 Flame Spread Index	0 - 450 Smoke-Developed Index

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

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

Authorized Signature

Date Order Completed: 10/19/2021



The Govmark Organization, Inc.

96-D Allen Boulevard
Farmingdale, New York 11735-5626 USA
Tel. +1 (631) 293-8944 Fax +1 (631) 293-8956
e-mail: info@govmark.com

Received: 10/28/2013	Completed: 10/29/2013	Letter: K2	BG	P.O.#:	Test Report #:	2-99248-2-
Client's Identification	Style: 4118. Content: 100% Trevira CS. Finish: None. Color: Black. End Use: Panel.					

Tested For: **Teesha Prezeau**
The Designtex Group
357 County Avenue
Secaucus, NJ 07094

Key Test: NFPA 701-2010 TM#1 190

Tel: 1-(201)-917-7738 **Ext:** 7738
Fax: 1-(201)-917-7764

PC: 0.5H DL/jd

TEST PERFORMED: NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films - 2010 Edition - Test Method #1

PRODUCT CONFIGURATION: [x] Single Layer; [ ] Multi Layer

RESULTS REPORTED: [x] Initially; [ ] After 3 dry cleanings; [ ] After 5 launderings @ 160°F

RESULTS:

Specimen #	Afterflame* (seconds)	Flaming Drip (seconds)	Weight Loss (percent)
1	0	0	13.4
2	0	0	15.2
3	0	0	25.4
4	0	0	31.8
5	0	0	14.9
6	0	0	31.3
7	0	0	18.2
8	0	0	29.9
9	0	0	11.9
10	0	0	26.9
	Mean: 0	Mean:	21.9

STATISTICAL VALUES: SD = 7.9 3 SD = 23.8 Mean + 3 SD = 45.7

ABBREVIATIONS USED: SD = Standard deviation. NT = Not tested.

APPROXIMATE WEIGHT OF MATERIAL (as measured by Govmark): 237 g/m²

PRECONDITIONING: [x] 0.5 hr @ 220°F (Standard)
[ ] 24 hrs @ 68±9°F (Alternate: Material shrinks/distorts @ 220°F)

CONVERSION FACTOR: g/m² ÷ 28.35 x .835 = oz/yd²

NOTE:

1. All specimens prepared in the length direction.
2. See addendum for individual specimen weights.

The Govmark Organization, Inc.

96-D Allen Boulevard
Farmingdale, New York 11735-5626 USA
Tel. +1 (631) 293-8944 Fax +1 (631) 293-8956
e-mail: info@govmark.com

Received: 10/28/2013	Completed: 10/29/2013	Letter: K2	BG	P.O.#:	Test Report #: 2-99248-2-
Client's Identification	Style: 4118. Content: 100% Trevira CS. Finish: None. Color: Black. End Use: Panel.				

Tested For: **Teesha Prezeau**
The Designtex Group
357 County Avenue
Secaucus, NJ 07094

Key Test: NFPA 701-2010 TM#1 190

Tel: 1-(201)-917-7738 **Ext:** 7738
Fax: 1-(201)-917-7764

REMARKS:

[x] Flames did not project above the top of the specimen.
[ ] Flames projected above the top of the specimen; Specimen #'s _____
[ ] Other: _____

FAILURE CRITERIA: As cited by NFPA 701 - 2010 Edition Test Method #1

		Weight Loss (percent)	
	Flaming Drip		
Afterflame	(Mean)	Mean	Individual Specimen
*	Exceeds 2 seconds	Exceeds 40%	Exceeds Mean + 3 SD**

CONCLUSION: Based on the Results on page 1 and the above Failure Criteria cited by NFPA 701 - 2010 Edition Test Method #1, the item tested:

[x] Passes; [ ] Fails; [ ] Requires testing of 10 additional specimens
i.e. only one individual specimen failure was noted

* Afterflame is required to be recorded; however, the NFPA document does not factor it into the Failure Criteria reporting requirements. It should be noted that excessive afterflames (15 seconds or more) could be cause for rejection by local fire authorities performing "match" field tests.

** See "Discussion" on Page 3.

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified by NFPA 701 - 2010 Edition Test Method #1.

Heather E. Robertson
AUTHORIZED SIGNATURE
THE GOVMARK ORGANIZATION, INC. / ec

MS. HEATHER ROBERTSON
NOV 06 2013

The Govmark Organization, Inc.

96-D Allen Boulevard
Farmingdale, New York 11735-5626 USA
Tel. +1 (631) 293-8944 Fax +1 (631) 293-8956
e-mail: info@govmark.com

Received: 10/28/2013	Completed: 10/29/2013	Letter: K2	BG	P.O.#:	Test Report #:	2-99248-2-
Client's Identification	Style: 4118. Content: 100% Trevira CS. Finish: None. Color: Black. End Use: Panel.					

Tested For: **Teesha Prezeau**
The Designtex Group
357 County Avenue
Secaucus, NJ 07094

Key Test: NFPA 701-2010 TM#1 190

Tel: 1-(201)-917-7738 **Ext:** 7738
Fax: 1-(201)-917-7764

** DISCUSSION:

Weight Loss - Individual Specimen Failure:

The NFPA 701 document, as written, provides for a statistical calculation which provides for retest and a potential failure if any individual value exceeds the mean by three standard deviations. Govmark is of the opinion that this cannot mathematically occur, i.e. no individual result is mathematically capable of exceeding the mean plus three standard deviations. Therefore, in effect, Govmark is of the opinion that this "individual specimen criteria" has no meaning, since it cannot possibly result in a nonconformance.

The Govmark Organization, Inc.

96D Allen Blvd.
Farmingdale, NY 11735
TEL: (516) 293-8944
FAX: (516) 293-8956

Client Name : Designtex
Addendum to Test Report # : 2-99248-2
Test : : NFPA 701

Specimen #	Weight Before Test (g)	Weight After Test (g)	Percent Weight Loss
1	13.40	11.60	13.4
2	13.20	11.20	15.2
3	13.40	10.00	25.4
4	13.20	9.00	31.8
5	13.40	11.40	14.9
6	13.40	9.20	31.3
7	13.20	10.80	18.2
8	13.40	9.40	29.9
9	13.40	11.80	11.9
10	13.40	9.80	26.9

Mean Percent Weight Loss : 21.9
Standard Deviation : 7.9
3 x Standard Deviation : 23.8
Mean + 3 x Standard Deviation : 45.7