SGS GOVMARK

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

Received: 04/04/2019	Completed: 04/10/2019	Letter: H	JR	P.O.#:	Test Report #:	3-31796-0-
Client's Identification	Bodag Architectural Vinyl Film. Pattern: NS706 ("Terrazzo"). Composition: Textured & laminated PVC film with clear top layer, printed pattern layer, adhesive layer (see continuation)					

Tested For: **Gordon Lewandowski**
Nelcos US LLC
22525 64th Place, Suite 2U
Issaquah, WA 98027

Key Test: ASTM E 84 (Int Fin) 765

Tel: 1-(425)-785-8160 **Ext:**
Fax: 1-( )- -

CLIENT'S IDENTIFICATION (continuation):
And backing paper. Product End Use: Material is dry-applied using air-channeled self-adhesive to walls, ceilings, cabinets, furniture, and other flat curved or compound curved surfaces.

Additional Information: This material is meant for application indoor, not outdoor application. Note that even though there is an arrow indicating "up" on each sample supplied, effectively there is no "top and bottom" to the film.
Test Category: Tunnel Test Specifier: BLDG(IBC): LE 2018; V 9/18; ASTM E 84: LE 2018b; V 01/19
PC: ME /dl/pp SM/mg

TEST PERFORMED: ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials

REFERENCE: Comparable to: UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials

APPROXIMATE THICKNESS OF SPECIMEN (as measured by SGS Govmark): 0.01"

SPECIMEN WEIGHT (to include substrate when applicable):

Prior to Conditioning: 91.5 lbs.

Stabilized Weight (taken twice within 24 hours): 91.5 lbs.

PRODUCT CATEGORY:

[ ] Textile Type Product

[x] Vinyl Type Product

[ ] Other than Textile Type or Vinyl Type Product: _____

BRIEF DESCRIPTION OF TEST: This test method is used to determine the relative burning behavior of a material under defined test conditions. The test is performed in a 25 ft. long tunnel/duct-like apparatus and is often referred to as the "tunnel test". The test contemplates a calibration where Red Oak burns to the 24 ft. mark in 5.5 minutes ± 15 seconds. During the actual test, a 24 ft. long x 23" wide specimen rests horizontally in a ceiling configuration inside the test chamber facing downward and toward two upward oriented burners. A furnace lid that rests in a water trough seals the chamber tight. A cement board placed on the backside of each specimen assembly protects the furnace lid during the test. The near face of the specimen is subjected to a 4.5 ft. flame insult of approximately 88 kW for ten minutes. The time and distance of the spread of flame along the length of the specimen and the smoke developed as read by the photometric system are all recorded. The Flame Spread and Smoke Developed are reported as an Index.

-- See Page 3 for "Results" --

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SPECIMEN MOUNTING:

[ ] Self-supporting: The test specimen was rigid enough to be self-supporting when placed into test position. No additional support was required.

[x] Adhered to IRC: The test specimen was bonded to 1/4" Inorganic Reinforced Cement (IRC) boards.

[ ] Adhered to Gypsum: The test specimen was adhered to 5/8" thick Type X gypsum board.

[ ] Unadhered: The specimen was not adhered to any substrate. Instead, it was laid over a 2" hexagonal wire mesh screen and 1/4" rods.

[x] Other: Self stick adhesive to IRC board.

SPECIMEN LENGTH: The 24 ft. length was comprised of:

[ ] Continuous unbroken 24 ft. length
[x] Sections: [x] Three 8 ft. sections butted end to end
[ ] Three 8 ft. sections positively joined
[ ] Other: _____

ADHESIVE (applied by SGS Govmark): [x] No
[ ] Yes - (specify): _____

OBSERVATIONS:

[x] No unusual observations
[ ] Burning Drips to Floor further qualified as: [ ] Minor; [ ] Moderate; [ ] Major
[ ] Delamination
[ ] Sagging
[ ] Shrinkage
[ ] Fallout (specimen displacement from ceiling mount)
[ ] Other: _____

REMARKS: [x] None
[ ] Other: _____

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RESULTS:

Flame Spread Index: 10
Smoke Developed: 100

ROUNDING (Per ASTM E84 Reporting Requirements):

Flame Spread Index value has been rounded to the nearest multiple of 5.
Smoke Developed value has been rounded to:

Raw Data	Rounded
Less than 200	Nearest multiple of 5
200 or more	Nearest multiple of 50

CONCLUSION: Based on the reported Results and cited Code Classification System, the item tested is assigned a:

[x] Class I or A rating
[ ] Class II or B rating
[ ] Class III or C rating
[ ] Fails to achieve a minimum classification thereby rendering the product unsuitable in terms of code requirement
[ ] Based on product performance*, ASTM E84 is not a suitable test method for the material.

* Severe melt, drip, delamination or other behaviour that destroys the continuity of the flame front such that a valid flame spread is unobtainable (See "Remarks" on Page 2 of 4.)

DATA SUMMARY:

Time to Ignition (minutes:seconds): 00:12
Maximum Flame Spread "Distance" (feet): 2.5
Maximum Flame Spread "Time" (seconds): 89

CODE CLASSIFICATION SYSTEM (Please see "ASTM E84 Limitations" on Page 4):

	Flame Spread Index	Smoke Developed
Class I or A:	0 - 25	450 or less
Class II or B:	26 - 75	450 or less
Class III or C:	76 - 200	450 or less

-- See Page 4 for "Building Code Citation for The Classification Scheme" --

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BUILDING CODE CITATION FOR THE CLASSIFICATION SCHEME:

(1) 2015 edition, NFPA 101 Life Safety Code, para. 10.2.3.4
(2) 2015 edition, NFPA 5000 Building Construction & Safety Code, para. 10.4.2
(3) 2018 edition, International Building Code, para. 803.1.2

LIMITATIONS OF THE ASTM E84 CLASSIFICATION SCHEME: Most building codes will accept the ASTM E84 classifications when the interior finish product is used in a sprinklered area. Certain local authorities such as NYC have more stringent requirements, i.e. Smoke Developed ranges from a maximum 25 to 100.

If the interior finish product is a textile or vinyl wall covering used in a non-sprinklered area, the NFPA 265 room corner fire test applies.

Certain products which give off excessive heat such as but not limited to cellular plastics, cellular foam (either with or without coverings as applicable), polypropylene, and high density polyethylene should be tested by NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth. In SGS Govmark's opinion, the codes require NFPA 286 for such products, even in sprinklered areas.

CERTIFICATION: I certify that the reported results were obtained after testing specimens in accordance with the procedures and equipment specified above.

Phyllis Pettit
APR 17 2019
AUTHORIZED SIGNATURE
SGS GOVMARK

Test Engineer: Jimmy Rosinsky

/jab /pm

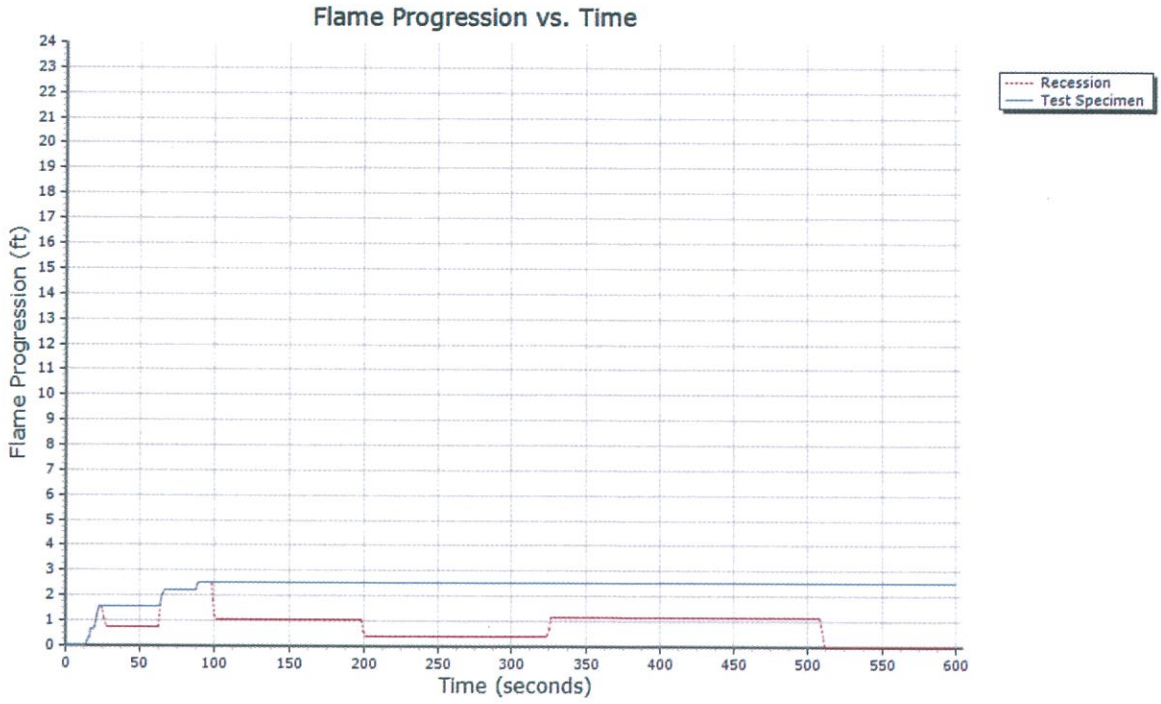
Enclosure: Graphs

SGS GOVMARK

Program: ASTM E84 (Version 1.61)

Test Method	: ASTM E84
Test Report #	: 3-31796-0-H
Date	: 4/10/2019
Client	: Nelco US LLC
Operator	: Jimmy Rosinsky
Details of Preparation	: The self stick adhesive was applied to 1/4" Inorganic Reinforced Cement (IRC) boards. The 24 ft specimen was comprised of three 8 ft sections butted end to end.
Observations	: No unusual observations

Area Under Flame Curve (ft min)	: 23.70
Raw Flame Spread Index (ft min)	: 12.21
Rounded Flame Spread Index (ft min)	: **10**
Ignition Time	: **00:12 mm:ss**
Area Under Smoke Curve (%A min)	: 118.79
Raw Smoke-Developed Index	: 99.45
Rounded Smoke-Developed Index	: **100**
Total Gas Flow(L)	: 1330.8
Total Gas Flow(ft^3)	: 47
Maximum Flame Front Achieved(ft)	: 2.5 (@89s)



Program: ASTM E84 (Version 1.61)

Test Method : ASTM E84
Test Report # : 3-31796-0-H