



Tested For: Bente Ellingsoe
Gabriel A/S
Hjulgagervej 55,
DK-9000 Aalborg
Denmark

Phone: +45 2926 3066
Fax:
Mobile:
PO#:
Email: bea@gabriel.dk

Received: 12/18/2023
Completed: 12/21/2023
Code: H
Test Report: 3-54179-0

Key Test: ASTM E84/ACT

630

Client's Identification:

Style: Europost. Composition: 100% NZ Wool. Weight: 800 g/lm. Product End Use: Screen and panel.

Test Category: Tunnel Test Specifier: ACT LE 2023c; V 12/23 BG PC: ME

TEST PERFORMED: ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials [LE 2018a; V 9/18] --

As cited by the Association of Contract Textiles (ACT) Voluntary Performance Guidelines (December 2021)

APPROXIMATE THICKNESS OF SPECIMEN (as measured by SGS North America): 0.067"

SPECIMEN WEIGHT (to include substrate when applicable):

Prior to Conditioning: 4.4 lbs.

Stabilized Weight (taken twice within 24 hours): 4.4 lbs.

PRODUCT CATEGORY:

- ☒ Textile Type Product
☐ 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 $\pm$ 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.

The results contained in this report relate only to the item(s) tested. The test report shall not be reproduced except in full, without written approval from SGS North America.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/terms-e-document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for a maximum of 45 days only.



Tested For: Bente Ellingsoe
Gabriel A/S
Hjulgagervej 55,
DK-9000 Aalborg
Denmark

Phone: +45 2926 3066
Fax:
Mobile:
PO#:
Email: bea@gabriel.dk

Received: 12/18/2023
Completed: 12/21/2023
Code: H
Test Report: 3-54179-0

Key Test: ASTM E84/ACT

630

SPECIMEN MOUNTING:

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

DISCUSSION: 3.2.1.1: Self-supporting specimens, after being mounted on the ledges of the test furnace, are structurally capable of supporting their own weight prior to the test and during the test without the use of additional supports. Examples of self-supporting specimen behavior include the ability to do the following without the use of additional supporting elements:

- (1) Prior to and during the test, the specimen stays in its position to such an extent that it does not interfere with the effect of the burner flame.
- (2) During the test, the specimen does not interrupt the progression of the flame front along the specimen. A specimen may still be considered self-supporting if it sags during the test or if debris falls from the specimen as long as this behavior does not interfere with the progress of the flame front.

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

- ☐ Continuous unbroken 24 ft. length
- ☒ Sections: ☒ Three 8 ft. sections butted end to end
- ☐ Three 8 ft. sections positively joined
- ☐ Four 5 ft. and one 4 ft. sections butted end to end
- ☐ Other: _____

ADHESIVE (applied by SGS North America): ☒ No
☐ Yes (specify): _____

The results contained in this report relate only to the item(s) tested. The test report shall not be reproduced except in full, without written approval from SGS North America.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/terms-e-document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for a maximum of 45 days only.



Tested For: Bente Ellingsoe
Gabriel A/S
Hjulgagervej 55,
DK-9000 Aalborg
Denmark

Phone: +45 2926 3066
Fax:
Mobile:
PO#:
Email: bea@gabriel.dk

Received: 12/18/2023
Completed: 12/21/2023
Code: H
Test Report: 3-54179-0

Key Test: ASTM E84/ACT

630

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

REMARKS: ☒ None
☐ Other: _____

RESULTS: Flame Spread Index: 55
Smoke Developed: 45

ROUNDING: 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

ACCEPTANCE CRITERIA (as cited by ACT):

	Flame Spread Index	Smoke Developed
Class A	0 - 25	450 or less

NOTE: Class A is also known as Class 1 and may be so specified in some Codes.

CONCLUSION: Based on the reported Results and cited Acceptance Criteria, the item tested:

☐ Complies ☒ Does not comply

DATA SUMMARY:

Time to Ignition (minutes:seconds): 00:21
Maximum Flame Spread "Distance" (feet): 11.7
Maximum Flame Spread "Time" (seconds): 97

The results contained in this report relate only to the item(s) tested. The test report shall not be reproduced except in full, without written approval from SGS North America.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/terms-e-document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for a maximum of 45 days only.



Tested For: Bente Ellingsoe
Gabriel A/S
Hjulgagervej 55,
DK-9000 Aalborg
Denmark

Phone: +45 2926 3066
Fax:
Mobile:
PO#:
Email: bea@gabriel.dk

Received: 12/18/2023
Completed: 12/21/2023
Code: H
Test Report: 3-54179-0

Key Test: ASTM E84/ACT

630

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

- ☐ 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 behavior that destroys the continuity of the flame front such that a valid flame spread is unobtainable (See "Remarks" on Page 2 of 4.)

CODE CLASSIFICATION SYSTEM:

	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

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 North America's opinion, the codes require NFPA 286 for such products, even in sprinklered areas.

The results contained in this report relate only to the item(s) tested. The test report shall not be reproduced except in full, without written approval from SGS North America.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/terms-e-document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for a maximum of 45 days only.



Tested For: Bente Ellingsoe
Gabriel A/S
Hjulmagervej 55,
DK-9000 Aalborg
Denmark

Phone: +45 2926 3066
Fax:
Mobile:
PO#:
Email: bea@gabriel.dk

Received: 12/18/2023
Completed: 12/21/2023
Code: H
Test Report: 3-54179-0

Key Test: ASTM E84/ACT

630

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

DocuSigned by:

Bobby Brown

12/27/2023

F7FE1AA2EFE84EE...

AUTHORIZED SIGNATURE
SGS NORTH AMERICA
/sj /et

Enclosure: Graphs

Test Engineer: Jimmy Rosinsky

DS
BB



JR

Ver. 2021-03-09 10:35

Page 5 of 5

The results contained in this report relate only to the item(s) tested. The test report shall not be reproduced except in full, without written approval from SGS North America.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/terms-e-document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for a maximum of 45 days only.

96 Allen Boulevard Suite D, Farmingdale, NY 11735 USA • Phone: (631) 293-8944 • Email: govmark.test.reports@sgs.com



Program: Steiner Tunnel (Version 1.0.3.0)

Test Method : ASTM E84
Report # : 3-54179-0-H
Test Date : 12/21/2023
Client : Gabriel A/S
Operator : Jimmy Rosinsky
Details of Preparation : The specimen was not adhered to any substrate. Instead, it was laid over a 2" hexagonal wire mesh screen and 1/4" rods. The 24 ft. length was comprised of three 8 ft. sections butted end to end.
Observations : Moderate burning drips to oven floor.

Results

Area Under Flame Curve (ft min) : 108.39
Raw Flame Spread Index : 56.58
Ignition Time (mm:ss) : 00:21
Area Under Smoke Curve (%A min) : 36.22
Raw Smoke Developed Index : 45.90
Total Gas Flow (ft³) : 56.0
Maximum Flame Front Achieved (ft) : 11.7 @ 97s
Flame Spread Index : **55**
Smoke Developed Index : **45**
Material Classification : **B**

CERTIFICATION : I certify that the above results were obtained after testing the specimens in accordance with the procedures and equipment specified by ASTM E84

Jimmy Rosinsky

AUTHORIZED SIGNATURE



Program: Steiner Tunnel (Version 1.0.3.0)

Test Method : ASTM E84
Test Report # : 3-54179-0-H

