



ENGINEERING EVALUATION

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RENDERED TO

ABET CORPORATION
50 PAXMAN ROAD
TORONTO, ON M9C 1B7

PRODUCT EVALUATED: ABET MEG Exterior Grade Phenolic Panels Class A or F1
by ABET Laminati
EVALUATION PROPERTY: Full-scale Exterior Wall Fire Resistance

Engineering Evaluation of ABET MEG Exterior Grade Phenolic Panels Class A for F1 by ABET Laminati for compliance with the applicable requirements of the following criteria: 2005 National Building Code of Canada Article 3.1.5.5 referencing CAN/ULC-S134-92, *Standard Method of Fire Test of Exterior Wall Assemblies.*

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2 Introduction

Intertek Testing Services NA Ltd. (Intertek) is conducting an engineering evaluation for ABET Corporation, on ABET MEG Exterior Grade Phenolic Panels Class A or F1 by ABET Laminati, to evaluate the witnessed test performed in accordance with CAN/ULC S134-92, *Standard Method of Fire Test of Exterior Wall Assemblies*. Testing was performed on December 11, 2009 at National Research Council Canada's (NRC) Fire Testing facility located in Mississippi Hills, Ontario. The evaluation is being conducted to determine if the results of the witnessed CAN/ULC S134-92 test will meet the requirements of Article 3.1.5.5 of the 2005 National Building Code of Canada.

3 Product and Assembly Description

3.1. Product and/or Assembly Description:

The installation of ABET MEG Exterior Grade Phenolic Panels Class A or F1 by ABET Laminati was witnessed by Matt Lansdowne and installed to the requirements for fitting the 3 story CAN/ULC S134-92 test structure at NRC. These panels were manufactured by ABET Corporation in Bra, Italy, and were not independently witnessed or sampled by Intertek.

The CAN/ULC S134-92 test assembly consisted of the following components, listed from room side to exterior:

- 1) 5/8" Type X Certaineed ProRock Underwriters Laboratory listed gypsum board sheathing
- 2) 4" thick R-22 fiberglass batt insulation friction fit between 6" depth 18 gauge steel studs at 16" on center
- 3) 5/8" Underwriters Laboratory listed Georgia Pacific DensGlass Gold
- 4) Continuous aluminum rails (ABET MEG Exterior Grade Phenolic Panels System Attachment Clips),
- 5) ABET MEG Exterior Grade Phenolic Panels Class A or F1 cladding panels with fire retardant core

3.2. Product and/or Assembly Traceability:

Intertek did not select the specimen and has not verified the composition, manufacturing techniques or quality assurance procedures. Intertek will use a verification method to establish a direct link to the test sample and future production.

3.3. Product and/or Assembly Certification:

ABET Corporation is an Intertek testing client but not an Intertek Listing and Follow-up Service client, which means ABET MEG Exterior Grade Phenolic Panels Class A or F1 by ABET Laminati are not an Intertek certified product and Intertek does not have any Listings for ABET MEG Exterior Grade Phenolic Panels Class A or F1 by ABET Laminati in Intertek's Directory of Listed Building Products.

4 Reference Documents

As part of this evaluation, Intertek has directly or indirectly used the following referenced documents:

- 2005 National Building Code of Canada (2005 NBC)
- CAN/ULC S134-92 Standard Method of Fire Test of Exterior Wall Assemblies (CAN/ULC S134-92)

5 Evaluation Method

The objective of this evaluation is to determine if ABET MEG Exterior Grade Phenolic Panels Class A or F1 by ABET Laminati meet the requirements of Article 3.1.5.5 of the 2005 National Building Code. This section requires testing the product in accordance with CAN/ULC S134-92; pass/fail requirements are as stated in Sentence 2 and 3 of Article 3.1.5.5:

- 2) Flaming on or in the wall assembly shall not spread more than 5 m above the opening during or following the test procedure referenced in Sentence 1, (CAN/ULC S134-92).
- 3) The heat flux during the flame exposure on a wall assembly shall not be more than 35 kW/m², measured 3.5 m above the opening during the test procedure referenced in Sentence 1, (CAN/ULC S134-92).

During the witnessing, it was observed that the maximum extent of damage on the specimen was approximately 2.75 m above the opening in the test assembly. The wall system remained flat and in place. Deterioration was noted through damage to the fire retardant core of the ABET MEG Exterior Grade Phenolic Panels Class A or F1 by ABET Laminati panels, leading to aluminum pull back and further core exposure along the joint center line of the panel assembly to the maximum damage height. This damage was noted to slowly progress through the duration of the test, and continue after the testing completion. It was noted that the progression of the flame front decreased after 5 minutes of testing completion, and recede after 10 minutes time after test completion. The assembly was therefore considered to self extinguish, and the flame front considered to self extinguish.

The maximum height of the flames was a maximum 2.75 m above the opening in the test assembly during the test. This height is less than the 5.00 m limit for flame spread distance specified in Sentence 2 of Article 3.1.5.5 of the 2005 NBC. The maximum one-minute averaged value of the heat flux density on the wall at 3.5 m above the opening was 14.5 kW/m². This value is below the 35.0 kW/m² limit specified in Sentence 3 of Article 3.1.5.5 of the 2005 NBC. A full report containing these results, pictures and data are on file at Intertek's office in Mississauga, ON. Based on these results, it is Intertek's professional opinion that the ABET MEG Exterior Grade Phenolic Panels Class A or F1 by ABET Laminati meet the requirements of Article 3.1.5.5 of the 2005 NBC.

6 Conclusion

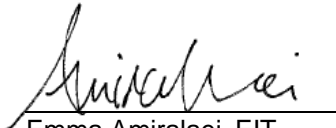
Intertek has conducted an engineering evaluation for ABET Corporation, on ABET MEG Exterior Grade Phenolic Panels Class A or F1 by ABET Laminati, to evaluate the witnessed test performed in accordance with CAN/ULC S134-92, *Standard Method of Fire Test of Exterior Wall Assemblies*. Testing was performed on December 11, 2009 at National Research Council Canada's (NRC) Fire Testing facility located in Mississippi Hills, Ontario. The evaluation was being conducted to determine if the results of the witnessed CAN/ULC S134-92 test will meet the requirements of Article 3.1.5.5 of the 2005 National Building Code of Canada.

Based on the information contained and referenced herein, it is Intertek's professional judgment based on sound engineering principles that the following is true:


- The maximum height of the flames was a maximum 2.75 m above the opening in the test assembly during the test
- The maximum one-minute averaged value of the heat flux density on the wall at 3.5 m above the opening was 14.5 k/m²
- Based on the above two results, ABET MEG Exterior Grade Phenolic Panels Class A or F1 by ABET Laminati meet the requirements for use in non-combustible construction as stipulated in Article 3.1.5.5 of the 2005 NBC

INTERTEK

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7 LAST PAGE & REVISION SUMMARY

DATE	SUMMARY
December 23, 2009	Original
December 20, 2016	Corrected company information from ABET Laminata to ABET Laminati; replaced reporter Matt Lansdowne as he is no longer with the company and added Emma Amiralaei in place of him