

GRESMANC INTERNACIONAL, S.L.

TEST REPORT

SCOPE OF WORK

ASTM E283, ASTM E331, AND ASTM E330 TESTING ON
FAVEMANC XB PRO CERAMIC PANEL, RAINSCREEN SYSTEM

REPORT NUMBER

H6156.02-109-44

TEST DATE(S)

06/20/18 - 06/21/18

ISSUE DATE

02/06/19

RECORD RETENTION END DATE

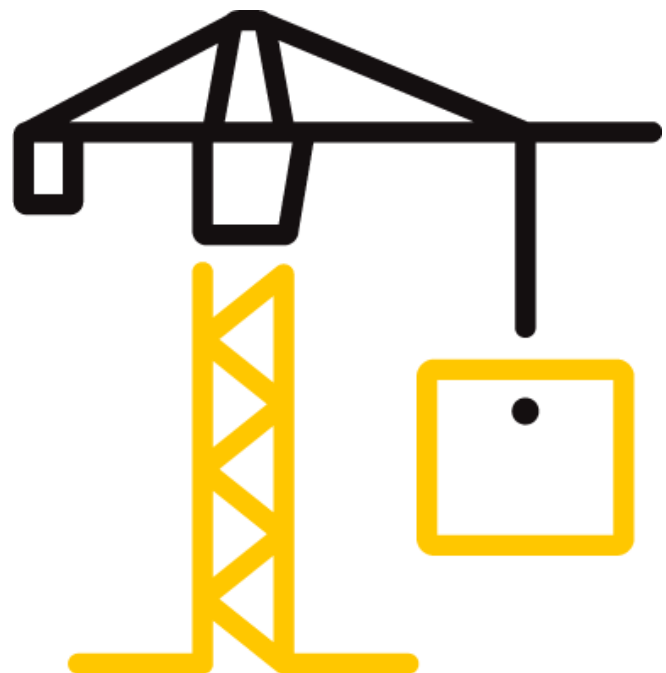
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TEST REPORT FOR GRESMANC INTERNACIONAL, S.L.

Report No.: H6156.02-109-44

Date: 11/15/18

REPORT ISSUED TO

GRESMANC INTERNACIONAL, S.L.

Ctra. Consuegra, km. 1,200

Los Yebenes, Toledo 45470

SPAIN

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Gresmanc Internacional, S.L. to perform testing in accordance with ASTM E283, ASTM E331, and ASTM E330, on their Favemanc XB Pro ceramic panel, Rainscreen system. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at Intertek B&C test facility in York, Pennsylvania.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

SECTION 2

SUMMARY OF TEST RESULTS

TITLE	RESULTS
Design Pressure	±3600 Pa (±75.19 psf)
Air Infiltration at 75 Pa (1.57 psf)	1.2 L/s/m ² (0.23 cfm/ft ²)
Air Infiltration at 300 Pa (6.27 psf)	3.2 L/s/m ² (0.63 cfm/ft ²)
Air Exfiltration at 75 Pa (1.57 psf)	0.2 L/s/m ² (0.03 cfm/ft ²)
Air Exfiltration at 300 Pa (6.27 psf)	0.4 L/s/m ² (0.08 cfm/ft ²)
Water Penetration Resistance Test Pressure	580 Pa (12.11 psf)
Uniform Load Structural Test Pressure	±5400 Pa (±112.78 psf)

For INTERTEK B&C:

COMPLETED BY:	Andrew P. Mehalick	REVIEWED BY:	Timothy J. McGill
TITLE:	Technician – Product Testing	TITLE:	Manager – Product Testing
SIGNATURE:		SIGNATURE:	
DATE:	02/06/19	DATE:	02/06/19

APM:wnl

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SECTION 3

TEST METHOD(S)

The specimen was evaluated in accordance with the following:

ASTM E283-04(2012), *Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen*

ASTM E330/E330M-14, *Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*

ASTM E331-00(2016), *Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference*

SECTION 4

MATERIAL SOURCE/INSTALLATION

Test specimen was provided by the client. Representative samples of the test specimen(s) will not be retained by Intertek B&C.

The specimen was installed into a 16-gauge 2x6 steel stud buck. The buck was covered with 1/2" exterior gypsum board, vapor barrier, and wrapped with Spruce-Pine-Fir wood. The rough opening allowed for no shim space. The exterior perimeter of the system was sealed with silicone. Installation of the tested product was performed by the client.

SECTION 5

EQUIPMENT

Weather Station: 63316

Control Panel: 005644

Spray Racks: 003956A and 003956D

Linear Transducers: 65989, 65990, 65987, 65991, and 65988

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SECTION 6

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Manuel Guio Garcia	Gresmanc Internacional, S.L.
Timothy J. McGill	Intertek B&C
Andrew P. Mehalick	Intertek B&C

SECTION 7

TEST SPECIMEN DESCRIPTION

Product Type: Ceramic panels, Rainscreen system

Series/Model: Favemanc XB Pro

Product Size(s):

OVERALL AREA:	WIDTH		HEIGHT	
	millimeters	inches	millimeters	inches
5.9 m ² (64.0 ft ²)				
Overall size	2438	96	2438	96
Panel size	1216	47-7/8	406	16

Test Specimen Installation: The test specimen was installed into the buck using 2" wide by 3-1/8" long by 1/8" thick aluminum brackets at the head and sill. The brackets were spaced 32" on center and secured in place using two 3/8" x 2" hex head self-tapping screws through the brackets and into the studs. The rest of the brackets used in the field were 2" wide by 1-9/16" long by 1/8" thick aluminum. The brackets were spaced 32" on center horizontally and 22" on center vertically. The brackets were secured into place using one 3/8" x 2" hex head self-tapping screw through the bracket and into the stud. A vertical "T" profile aluminum rail was placed onto the brackets. The rail was 3" wide by 3" tall by 96" long by 1/16" thick. The vertical rail was secured to the brackets using 1/4" x 1" hex head self-tapping screws, through the vertical edge of the bracket and into the rail. A horizontal aluminum rail was placed on top of the vertical "T" profile rail, at the top of the test specimen wall and spaced 15-3/4" on center. The horizontal rail measured 2-3/8" wide by 1" tall by 96" long by 1/8" thick. The rail was secured to the "T" profile rail using one 1/4" x 1" hex head self-tapping screw, through the center line of the horizontal rail, and into the vertical rail. The ceramic panels were hung on the horizontal rails.

Panel Construction:

PANEL MEMBER	MATERIAL	DESCRIPTION
Panels	Ceramic	Extruded, 5/8" thick, with a female interlock at the top and bottom of the panel

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SECTION 8
TEST RESULTS

The temperature range during testing was 24°C - 27°C (75°F - 80°F). The results are tabulated as follows:

TITLE OF TEST	RESULTS	ALLOWED	NOTE
Air Leakage, Infiltration per ASTM E283 at 75 Pa (1.57 psf)	1.2 L/s/m ² (0.23 cfm/ft ²)	Report only	1
Air Leakage, Infiltration per ASTM E283 at 300 Pa (6.27 psf)	3.2 L/s/m ² (0.63 cfm/ft ²)	Report only	1
Air Leakage, Exfiltration per ASTM E283 at 75 Pa (1.57 psf)	0.2 L/s/m ² (0.03 cfm/ft ²)	Report only	1
Air Leakage, Exfiltration per ASTM E283 at 300 Pa (6.27 psf)	0.4 L/s/m ² (0.08 cfm/ft ²)	Report only	1
Water Penetration, per ASTM E331 at 580 Pa (12.11 psf)	Pass	No leakage	
Uniform Load Deflection, per ASTM E330 Deflections taken between vertical rails +3600 Pa (+75.19 psf) -3600 Pa (-75.19 psf)	3.0 mm (0.12") 2.4 mm (0.11")	Report only	2, 3
Uniform Load Deflection, per ASTM E330 Deflections taken length of panel +3600 Pa (+75.19 psf) -3600 Pa (-75.19 psf)	1.5 mm (0.06") 1.0 mm (0.04")	Report only	2, 3
Uniform Load Structural, per ASTM E330 Permanent set taken between vertical rails +5400 Pa (+112.78 psf) -5400 Pa (-112.78 psf)	0.5 mm (0.02") <0.3 mm (<0.01")	Report only	2, 3

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TITLE OF TEST	RESULTS	ALLOWED	NOTE
Uniform Load Structural, per ASTM E330 Permanent set taken length of panel +5400 Pa (+112.78 psf) -5400 Pa (-112.78 psf)	 0.3 mm (0.01") 0.5 mm (0.02")	 Report only	 2, 3

General Note: All testing was performed in accordance with the referenced standard(s).

Note 1: Test Date 06/20/18 / Time: 11:15 AM

Note 2: Loads were held for 10 seconds.

Note 3: Tape and film were used to seal against air leakage during structural testing. In our opinion, the tape and film did not influence the results of the test.

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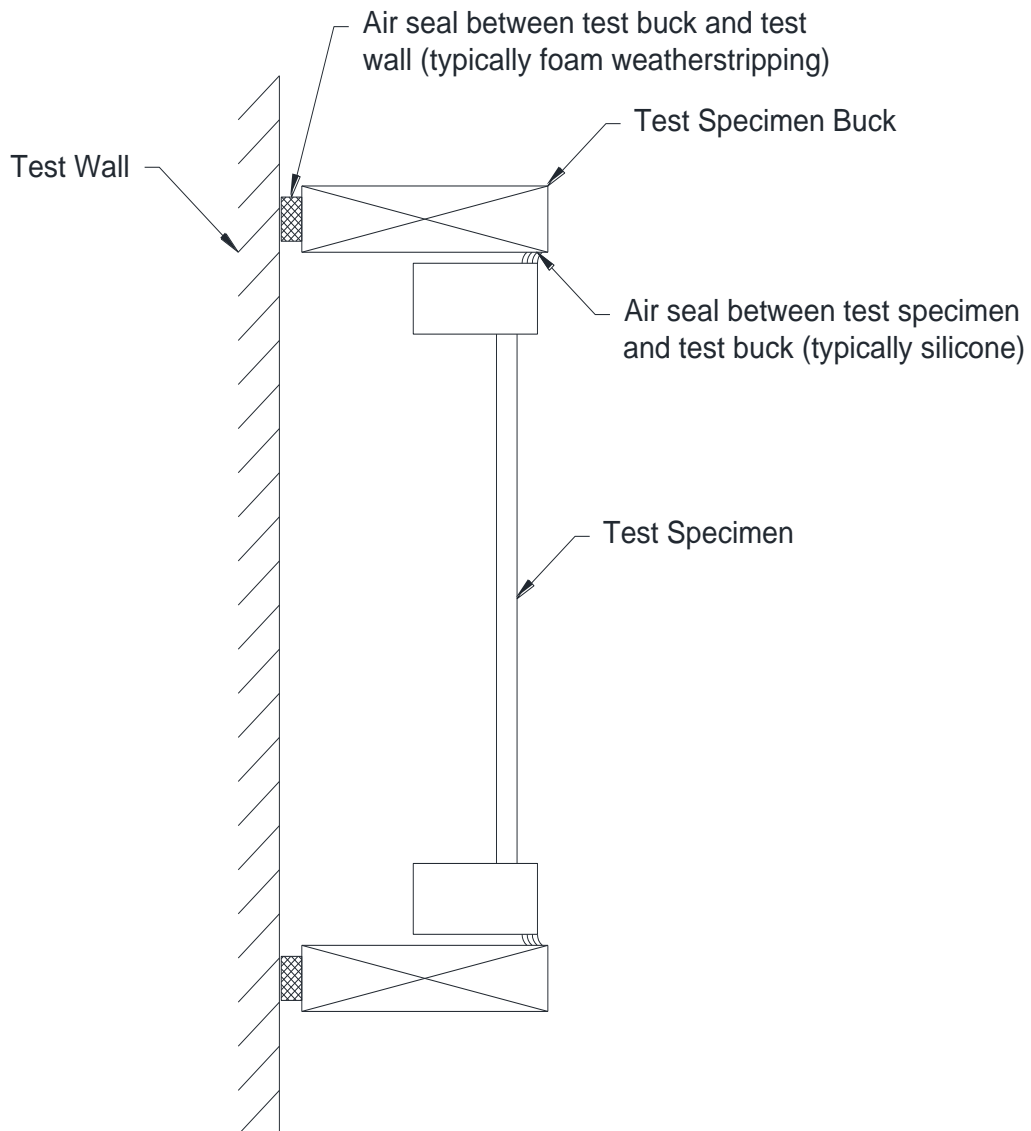
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SECTION 9

LOCATION OF AIR SEAL

The air seal between the test specimen and the test wall is detailed below. The seal is made of foam weatherstripping and is attached to the edge of the test specimen buck. The test specimen buck is placed against the test wall and clamped in place, compressing the weatherstripping and creating a seal.





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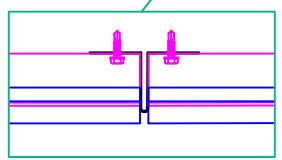
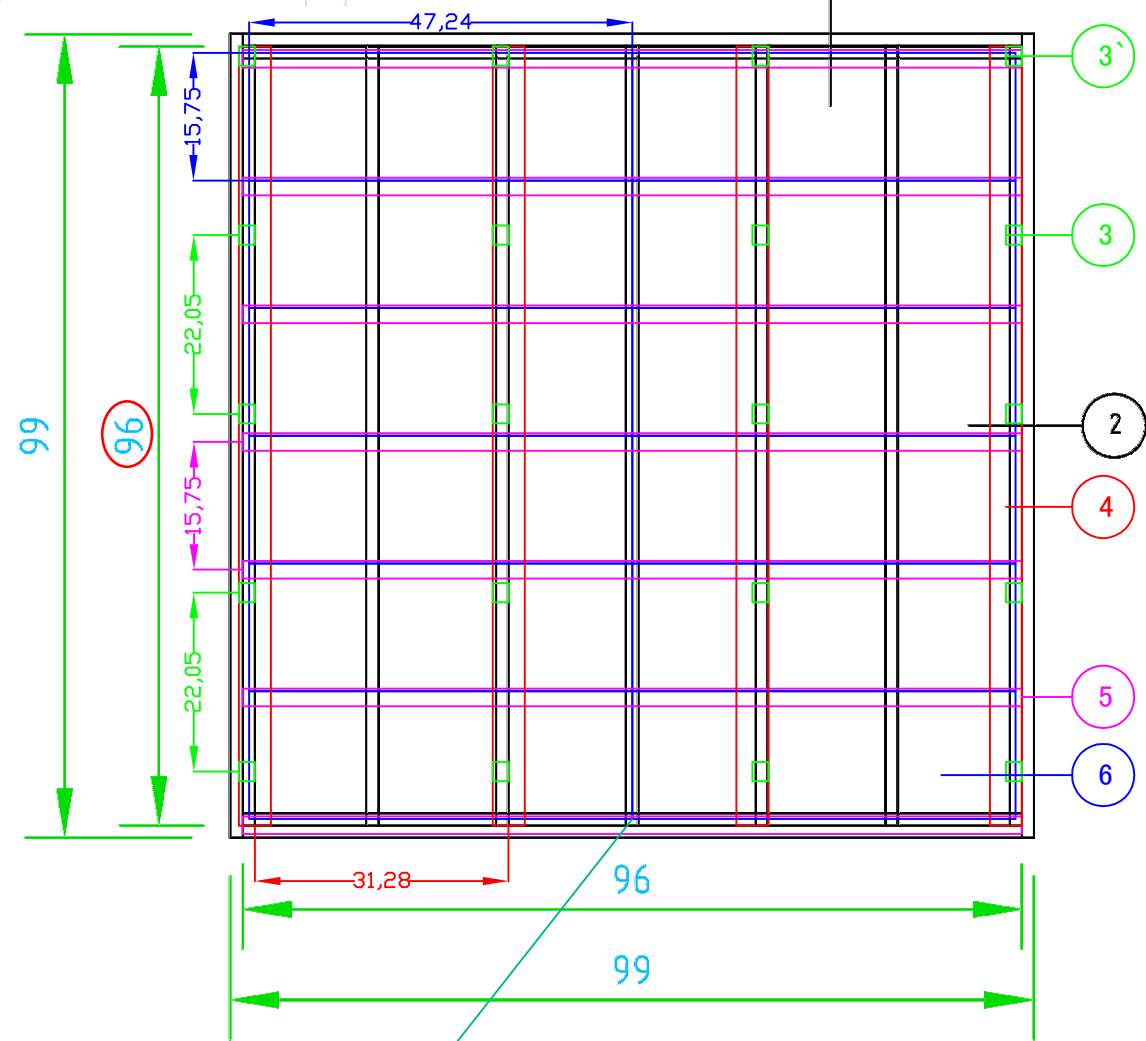
Date: 11/15/18

SECTION 10
DRAWINGS

The test specimen drawings have been reviewed by Intertek B&C and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.

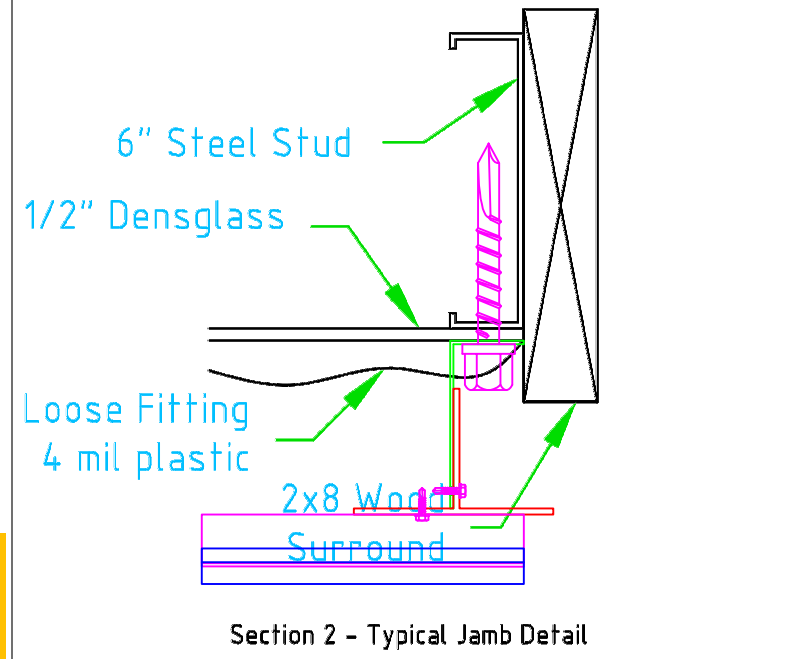
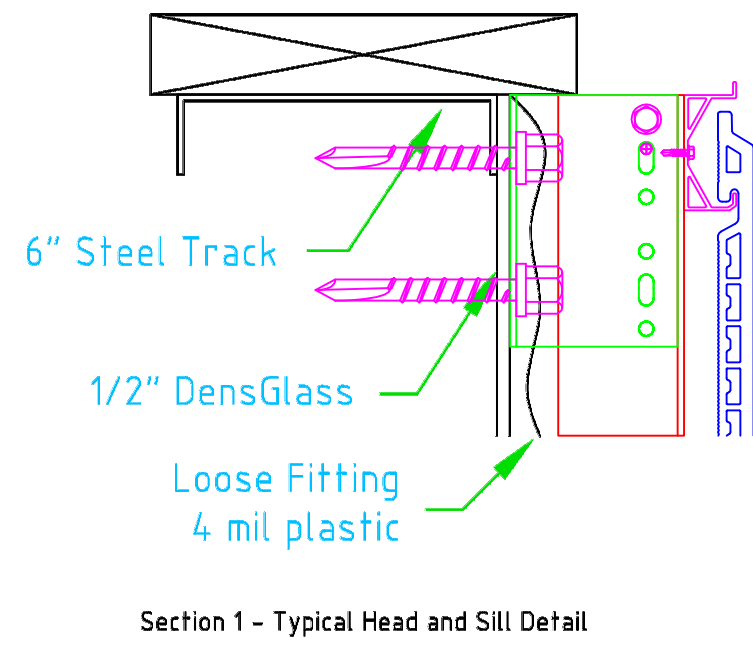
REV	DATE	DESCRIPTION	BY
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- 3 Retaining brackets 50x80 mm 
- 3 Support brackets 50x80 mm 
- 4 Vertical profile "T" 
- 5 Horizontal profile 
- 6 Pane IXB Pro 1200x300x17 mm 47.24x15.75x0.67 in 



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Verified by: *Andrew P. Mehalak*



PROJECT NO.
-

PROJECT NAME:
CLIENT:



DRAWING
AAMA 508 Test Wall Construction

DWG. BY: MDS
DATE: 3/18/11

SHEET 1 OF 1


The Favemanc XB Pro ventilates cladding system with ceramic plates fixed to a substructure made up of vertical and horizontal profiles consists of:

- Facemanc XB Pro extruded stoneware ceramic plate for external cladding supplied by Gresmanc Internacional S.L.
- Air ventilation chamber which contains thermal insulation not supplied by Gresmanc Internacional S.L.
- Substructure anchored to the support consisting of:
 - Aluminium support and retaining brackets for the transfer of loads from the substructure to the support via anchorage.
 - Aluminium vertical profiles "T" distance between each other 31.28 inches.
 - Aluminium continuous and discontinuous horizontal profiles with a maximum length of 78.74 inches.

The Favemanc XB Pro plates are ceramic plates that are manufactured by extrusion and are classified as extruded ceramic plates according to regulation UNE-En 14411:2007.

The substructure for fixing plates have different materials:

- Aluminium: the framework of vertical and horizontal profiles and brackets are made of 6063 T5 extruded aluminium alloy.
 - Brackets: the tolerance are defined according to regulation UNE-EN 755-9:2009. Brackets are elements for fixing vertical profiles to the support. They are adjustable brackets of extruded aluminium (6063 T5) with approx. 3mm thickness.
 - Vertical profile "T": the tolerance are defined according to regulation UNE-EN 755-9:2009. The vertical profiles are manufactured from T shape extruded aluminium (6063 T5).
 - Horizontal profiles: the tolerance are defined according to regulation UNE-EN 755-9:2009. The horizontal profiles are manufactured from C shape extruded aluminium (6063 T5).
 - Adhesive: one component polyurethane sealant, medium modulus for adhesion to aluminium $\geq 15 \text{Kp/cm}^2$ according to EN 1465:2009. In high humidity areas medium-high modulus sealants will be required. Adhesive is only applied to said assembly and repair operations.
 - Screws: to fix the vertical profile to the brackets and to join the horizontal profile to the vertical profile, hexagonal head 5.5x22, DIN 7504k, self-drilling, stainless steel A2 screws are used.

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	Date:	11/13/2018
	Verified by:	<i>Antonio P. Mehal</i>



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SECTION 11

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	11/15/18	N/A	Original Report Issue