Test Report #: TN 140-2022-C
Report Date: 5-25-2022
Total Pages: 4 + 8 dwgs.

PERFORMANCE TEST REPORT

ASTM E283 AIR LEAKAGE TEST
ASTM E331 WATER PENETRATION TEST
ASTM E330 UNIFORM LOAD STRUCTURAL TEST

ON

ICON 70D DOOR

FOR

KLEIDCO INC.
33 NASSAU AVENUE 2ND FL.
BROOKLYN NY 11222

Performance Test Report

Project Summary: Farabaugh Engineering and Testing (FET Labs) was contracted to perform onsite testing at the above-referenced project air, water, and structural testing.

SETUP DATE(S): 5-12-2022

TEST DATE(S): 5-12-2022

TEST LOCATION: Kleidco Inc in Turkey

TEST SPECIMEN: Terrace Door

TEST METHODS: The test was conducted in accordance with the following:

ASTM E283M-19:
"Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen"

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

ASTM E330M-14(2021):
"Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference"

Test Procedure:
The specimen was bucked in tube steel and placed inside the testing chamber. The chamber was equipped with a blower that pushed and exhausted air into the chamber and pressurized air at a required rate, maintaining the specific test pressure difference across the fenestration product. Air infiltration was conducted at a test pressure difference of 6.24 psf. Maximum allowable air infiltration ≤ terrace doors 0.1 cfm^{ft2}, as per AAMA A440-08 AW. Water penetration was conducted at a test pressure difference of 12 psf while water was simultaneously applied to the fenestration product's exterior face at the required rate of 5gph/ft2. Testing continued for 15 min.

Test Parameters:
Air penetration shall not exceed 0.1 $cfm^{ft2.}$ No water shall penetrate beyond a plane parallel to the innermost edges of the product. Structural testing was used alongside the AAMA A440-08 AW gateway testing with L/175 for deflection and 0.2% of span for the permanent set.

Test #1:
Description: Terrace door
Manufacturer: Kleidco
Total Size: 48" X 96"; Area: 32 ^{ft2}
Location: Kleidco Turkey

Test Title	Test Results	Allowable
ASTM E283 @ 6.2 psf	<0.01 CFM^{ft2} (<0.05 L/s*m2)	<0.1 CFM^{ft2} (<0.5 L/s*m2)
ASTM E331 @ 12 psf	Pass no water	No Water Penetration
ASTM E330 PG -40 psf	- 0.059" (-14.9mm)	(L/175) - 0.514 (-13.1mm)
ASTM E330 PG 40 psf	0.109" (2.8mm)	(L/175) 0.514 (13.1mm)
ASTM E330 Overload -60 psf	- 0.010 (-0.25mm)	(0.2%L) - 0.18 (-4.57mm)
ASTM E330 Overload 60 psf	0.006 (0.15mm)	(0.2%L) 0.18 (4.57mm)

Specimen Image 1:

General Description:
Test sample was comprised of Kleidco ICON 70D Door (out-swing) aluminum, hinged, glass door with an overall master frame size measuring 48" wide X 96" high X 2-5/8" deep frame. The door measured 3'- 9-5/8" wide x 7'- 10-1/2" The door used a locking handle system with five locking points. The door used two hinges with three metal snubbers/keepers on hinge side. The panel was interior drop in glazed with 1.1" (28mm) (nominal) thick insulated glass that sat on rubber gasket. The panel utilized (2)0.235" (6mm) (nominal) thick clear tempered glass with 0.63" (16mm) (nominal) metal spacer. A aluminum snap on glazing bead secured the glass. See drawings for installation and other details pertaining to fabrication of door.

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For Farabaugh Engineering and Testing

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