

AMARR GARAGE DOORS MIAMI-DADE TEST REPORT

SCOPE OF WORK

ASTM B117 SALT FOG EXPOSURE EVALUATION OF G-30 GALVANIZED WITH POLYESTER TOPCOAT (NCNDVP: GREEN COAT BACKING) AND G-90 GALVANIZED CONTROL PANELS

REPORT NUMBER

P9770.01-106-18 R0

TEST DATE(S)

05/11/23 - 06/29/23

ISSUE DATE

10/09/23

RECORD RETENTION END DATE

06/29/33

MIAMI-DADE COUNTY NOTIFICATION NO.

ATI 23007

LABORATORY CERTIFICATION NO.

22-0428.14

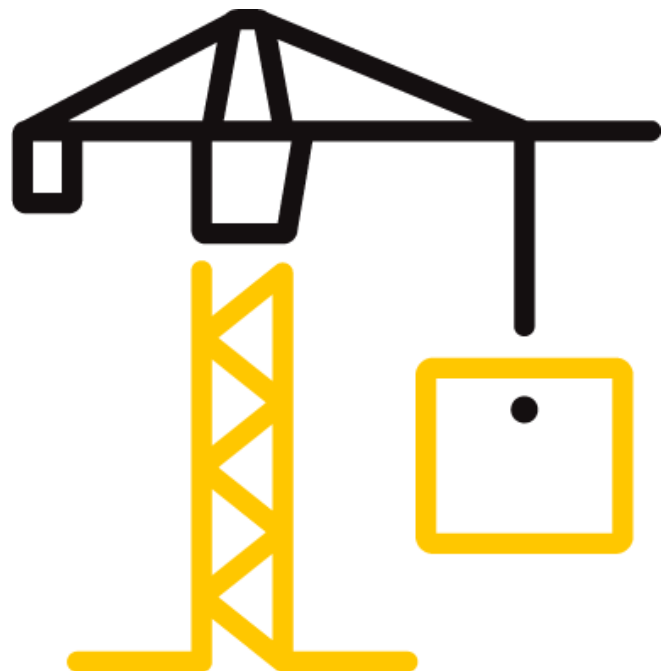
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12

DOCUMENT CONTROL NUMBER

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MIAMI-DADE TEST REPORT FOR AMARR GARAGE DOORS

Report No.: P9770.01-106-18 R0

Date: 10/09/23

REPORT ISSUED TO

AMARR GARAGE DOORS

165 Carriage Court

Winston-Salem, North Carolina 27105

SECTION 1

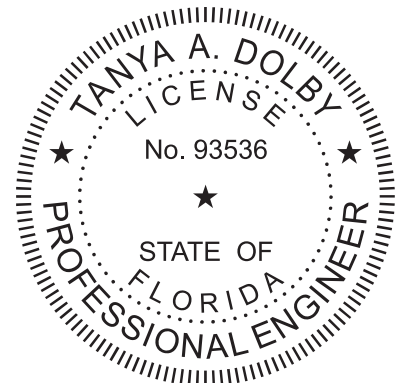
SCOPE

Products: G-30 Galvanized with Polyester Topcoat (NCNDVP: green coat backing) and G-90 Galvanized Control Panels

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by Amarr Garage Doors to evaluate G-30 Galvanized with Polyester Topcoat (NCNDVP: green coat backing) and G-90 Galvanized Control panels in accordance with ASTM B117 for salt fog exposure. Results obtained are tested values and were secured by using the designated test method. Testing was conducted at the 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.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.



For INTERTEK B&C:

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TITLE:	Technician II Materials Laboratory
SIGNATURE:	 Digitally Signed by: Cag Saylor
DATE:	10/09/23

CSS:dmc/td/kae

REVIEWED BY:	Tanya Dolby, P.E.
TITLE:	Manager, Engineering Services Direct Operations
SIGNATURE:	 Digitally Signed by: Tanya Dolby
DATE:	2023.10.10 12:03:21 -04'00'

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SECTION 2

TEST METHODS

The specimens were evaluated in accordance with the following:

Miami-Dade Checklist #0220-2012, *For the Approval of Garage Doors*

ASTM B117-16, *Standard Practice for Operating Salt Spray (Fog) Apparatus*

ASTM D1654-08 (Reapproved 2016)^{E1}, *Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments*

SECTION 3

MATERIAL SOURCE

The materials were provided by Amarr Garage Doors. The following was received in good condition on 4/10/23:

- (4) G-30 Galvanized with Polyester Topcoat (NCNDVP: green coat backing) samples, measuring 3" x 6"
- (4) G-90 Galvanized Control samples, measuring 3" x 6"

Refer to the product description photos in Section 10. The materials were tested as received. Representative materials/test specimens will be retained by Intertek B&C for a minimum of ten years from the test completion date.

SECTION 4

TEST EQUIPMENT

NAME	ICN/DESCRIPTION
Q-FOG Salt Fog Cabinet	Y006716
Mettler Toledo pH Meter	005964
Collection Cylinders	INT00324, INT00325, INT00326, INT00327
Fowler Digital Caliper	INT02510
Loupe	62071

Note: Calibration certificates are available upon request.

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SECTION 5

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Cag S. Saylor	Intertek B&C
Dawn M. Chaney	Intertek B&C
Tanya Dolby, P.E.	Intertek B&C

SECTION 6

TEST PROCEDURES

All conditioning of test specimens and test conditions were at standard laboratory conditions, unless otherwise reported. Refer to the test related photos in Section 10.

ASTM B117, Salt Fog Exposure

The corrosion resistance was determined utilizing a Q-Fog CCT chamber. Specimens were exposed to a 35°C salt fog with 5% sodium chloride solution for 1,000 hours. Specimens were supported at an angle of 15° from the vertical. The pH level was maintained between of 6.5-7.2 as monitored with a Mettler Toledo pH meter and four collection cylinders. The pH level and salt concentration were measured at least every 100 hours from the collection solution and at every fill of the reservoir tank.

ASTM D1654, Corrosion Evaluation

The corrosion resistance and scribe creepage was determined for the specimens exposed to ASTM B117 Salt Fog exposure for 1,000 hours. Prior to exposure, the specimens were scribed with a carbide-tipped tool completely through the coating down to the substrate for a length of 100 mm and width of 0.2 mm. After exposure, specimens were rinsed under warm water, any blistered/bubbled coating along the scribe was removed using a utility knife, and the specimens were evaluated. The creepage from the scribe was rated as per ASTM D1654, Table 1 Rating Failure at Scribe (Procedure A).

SECTION 7

TEST SPECIMEN DESCRIPTIONS

TEST PROCEDURE	NUMBER OF SPECIMENS	NOMINAL SPECIMEN DIMENSIONS
ASTM B117	4 per material	3" x 6"

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SECTION 8

TEST RESULTS

1,000 Hours of Salt Fog Exposure Corrosion Evaluation

G-30 Galvanized with Polyester Topcoat (NCNDVP: green coat backing)

SPECIMEN	RUST CREEPAGE RATING AT SCRIBE	OBSERVATIONS
1	Zero	No signs of rusting or corrosion; minor bubbling of coating from the scribe; no blisters in unscribed area
2	Zero	No signs of rusting or corrosion; minor bubbling of coating from the scribe; no blisters in unscribed area
3	Zero	No signs of rusting or corrosion; minor bubbling of coating from the scribe; no blisters in unscribed area
4	Zero	No signs of rusting or corrosion; minor bubbling of coating from the scribe; few blisters in unscribed area

1,000 Hours of Salt Fog Exposure Corrosion Evaluation

G-90 Galvanized Control Panels

SPECIMEN	RUST CREEPAGE RATING AT SCRIBE	OBSERVATIONS
1	0 (16.0 mm or more)	Heavy corrosion and salt build up; scribe no longer visible
2	0 (16.0 mm or more)	Heavy corrosion and salt build up; scribe no longer visible
3	0 (16.0 mm or more)	Heavy corrosion and salt build up; scribe no longer visible
4	0 (16.0 mm or more)	Heavy corrosion and salt build up; scribe no longer visible

SECTION 9

CONCLUSION

The requested test methods do not contain specific performance requirements. Results are reported for compliance to Miami-Dade Checklist #0220-2012.

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PHOTOGRAPHS

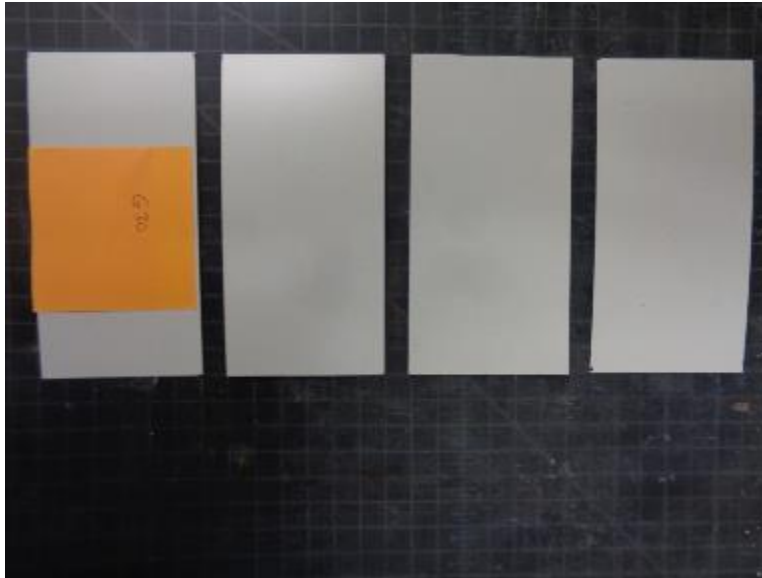


Photo No. 1

**G-30 Galvanized with Polyester Topcoat (NCNDVP: green coat backing)
Material as Received**



Photo No. 2

G-90 Galvanized Control Material as Received

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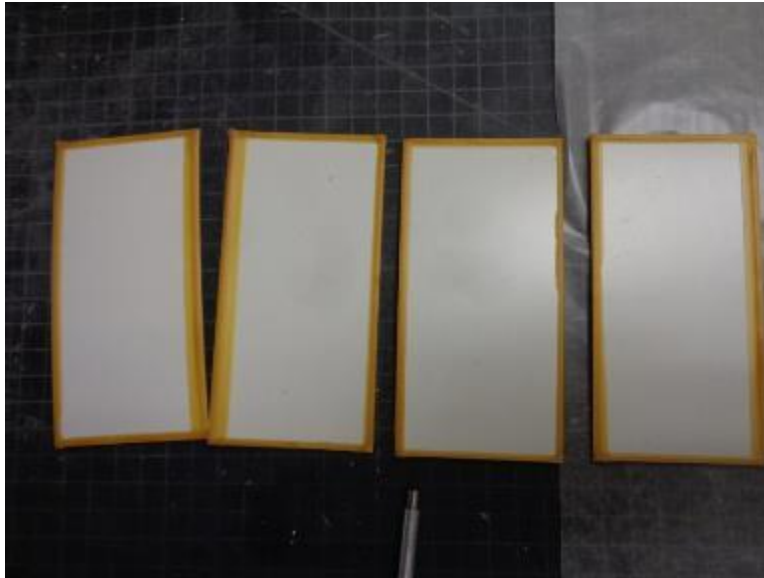


Photo No. 3
Specimens with Wax Seal

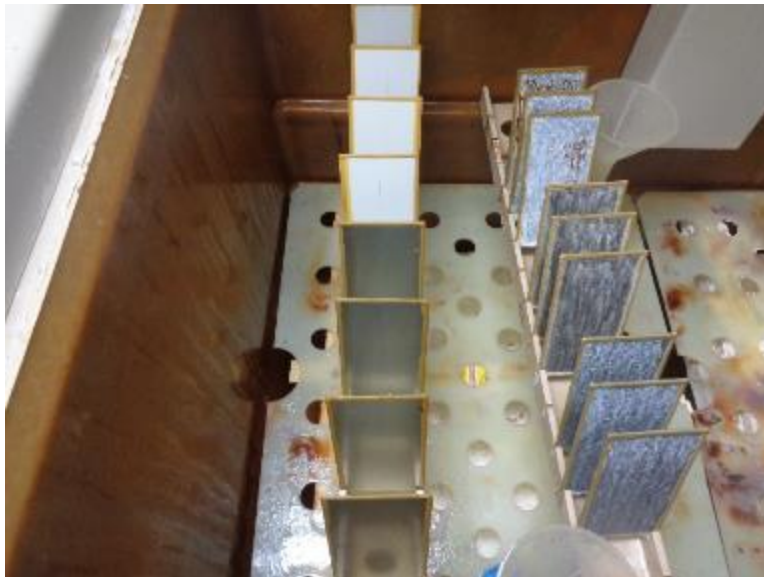
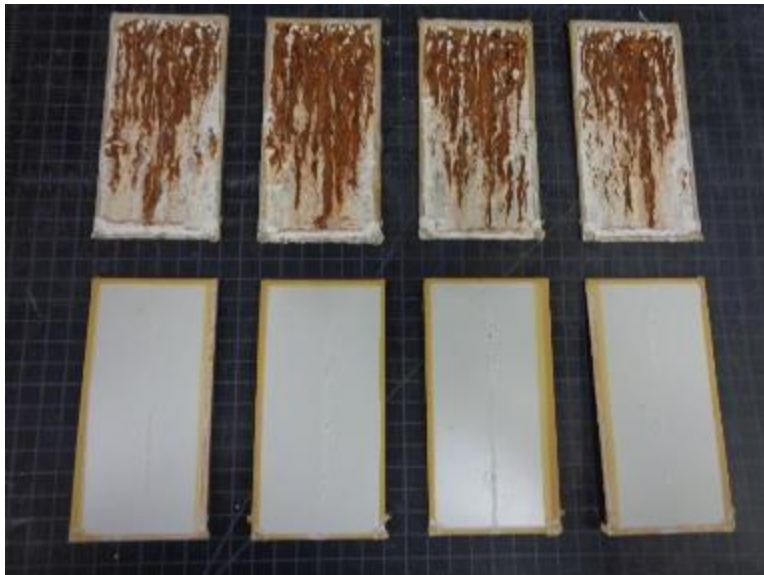


Photo No. 4
Specimens in ASTM B117 Salt Fog Chamber

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**Photo No. 5****Specimens in ASTM B117 Salt Fog Chamber During Testing****Photo No. 6****Specimens Post Test - G-90 Galvanized Control Panels (Top) and
G-30 Galvanized with Polyester Topcoat (NCNDVP: green coat backing) (Bottom)**

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**Photo No. 7****Specimen Post Test - G-30 Galvanized with Polyester Topcoat
(NCNDVP: green coat backing)****Photo No. 8****Specimens Post Test - G-90 Galvanized Control Panels (Bottom) and
G-30 Galvanized with Polyester Topcoat (NCNDVP: green coat backing) (Top)**

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**Photo No. 9**

**Specimens Post Test - G-90 Galvanized Control Panels (Bottom) and
G-30 Galvanized with Polyester Topcoat (NCNDVP: green coat backing) (Top)**

**Photo No. 10**

**Specimens Post Test After Cleaning Loose Coating
G-30 Galvanized with Polyester Topcoat (NCNDVP: green coat backing)**

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Photo No. 11

**Specimen Post Test After Cleaning Loose Coating
G-30 Galvanized with Polyester Topcoat (NCNDVP: green coat backing)**

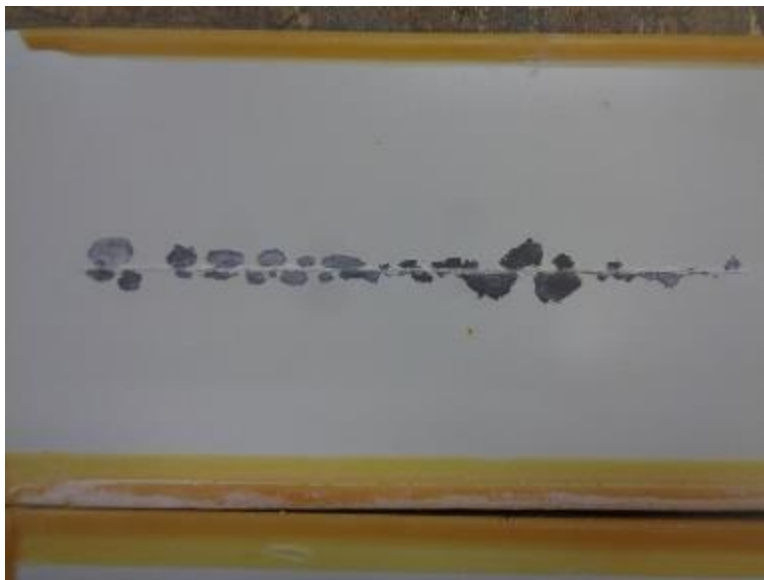


Photo No. 12

**Specimen Post Test After Cleaning Loose Coating
G-30 Galvanized with Polyester Topcoat (NCNDVP: green coat backing)**



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SECTION 11

REVISION LOG

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