DALLAS LABORATORIES, INC.

Consultants and Technologists Chemical and Petroleum Chemists

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Submitted by:

SAPA

142 Sapa Drive Delhi, LA 71232

Attn: Mike Copes

Date: June 11, 2014

Report No.: 46934 P.O. No.: 820214105

REPORT

Sample:

Anodized Finish, Class II, Clear

Coating: SAPA 204-R1 Clear Anodize, 18 Amp/ft² (lot #21690064)

Pre-Treatment: Acid etch/Caustic etch

Drawing: #TSW-222 Production Date: 3/17/14

A. PROCEDURE

Submitted sample was tested according to AAMA 611-12, "Voluntary Specification for Anodized Architectural Aluminum, Class II, Designation A31, all sections, except 8.7 Weather Exposure.

B. RESULTS

<u>Test</u>		<u>Results</u>	AAMA 611-12 (II) Specification Requirements
8.1	Oxide Coating Thickness (mil) (ASTM B487)	0.70	0.40 min.
8.2	Oxide Coating Weight & Apparent Density (ASTM B137)	Pass	
	8.2.2 Coating Weight (mg/in²) 8.2.3 Apparent Density (g/in³)	27.1 38.7	15.5 min. 38.0 min.
8.3	Color Uniformity (ΔE) (AATCC TM173)	1.2	5.0 max.
8.4	Gloss Uniformity (ASTM D523, 60°)	2.3	Δ 15.0 max.
8.5	Abrasion Resistance (Michael Clark Abrasion Test)	Pass	No bite or chalk dust pick-up

<u>Test</u>		Results	AAMA 611-12 (II) Specification Requirements
8.6	Corrosion Resistance (ASTM B117, 1000 hrs. using 5% salt solution)	Pass (No spots or pit	No spots or pits larger ts) than 1 mm
8.8	Seal Test (mg/in²) (ASTM B680)	0.8	2.6 max loss
8.9	Craze Resistance, °F	Pass	No crazing @ 170° min

Date Testing Started: 3/31/14

Date Testing Completed: 6/11/14

Date Test Report Expires: 6/11/17

Sampled by: Initial Submittal

The test results indicate that the sample tested is in compliance with all of the performance requirements of AAMA 611-12 Class II except for Section 8.7 as procedurally noted.

DALLAS LABORATORIES, INC.

Kevan W. Jones, Vice President

Analyst: GF, TL KJ: js