DALLAS LABORATORIES, INC.

Consultants and Technologists
Chemical and Petroleum Chemists

P.O. BOX 152837, DALLAS, TEXAS 75315
1323 WALL ST, DALLAS, TEXAS 75215
PHONE 214/565-0593
FAX 214/565-1094

MEMBERS
AMERICAN CHEMICAL SOCIETY
ASTM INTERNATIONAL
AMERICAN SOCIETY OF MATERIALS

MEMBERS
AMERICAN NATIONAL STANDARDS INSTITUTE
AMERICAN SOCIETY FOR QUALITY CONTROL
FEDERATION OF SOCIETIES FOR COATINGS TECHNOLOGY

Submitted by: Den Braven France
Rue du Buisson du Roi-ZI Le Meux
60880 Le Meux
France

Date: June 24, 2014

Attn: Francois Adeleu

Report No.: 46688

REPORT

Lab Sample No.:

46688 Polyurethane 442 (lot# 3541366)

PROCEDURE

The sample was tested to determine compliance with the ASTM C-920, Standard Specifications for Elastomeric Joint Sealants, Type S, Grade NS, Class 25, Use; T_1, NT, A, and M.

Cyclic movement was conducted at +25% extension and -25% compression. The aluminum substrates were solvent cleaned, rinsed in deionized water and air dried. The mortar substrates were wet ground, wiped with a damp cloth and air dried.

RESULTS

Specification and Test/Method		Results	Pass/Fail
8.1.2	Rheological Properties (ASTM C639, Type II)		
	Vertical (No sag or flow >3/16 in. (>4.8 mm))		Pass
	122°F (50°C)	1/8 (3.2)	
	40°F (4.4°C)	<1/16 (<1.6)	
	Horizontal (No deformation)		Pass
	122°F (50°C)	None	
	40°F (4.4°C)	None	
8.2.2	Extrusion Rate (ASTM C1183, Proc A), >10 ml/min	71.2	Pass
8.4	Hardness (ASTM C661)		Pass
	Use NT (A2 < 60)	44	
	Use T_1 (A2 ≥ 25)	44	
8.5	Effect of Heat Aging (ASTM C1246)		Pass
	Weight Loss (≤ 7%)	0.24	
	Cracking (None)	None	
	Chalking (None)	None	
8.6	Tack-Free Time (ASTM C679)		Pass
	At 72 hours, no transfer using a 40g wt. for 30 seconds	No transfer	

Specification and Test/Method	Results	Pass/Fail
8.7 Stain and Color Change (ASTM C510)		
a. No visible stain on top of white cement mortar bar	No stain	Pass
b. No unacceptable color change	No color change	Pass
8.8 Adhesion and Cohesion under Cyclic Movement (ASTM C719) ≤ 1-1/2 in^2 (9.7cm^2) total bond loss and cohesive separation		
Substrate	Total Bond Loss & Cohesive Separation	
a. Mortar	0.40 in^2 (2.6)	Pass
b. Aluminum	0.60 in^2 (3.9)	Pass

8.9 Adhesion-In-Peel (ASTM C794)
≥ 5 lbf/in. width (22.25 N)
≤ 25% bond loss

a. Mortar	lbf/in width		Bond Loss	Pass
1.	25.4	(113.3)	0%	
2.	25.4	(113.3)	0%	
3.	25.0	(111.5)	0%	
Average	25.3	(112.8)	0%	
b. Aluminum	lbf/in width		Bond Loss	Pass
1.	26.2	(116.9)	0%	
2.	26.5	(118.2)	0%	
3.	26.3	(117.3)	0%	
Average	26.3	(117.3)	0%	

8.11 Effect of Accelerated Weathering (ASTM C793)		
a. No cracks greater than #2 after UV exposure	No cracks (0)	Pass
b. No cracks greater than #2 after exposure to cold and bend	No cracks (0)	Pass

DISCUSSION

The submitted sample of sealant conforms to the requirements of ASTM C920 "Standard Specification for Elastomeric Joint Sealants", Type S, Grade NS, Class 25, Use T_1, NT, A, and M.

DALLAS LABORATORIES, INC.

Kevan W. Jones, Vice President

Analyst: GF, TL, KJ
KWJ:js