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Laboratory Test Report

Report for: Judy Huang
Zhengzhou Zhongyuan Silande High Technology Co., Ltd.
No. 28 Dongqing West St., Zhengzhou Hi-Tech Development Zone
Zhengzhou, Henan
P.R. China – 450001

Product Name: MF889

Project No.: 2427T0005

Dates Tested: July 29, 2022 – September 30, 2022

Test Methods: ASTM C920

Results Summary: Compliant: ASTM C920 – Type S; Grade NS; Class 35; Use M , Use G, Use A

Purpose: Determine specification properties of the identified product for compliance with ASTM C920: *Standard Specification for Elastomeric Joint Sealants*.

Test Methods: Testing was completed as described in ASTM C920-18: *Standard Specification for Elastomeric Joint Sealants*. Test methods assigned or referenced include ASTM C510: *Standard Test Method for Staining and Color Change of Single or Multicomponent Joint Sealants*, ASTM C639: *Standard Test Method for Rheological (Flow) Properties of Elastomeric Sealants*, ASTM C661: *Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer*, ASTM C679: *Standard Test Method for Tack-Free Time of Elastomeric Sealants*, ASTM C719: *Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle)*, ASTM C793: *Standard Test Method for Effects of Laboratory Accelerated Weathering on Elastomeric Joint Sealants*, ASTM C794: *Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants*, ASTM C1183: *Standard Test Method for Extrusion Rate of Elastomeric Sealants* and ASTM C1246: *Standard Test Method for Effects of Heat Aging on Weight Loss, Cracking, and Chalking of Elastomeric Sealants After Cure*, and ASTM C1442: *Practice for Conducting Tests on Sealants Using Artificial Weathering*

Sampling: The following materials were received by PRI.

<u>Product</u>	<u>Source</u>	<u>Date</u>	<u>Sampling</u>
MF889	China	Jan. 3, 2022	Manufacturer

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The laboratory test results presented in this report are based on the material(s) supplied and tested. The results, and by extension any statements of conformity, opinions, or interpretations, apply the “simple acceptance” decision rule for measurement uncertainty accounting. This report is for the exclusive use of stated client. Only the client is authorized to permit copying or distribution of this report and then only in its entirety. PRI Construction Materials Technologies LLC assumes no responsibility nor makes a performance or warranty statement for this material or products and processes containing this material in connection with this report.

Results:

Property	Test Method	Result	Requirement
Rheological Properties (in) 1 specimen; 3/4" x 1/2" x 6"; Type II Cond. sealant 16h @ 73.4±3.6°F & 50±5%RH; Cond. channel 2h @ Temp; Test Cond. 4h @ Temp	ASTM C639		
Vertical Slump at 40±3.6°F		0	≤ 3/16
Vertical Slump at 122±3.6°F		0	≤ 3/16
Horizontal Slump at 40±3.6°F		Pass	No deformation
Horizontal Slump at 122±3.6°F		Pass	No deformation
Extrusion Rate (ml/min) 1 specimen; Cond. sealant 16h @ 73.4±3.6°F & 50±5%RH; Specific Gravity of complete (ASTM D 1475) Test Cond. @ 73.4±3.6°F & 50±5%RH Test with plastic nozzle @ 40psi for 60s	ASTM C1183 Procedure A		
Specific Gravity	ASTM D1475	1.5	Report
Extrusion Rate		103	≥ 10
Application Life – Type M, Grade P ONLY (mL/min) 1 specimen; Cond. sealant 16h @ 73.4±3.6°F & 50±5%RH; Test Cond. 3h @ 73.4±3.6°F & 50±5%RH Test with plastic nozzle @ 40psi for 60s	ASTM C1183 Procedure A	NA ₁	
Specific Gravity	ASTM D1475		Report
Extrusion Rate 5 min after mixing			≥ 10
Hardness (hardness reading) 2 specimens; 5" x 1-1/2" x 1/4"; 3 measurement readings per specimen (6 total); Cond. 21d @ 73.4±3.6°F & 50±5%RH followed by; Test Cond. 73.4±3.6°F & 50±10%RH; Test Durometer, Type A-2	ASTM C661		
Indentation Hardness		46	< 60

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Property	Test Method	Result	Requirement
Effects of Heat Aging (%) 3 specimens; 5" x 1-1/2" x 1/4"; Cure 28d @ 73.4±3.6°F & 50±5%RH; Test Cond. 21d @ 158±3.6°F	ASTM C1246		
Percent Weight Loss		3	≤ 7
Visual Examination for presence of cracks or chalking		Pass	No cracking or chalking
Tack-Free Time (h) 2 specimens; 3-3/4" x 1" x 1/8"; Test Cond. 73.4±3.6°F & 50±5%RH; Test @ 72h	ASTM C679	Pass	≤ 72
Actual Tack Free Time (min)		40	Report
Stain and Color Change [Pass/Fail] 3 specimens; 5" x 1-1/2" x 1/4"; Cond. 24h @ 73.4±3.6°F & 50±5%RH; Test 100h ASTM G 154, Cycle 1 Test 14d at 73.4±3.6°F & 50±5%RH w/ immersion daily	ASTM C510		
Visual Inspection for stain and color change		Pass	No visible stain or color change
Adhesion and Cohesion Under Cyclic Movement (in ²) 3 specimens; 1/2" x 1/2" x 2": Movement ±35% Cure 21d @ 73.4±3.6°F and 50±5%RH followed by; Test Cond. 7d Water Immersion @ 73.4±3.6°F; Test Cond. 7d Compressed @ 158°F; Test 10 cycles at 73.4±3.6°F; Rate 1/8 in/h; Test 10 cycles with compression at 158±3.6°F followed by extension at -15±3°F; Rate 1/8"/h	ASTM C719		
Adhesion and Cohesion Under Cyclic Movement Mortar unprimed		0	≤ 1-1/2
Adhesion and Cohesion Under Cyclic Movement Glass unprimed		0	≤ 1-1/2
Adhesion and Cohesion Under Cyclic Movement Anodized Aluminum unprimed		0	≤ 1-1/2

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Property	Test Method	Result	Requirement
Adhesion-in-Peel (lbf) 4 specimens; 1" x 1/16"; Cure 21d @ 73.4±3.6°F and 50±5%RH followed by; Immersed in distilled water for 7d @ 73.4±3.6°F Test Cond. 73.4±3.6°F & 50±5%RH; Rate 2.0"/min	ASTM C794 ₂		
Adhesion-in-Peel Mortar unprimed	Pre-immersion	27	≥ 5
	Post-immersion	14	
Adhesion-in-Peel Glass unprimed	Pre-immersion	19	≥ 5
	Post-immersion	17	
Adhesion-in-Peel Anodized Aluminum unprimed	Pre-immersion	29	≥ 5
	Post-immersion	14	
Adhesion-in-Peel exposed to UV through glass (lbf) 4 specimens; 1" x 1/16"; Cure 21d @ 73.4±3.6°F and 50±5%RH followed by; Test Cond. 200h ASTM G154, Cycle 1 Immersed in distilled water for 7d @ 73.4±3.6°F Test Cond. 73.4±3.6°F & 50±5%RH; Rate 2.0"/min	ASTM C794/ ASTM C1442		
Adhesion-in-Peel UV through glass unprimed		17	≥ 5
Effects of Accelerated Weathering [Pass/Fail] 3 specimens; 5" x 1-1/2" x 1/4"; Cure 21d @ 73.4±3.6°F and 50±5%RH; Test Cond. 250h ASTM G 154, Cycle 1; Test Cond. 24h @ -15±4°F Test 180° around 1/2" Ø mandrel in 1s @ -15°F			
Visual Inspection for cracking after accelerated weathering		Pass	Pass
Visual Inspection for cracking after cold exposure and low temperature bend		Pass	Pass

Notes: 1 – NA represents "Not Applicable"
 2 – All specimens for peel adhesion exhibited less than 25% adhesive failure.

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Statement of Compliance: The product tested complies with the physical requirements specified in ASTM C920: *Standard Specification for Elastomeric Joint Sealants*. The laboratory test results presented in this report are representative of the material supplied.

Limits of Use: Refer to page 1 results summary for class of movement and for qualified substrates.

Signed:



Jason Simmons
Director

Date:

October 28, 2022

Report Issue History:

Issue #	Date	Pages	Revision Description (if applicable)
Original	10/28/22	5	NA

END OF REPORT

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