



PRI Construction Materials Technologies LLC

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Laboratory Test Report

Report for: Andrew Carpenter
Mainstream Engineering
200 Yellow Place
Rockledge, FL 32955

Product Name: QwikHurricane® Pad
Project No.: MAIN-001-02-01
Date(s) Tested: Sep. 12, 2018 – Mar. 21, 2019
Test Method(s): ASTM G155 (with ASTM D638)
Results Summary: Refer to Results table

Purpose: Evaluate durability property for a plastic material, herein referred to as QwikHurricane Pad, in accordance with ASTM G155: *Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials*.

Test Methods: Testing was conducted as requested by proponent. Test specimens were subjected to accelerated weathering described in ASTM G155-13: *Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials*. Exposure parameters were in accordance with Cycle 1; exposure duration was 4,500h. Briefly, xenon arc lamp with Daylight filter was operating with irradiance setting of 0.35 W/m²-nm as measured at 340nm; cycle was 102min light exposure at 63±2.5°C Black Panel Temperature followed by 18min light and water spray (temperature not controlled). Test specimens were visually inspected for cracking or checking on the plastic surface.

Tensile Properties were assessed for unexposed (i.e. control) and exposed specimens. Tensile Properties were determined in accordance with ASTM D638-14: *Standard Test Method for Tensile Properties of Plastics*. Tensile Strength and Elongation at Break are reported.

Sampling: The following materials were received by PRI.

<u>Product</u>	<u>Source</u>	<u>Date</u>	<u>Sampling</u>
QwikHurricane Pad	Rockledge	Jun. 14, 2018	Mainstream Engineering

Manufacture location for product tested has been verified as Rockledge, FL.

Conditioning: All conditioning was completed in accordance with specification details.

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Results:
ASTM G155 (with ASTM D638)

Physical Properties	Test Method	Results							Requirement ¹
Accelerated Weathering, [Pass/Fail] specimens; 1in x 9in Condition ASTM G155, Cycle 1 Visual Inspection	ASTM G155 Cycle 1	1			2				
After 4,500h ASTM G155, Cycle 1		Pass			Pass				There shall be no cracking or checking on the plastic surface
Tensile Strength, (psi) 5 specimens; Type IV x thickness Cond. 24h @ 73.4±3.6°F & 50±5%RH Test @ 73.4±3.6°F & 50±5%RH Rate = 2in/min	ASTM D638	1	2	3	4	5	Avg.	St.Dev.	
As Received Behavior = Yield		2,788	2,781	2,694	2,714	2,741	2,744	41	Report
After 4,500h ASTM G155, Cycle 1 Behavior = Yield		2,764	2,812	2,849	2,827	2,794	2,809	33	Report
Change (%)		+2.4%							±10%
Elongation at Break, (%) 5 specimens; Type IV x thickness Cond. 24h @ 73.4±3.6°F & 50±5%RH Test @ 73.4±3.6°F & 50±5%RH Rate = 2in/min	ASTM D638	1	2	3	4	5	Avg.	St.Dev.	
As Received Behavior = Yield		131.6	118.9	115.9	111.6	116.4	119	8	Report
After 4,500h ASTM G155, Cycle 1 Behavior = Yield		107.9	106.4	115.3	117.6	105.8	111	6	Report
Change (%)		-6.7%							±10%

Note(s): 1- indicates that Requirement listed is adopted from Miami-Dade Checklist #0445 (revised 9-1-12): Plastic and Foam Plastic


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Statement of Attestation: The durability property of this material was evaluated in accordance with ASTM G155: *Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials* with ASTM D638: *Standard Test Method for Tensile Properties of Plastics*. The laboratory test results presented in this report are representative of the material(s) tested.

Signed: _____

Brad Grzybowski
Managing Director

Signed: _____

Duc T. Nguyen
Florida Registered Professional Engineer
P.E. Number: 65034

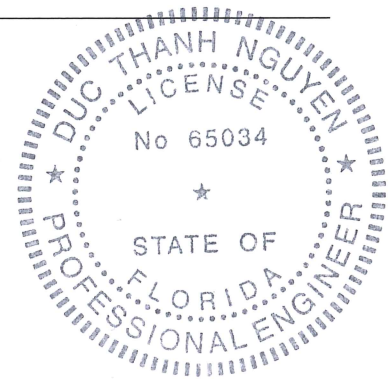
Date: _____
03/26/2019

Date: _____
3/27/2019

Report Issue History:

Issue #	Date	Pages	Revision Description (if applicable)
Draft	03/25/2019	3	NA
Original	03/26/2019	3	NA

END OF REPORT



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