



## APPROVALS AND TESTING

### TEST DATA: Poly-I-Gard® 246SF Vehicular Deck System

#### Summary of Test Report Conducted by Ramtech Laboratories on the Poly-I-Gard® 246SF Decking System

1. Weathering Test: ASTM G-23, Atlas Twin Arc Weatherometer Type DH 2000 hours (equivalent to approximately 6 years of natural weathering).

Visual Examinations: No signs of chalking, crazing, cracking, blistering, delaminating, spalling, softening or any other deleterious effects.

ASTM-D 751, Five specimens weathered and five specimens aged per AC39 Sec. IV A & B. Stretch rate 12 ± 0.5 in./min.

<u>With Aggregate</u>	<u>Tensile Strength(lb./in.)</u>	<u>Elongation(%)</u>
Control	21.3	89
Weathered	12	131
% Change Weathered	43.6	32
Aged	23	111
% Change Aged	7.3	15.2

<u>Without Aggregate</u>	<u>Tensile Strength(lb./in.)</u>	<u>Elongation(%)</u>
Control	41.8	169
Weathered	29	154
% Change Weathered	30.6	8.9
Aged	50	133
% Change Aged	16.4	21.3

2. Aging Test: ASTM D-412, Stretch rate 20 ± 0.5 in./min. Procedure D & E. Six cycles of each procedure. Material tested without aggregate

Visual Examination after Aging Test: No sign of chalking, crazing, cracking, blistering, delamination, or any other deleterious effects.

	<u>Tensile Strength(psi)</u>	<u>Elongation (%)</u>
	<u>ASTM D-412</u>	<u>ASTM D-412</u>
Control	2573	254
Weathered	3666	280
% Change Weathered	+42.5	+10.2
Aged	3982	308
% Change Aged	+54.8	+21.5

Bond Strength (psi), ASTM C-297:

<u>Polyprime 21</u>	<u>Metal</u>	<u>Concrete</u>
Control	414	458
Aged	401	436
% Change	3.2	5.0
Mode of Failure	Adhesion failure of concrete	Cohesive failure

<u>Polyprime 2140</u>	<u>Metal</u>	<u>Concrete</u>
Control	406	389
Aged	395	391
% Change	2.7	0.6
Mode of Failure	Adhesion failure of concrete	Cohesive failure

3. Percolation Test: ICC-ES Evaluation Svc., Inc. AC 39 Sect. IV-G Loss due to Percolation after the 1000 cycles abrasion test (% of original head, max. allowed 1%): 0%

4. Absorption Test: ASTM D 570, 24 hour immersion in distilled water. Weight % of water absorption (max. allowed 5%): 1.86%

5. Water Vapor Transmission (WVT) Test: ASTM E-96 Desiccant Method: WVT: 0.000000249 grams/Pa · sec · m<sup>2</sup>; WVT: 4.350 grains/ft<sup>2</sup> · hr · in. Hg

6. Abrasion Test: ASTM D-1242 Method A as modified by ICC-ES Evaluation Svc., Inc. AC 39 Sect. IV-F (1000 cycles, 1000 grams, No. 80 TP Aluminum Oxide Grit). Thickness lost (max. allowed 20 mils): 0.009 in.

7. Concentrated Load Test: AC 39, Sec. IV L. One inch diameter steel plate with rounded corners.

<u>Load [lbs]</u>	100	200	300
<u>Deflection [inches]</u>	0.020	0.028	0.037

8. Impact Resistance: A two pound steel ball dropped eight feet onto the decking system. Test was performed three time with an average indentation of 0.027 in.

9. Crack Resistance (Crack Bridging): Top coat showed signs of cracking while bottom coat maintained its integrity.

10. Chemical Resistance Tests: ASTM D-2299 Determine Relative Stain Resistance of Plastics by immersing specimens in 18 reagents @ 122°F (50°C) for 16 hours.

<u>Reagent:</u>	<u>Non-Abraded</u>	<u>Abraded</u>
Heavy duty detergent sol.	1	1
Muriatic acid	2	2
Ammonia solution - 5%	1	1
Anti-Freeze	1	1
Kerosene	1	1
Salt Solution - 10%	1	1
Chlorine Solution - 10%	1	1
Paint thinner	1	1
Turpentine	1	1
Sulfuric Acid - 3%	1	1
Transformer Oil	1	1
Sulfuric Acid - conc.	3	3
Diesel fuel	1	1
Hydraulic Fluids	1	1
Gasoline - Regular	1	1
Toluene	1	1
Lubricating oil	1	1
Soap Solution	1	1

NUMBER CODE: 1. Unaffected 2. Superficially Affected 3. Considerably Affected

Note: a) Of the 18 reagents used in the chemical resistance test, only sulfuric acid concentrate caused a deterioration of the decking system.

b) Wearing surface revealed no cracking, crazing, delamination, or any other deleterious effects.

c) The test specimens which were coded "No. 2 or 3" could not be restored to their original surface condition by normal cleaning methods.

11. Low Temperature Flexibility: AC 39 Sec. K. 5°F. No cracking or crazing upon visual examination under 5x magnification in the bent condition.

12. Fire Resistance Test Series Class "A": U.B.C. Standard 32-7, ASTM E-108, U.L.790, N.F.P.A. No. 256, Spread of Flame Test (2 decks) on concrete surfaces. B)

Spread of Flame Test (2 decks):

	<u>Base (in.)</u>	<u>Length (in.)</u>
Deck 1	15	18
Deck 2	15	27
Max. Flame Spread Allowed	40	72

Poly-I-Gard® 246 SF vehicular deck system will satisfactorily withstand the Flame Spread portion of the test for Class A Rating in UBC STD #32-7, ASTM E108, UL 790 and NFPA No. 256, when constructed, installed and tested as described herein.

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