TEST REPORT

Report No.: E9988.05-109-44

Rendered to:

SIPLAST - ICOPAL
Arkadelpia, Arkansas

PRODUCT TYPE: Elastomeric Asphalt Sheets
SERIES/MODEL: Paradiene 20/Paradiene 30

SPECIFICATION: CSA A123.21-10, Canadian Standards Association,
Standard Test Method for the Dynamic Wind Uplift Resistance of Membrane-Roofing Systems

Test Date:	02/19/16
Report Date:	03/08/16
Test Record Retention End Date:	02/19/20

1.0 Report Issued To: Siplast - Icopal
1111 Highway 67 South
Arkadelphia, Arkansas 71923

2.0 Test Laboratory: Architectural Testing, Inc., an Intertek company ("Intertek-ATI")
130 Derry Court
York, Pennsylvania 17406-8405
717-764-7700

3.0 Project Summary:

3.1 Product Type: Elastomeric Asphalt Sheets

3.2 Series/Model: Paradiene 20/Paradiene 30

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test method(s). The test specimen was tested in accordance with CSA A123.21-10 and achieved a Dynamic Wind Uplift Resistance of -3.35 kPa (-70.0 psf).

3.4 Test Date(s): 02/19/16

3.5 Test Record Retention End Date: All test records for this report will be retained until February 19, 2020.

3.6 Test Location: Intertek-ATI test facility in York, Pennsylvania.

3.7 Test Specimen Source: The test specimen(s) was provided by the client. Representative samples of the test specimen(s) will be retained by Intertek-ATI for a minimum of four years from the test completion date.

3.8 Test Specimen Installation: The test specimen was installed by representatives from Siplast - Icopal.

3.9 Drawing Reference: The test specimen drawings were not provided by the client.

3.10 List of Official Observers:

Name	Company
Todd Corley	Siplast - Icopal
Zack Taylor	Siplast - Icopal
Timothy J. McGill	Intertek-ATI
Eric M. Brennan	Intertek-ATI

4.0 Test Specification(s):

CSA A123.21-10, Canadian Standards Association, *Standard Test Method for the Dynamic Wind Uplift Resistance of Membrane-Roofing Systems*

5.0 Test Specimen Description:

5.1 Product Sizes:

	Width		Length	
	millimeters	**inches**	**millimeters**	**inches**
Overall size	3658	144	7315	288
Membrane size	3658	144	1003	39-1/2

5.2 Decking:

Type	Galvanized steel, ASTM A 653 Grade 33, Type B
Manufacturer	Generic
Thickness	22 gauge minimum; 0.74 mm (0.029")
Overall depth	38.1 mm (1-1/2")
Flute spacing	152 mm (6")
Purlin spacing	1829 mm (72")
Attachment method	Mechanically attached
Fastener type	12 x 1-1-1/4" hex washer head Tek screws
Fastener spacing	152 mm (6") at each purlin location

5.3 Vapor Barrier:

Type	Bakor Vapor-Bloc® SA rubberized asphalt sheeting laminated to a polyethylene film 0.8 mm (30 mil)
Manufacturer	Henry Company
Attachment method	Self-adhered

5.0 Test Specimen Description: (Continued)

5.4 Thermal Insulation:

Type	ProtectRSS Composite System
Manufacturer	ModulRTS Inc.
Description	ASTM C-726 and ASTM C303
Thickness	63.5 mm (2-1/2")
Attachment method	Adhered
Adhesive	Parafast/Olybond two-part urethane foam adhesive
Adhesive application	Applied in beads spaced 30.5 cm (12") on center

5.5 Base Sheet:

Type	Paradiene 20
Manufacturer	Siplast
Description	Torch Grade bitumen roll in accordance with ASTM D 5147/D5147M-14
Nominal thickness	3.0 mm (120 mil)
Width	997 mm (39-1/4")
Attachment method	Torched
Seam type	Torched
Overlap	76.2 mm (3")

5.6 Cap Sheet:

Type	Paradiene 30
Manufacturer	Siplast
Description	Torch Grade asphalt bitumen roll with granulated surface in accordance with ASTM D 5147/D5147M-14
Nominal thickness	3.3 mm (130 mil)
Width	1.2 m (4')
Attachment method	Torched
Seam type	Torched
Overlap	76.2 mm (3")

6.0 Test Results: One assembly was tested per CSA A132.21-10. The following results were recorded.

6.1 Test Conditions:

Curing temperature	19°C (67°F)
Elapsed time between system construction and testing	14 hours
Temperature at the beginning of test	17°C (63°F)
Temperature at the end of test	19°C (67°F)

6.2 Test Results:

Test Level	Observations	Results
Level A -1.44 kPa (-30.0 psf)	No visible damage to the system	PASSED
Level B -1.80 kPa (-37.5 psf)	No visible damage to the system	PASSED
Level C -2.15 kPa (-45.0 psf)	No visible damage to the system	PASSED
Level D -2.51 kPa (-52.5 psf)	No visible damage to the system	PASSED
Level E -2.87 kPa (-60.0 psf)	No visible damage to the system	PASSED

***Note**: Upon completion of the -2.87 kPa (-60.0 psf) Level E, the client requested that the test be re-started at Level A with a pressure of -3.35 kPa (-70 psf).*

Test Level	Observations	Results
Level A -3.35 kPa (-70.0 psf)	No visible damage to the system	Passed
Level B -4.19 kPa (-87.5 psf)	Sequence 4 loss of adhesion on corner of deck (see photograph)	Failed
-4.3 kpa (-90.0 psf)	Deck held pressure	Failed
-5.0 kpa (-105.0 psf)	Deck held pressure	Failed
-5.7 kpa (-120.0 psf)	Deck completely pulled off the steel decking	Failed

Dynamic Wind Uplift Resistance:
(maximum test pressure / 1.5 safety factor): -3.35 kPa (-70.0 psf)

***Notes**:*

- *Reference Chart #1 located in Appendix A for dynamic wind load cycles.*
- *Reference Appendix B for Photographs.*

Intertek-ATI will service this report for the entire test record retention period. Test records such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Intertek-ATI.

For ARCHITECTURAL TESTING, Inc.

Digitally Signed by: Jeremy R. Bender

Jeremy R. Bender
Lead Technician

Digitally Signed by: Timothy J. McGill

Timothy J. McGill
Manager – Product Testing

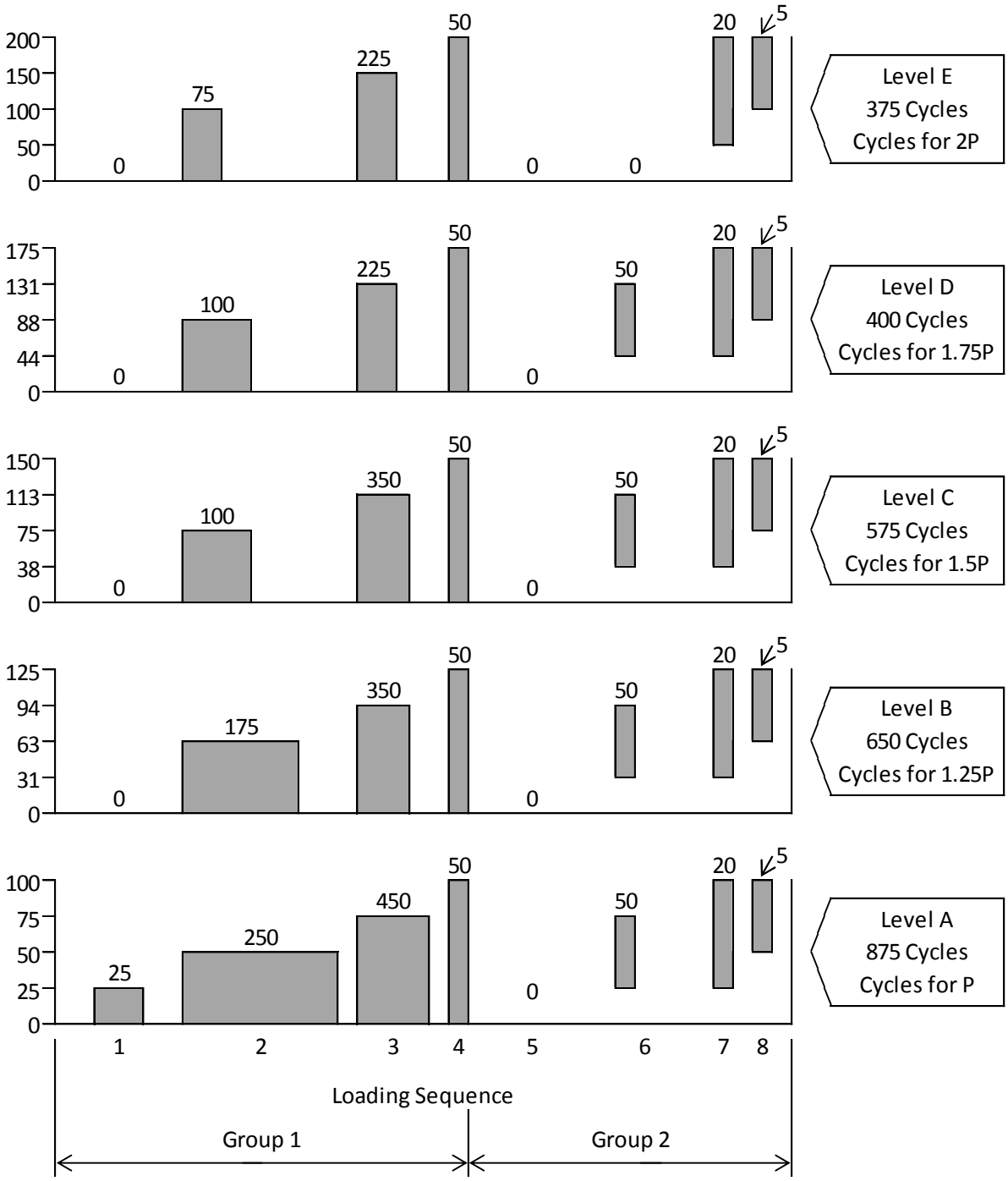
JRB:

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix-A: Chart(s) (1)
Appendix-B: Photograph(s) (5)

Appendix A

Chart(s)

Dynamic Wind Load Cycles for Method 2



Appendix B

Photograph(s)

Photo No. 1
Roof Assembly

Photo No. 2
SA Vapor Shield

Photo No. 3
Polyiso/Roxul Layers Adhered with Parafast/Olybond

Photo No. 4
Torched Base Sheet and Torched Cap Sheet

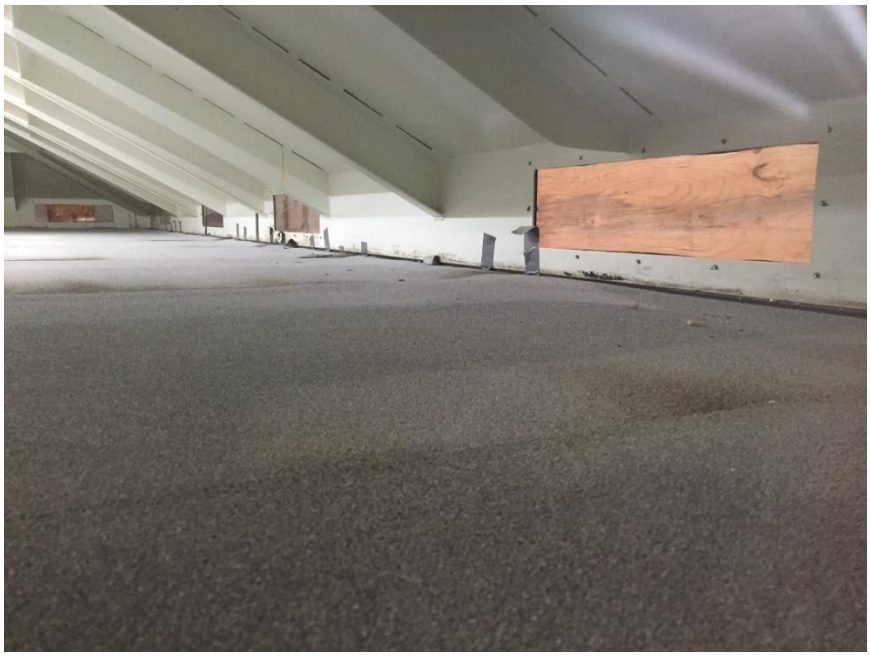


Photo No. 5
Loss of Adhesion Failure