

REPORT OF

PERFORMANCE TESTING FOR
WINDLOAD RESISTANCE AND HEAT RAIN EXPOSURE

CONDUCTED ON

PVC SIDING CLIPS

FOR

RAINDOG INC.
SUITE 101 18935 – 96 TH AVENUE
SURREY, BC V4N 3P3

REPORT PREPARED BY

INTERTEK TESTING SERVICES NA LTD.
1500 BRIGANTINE DRIVE
COQUITLAM, BC V3K 7C1
CANADA

REPORT NUMBER: 3074627 - 2

DATE: MAY 11, 2005



Intertek Testing Services NA Ltd.

1500 Brigantine Drive, Coquitlam, BC V3K 7C1

Telephone: 604-520-3321 Fax: 604-524-9186 Web: www.intertek-etlsemko.com

TABLE OF CONTENTS

	PAGE
TABLE OF CONTENTS	1
PREFACE	2
INTRODUCTION	3
PRODUCT DESCRIPTION	3
TEST PROGRAM & TEST RESULTS	4
TEST APPARATUS	4
CONCLUSION	5
APPENDIX A – Drawings	3 pages

PREFACE

All services undertaken are subject to the following general policy:

1. This report is for the exclusive use of Intertek Testing Services NA Ltd.'s (Intertek 's) client and is provided pursuant to the agreement between Intertek and its client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assume no liability to any party, other than to the client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report.
2. Only the client is authorized to copy or distribute this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.
3. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product or service is or has ever been under an Intertek certification program.

INTRODUCTION

Intertek has performed a Uniform Load Test and a Heat/Rain Test on PVC Siding Clips for Raindog Inc. Testing was conducted on April 28 and May 2, 2005.

The Wind Load tests were performed in accordance with ASTM D5206-96 (Reapproved 2002)^{cl} *Standard Test Method for Windload Resistance of Rigid Poly(Vinyl Chloride) (PVC) Siding*^{1,2}. The Heat/Rain test was performed section 14 of ASTM C 1185-03 *Standard Test Methods for Sampling and Testing Non-Asbestos Fiber-Cement Flat Sheet, Roofing and Siding Shingles, and Clapboards*¹.

PRODUCT DESCRIPTION

Wind Load Resistance Samples

The test samples were installed on 4 ft x 8 ft framed panels on 2 x 4 SPF lumber with 1/2" plywood sheathing. Raindog Rain Screen Siding Clips were secured to the test panel complete with PVC siding to make a wall system. Three complete systems were mocked-up in this manner and tested.

- | | |
|---|--|
| Test Wall Construction | <ul style="list-style-type: none">▪ 4 ft x 8 ft wall framed using standard SPF 2x4▪ 2x4 spaced at 16" o/c▪ 1/2" plywood sheathing▪ 6 mil polyethylene loosely fitted between siding and sheathing |
| Raindog Siding Clips | <ul style="list-style-type: none">▪ material: molded PVC▪ clips were 222 mm (8-3/4") long x 1.39 mm (0.054") thick▪ clip had a convex shape longitudinally with a 7.55 mm (0.297") radius |
| Raindog Siding Clips Installation Drawings | <ul style="list-style-type: none">▪ 0.126" Diameter x 2" galvanized nails at 16" spacing (into studs)▪ nailed through Raindog clip, through perforation in PVC siding and into substrate▪ copy of drawings is included in Appendix A |

Heat / Rain Test Sample

The test samples were installed on a 6 ft x 6 ft framed panels on 2 x 4 SPF lumber with 1/2" plywood sheathing. Raindog Rain Screen Siding Clips were secured to the test panel complete with PVC siding to make a wall system.

- | | |
|---|--|
| Test Wall Construction | <ul style="list-style-type: none">▪ 6 ft x 6 ft wall framed using standard SPF 2x4▪ 2x4 spaced at 16" o/c▪ 1/2" plywood sheathing▪ one layer 15minute standard building paper. |
| Raindog Siding Clips | <ul style="list-style-type: none">▪ material: molded PVC▪ clips were 222 mm (8-3/4") long x 1.39 mm (0.054") thick▪ clip had a convex shape longitudinally with a 7.55 mm (0.297") radius |
| Raindog Siding Clips Installation Drawings | <ul style="list-style-type: none">▪ 0.126" Diameter x 2" galvanized nails at 16" spacing (into studs)▪ nailed through Raindog clip, through perforation in PVC siding and into substrate▪ copy of drawings is included in Appendix A |

TEST PROGRAM & TEST RESULTS

1. Wind Load Resistance

Three test panels were tested for Windload Resistance (Uniform Load Test) in accordance with ASTM D5206-96 (Reapproved 2002)^{el} procedure A. Samples were loaded with 240 Pa (5.2 psf) increments for 30 seconds and then to the specified pressure and held for 1 minute. The pressure was released and the samples were inspected for failure.

All samples were tested and passed at a specified pressure differential of 2750 Pa (57.2 psf). There was no failure or permanent deformation that would impair the operation of the system.

2. Heat / Rain Test

One wall mock-up panel was tested as per ASTM C 1185-03.

The test wall was placed into the conditioning chamber. A water spray was applied to the sample with a delivery rate 1 gallon/minute for a period of 2 hours 55 minutes. A pause of five minutes. Then the sample was exposed to $140 \pm 9^\circ\text{F}$ ($60 \pm 5^\circ\text{C}$) for a period of 2 hours 55 minutes of radiant heat.

Upon completion the sample was inspected for any damage or structural alteration. There was no damage or structural alteration to the PVC siding or the Raindog Rainscreen Clips. The Raindog Rainscreen Clips passed the test.

TEST APPARATUS

The test equipment used for the window system described in this report was as shown in the following table:


Test	Application	Equipment	Intertek ID#
Wind Load Resistance	To develop the test pressures	Air blower	n/a
	To measure the pressures	Dwyer 0-36" W.C. manometer	D2697
Heat / Rain Test	Heat and Rain	Multi- Function Heat/Rain Chamber	n/a

CONCLUSIONS

The Raindog Rainscreen Clip system described herein, passed the three uniform load pressure tests of 2750 Pa (57.2 psf) as per ASTM D5206-96 (Reapproved 2002)^{el}, Procedure A, and the Heat / Rain Test as per section 14 of ASTM C 1185-03.


INTERTEK TESTING SERVICES NA LTD.

Tested by:



Kazimir L. Falconbridge
Technologist, Fenestration Products

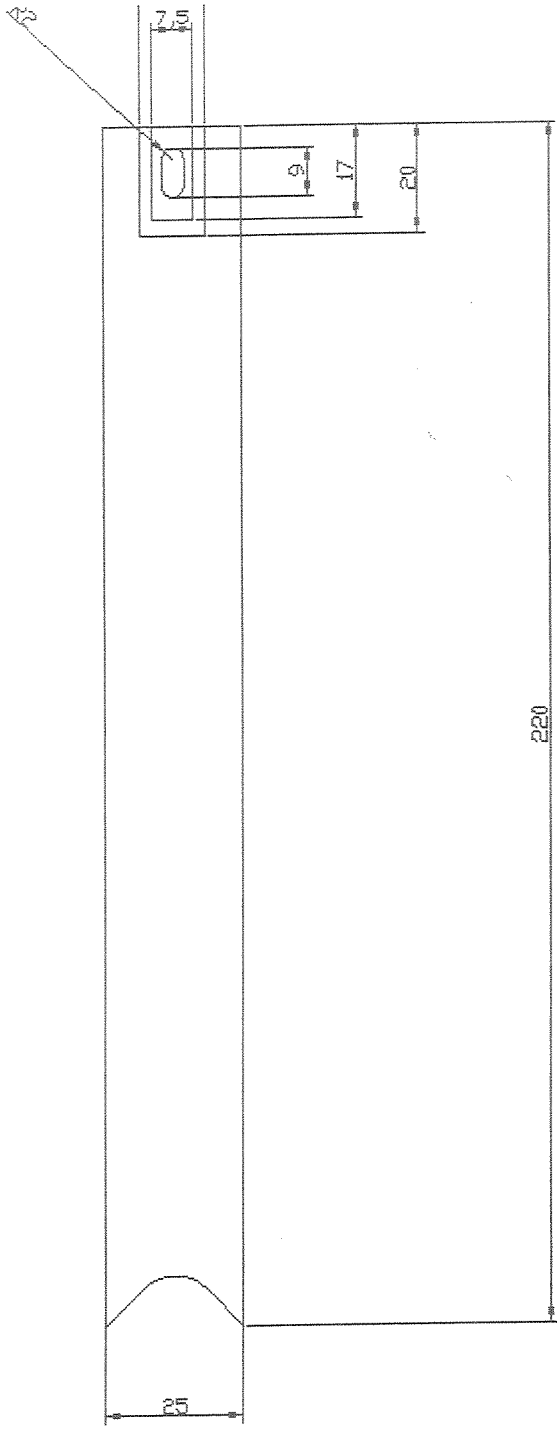
Reported by:

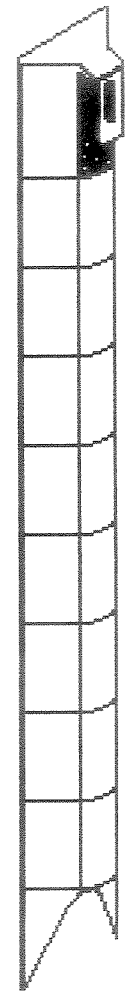
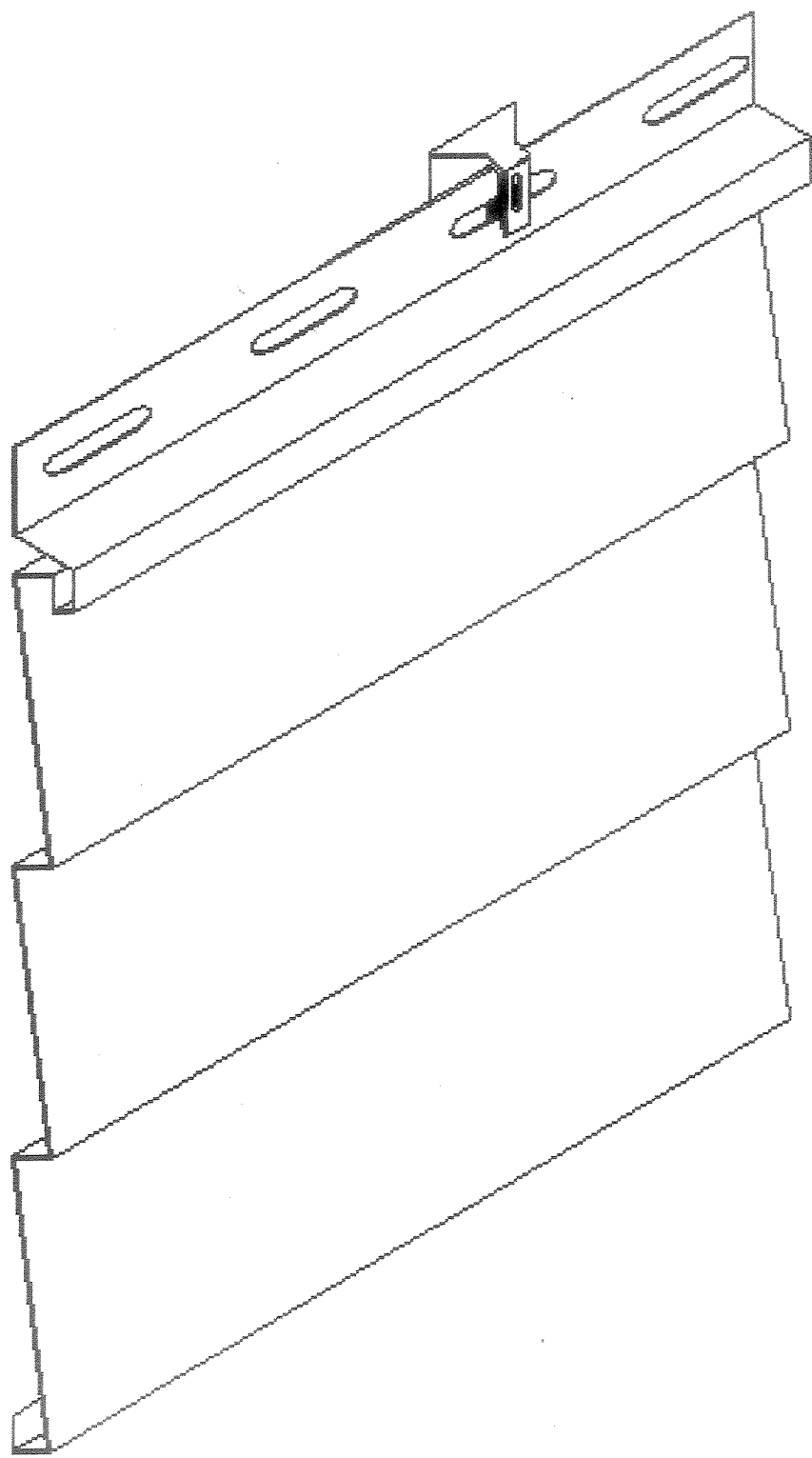


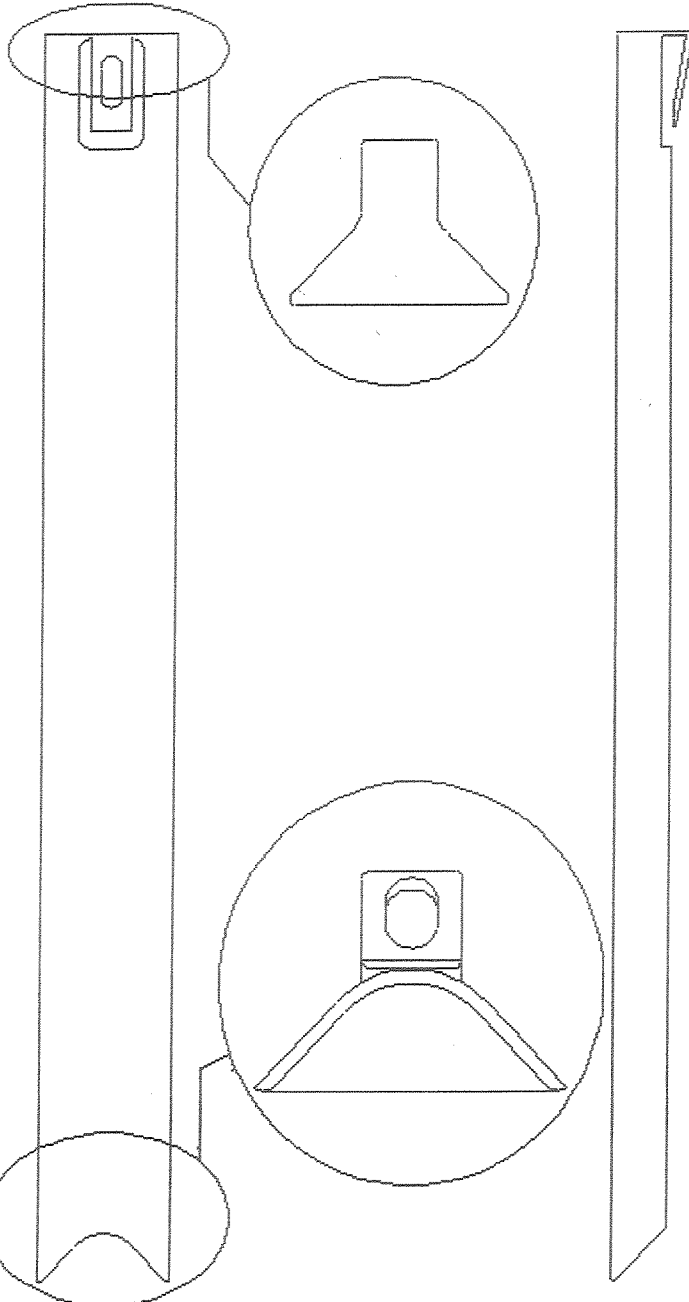
Heiko Neugebauer, ASCT
Lab Supervisor, Fenestration Products

HN / jm

APPENDIX A
(Drawings – 3 Pages)







Item ref	Quantity	MATERIAL - 100% REGRIND POLYPROPYLENE	Article No / Reference		
Designed by JS_DB_AB	DRAWN BY BM		File name _	Date 03/31/05	Scale N/A
RAINDOG_INC		RAINScreens_CLIP			
		DWG_1	Edits 1	Sheet 1	