



Wind Resistance and Penetration Testing of Novik Inc. Heritage Slate™ and Novi Slate™ Roofing System to ICC-ES AC 07 “Acceptance Criteria for Special Roofing Systems”

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1 Table Of Contents

1	Table Of Contents	1
2	Preface	2
3	Introduction	3
4	Materials and Methods	3
4.1.	Sample Selection	3
4.2.	Test Procedures	3
4.2.1.	Conditioning	3
4.2.2.	Wind Resistance.	3
4.2.3.	Penetration	4
5	Test Results	4
6	Conclusion	5
	Appendix A Test Data	(2 Pages)

2 Preface

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3 Introduction

Intertek Testing Services NA Ltd. (Intertek) personnel have conducted a test program for Novik Inc. on a polymer roofing system. The evaluation was carried out to determine product compliance with section 3 4.9 of ICC Evaluation Service (ICC-ES) AC 07 (2004) "Acceptance Criteria for Special Roofing Systems" and ASTM D3161-05 *Standard Test Method for Wind-Resistance of Asphalt Shingles*. This evaluation was completed during the month of March 2006.

4 Materials and Methods

4.1. SAMPLE SELECTION

The test samples were provided by the client and identified as follows:

- Heritage Slate™ or Novi Slate™ polymer roofing panels
- Heritage Slate™ or Novi Slate™ polymer starter strips
- Heritage Slate™ or Novi Slate™ polymer hip and ridge tile

4.2. TEST PROCEDURES

4.2.1. Conditioning

Before testing, all specimens were held in standard laboratory conditions at a temperature of 23 ± 2°C and relative humidity of 50 ± 5 %.

4.2.2. Wind Resistance

A wind resistance test was conducted in accordance to ASTM D3161-05. A test deck measuring 48 in. x 60 in. was constructed of nominal 2 in. x 4 in. joists spaced 24 in. o/c, with a ½ in. A-C plywood deck. The roofing system was applied as per the manufacturer's installation instructions using standard grade 1-1/4 in. electro galvanized roofing nails. The deck was positioned at a 3:12 slope with the second course of roofing material set in the air flow, approximately 7 in. from the exit orifice of the blower. Wind speed was calibrated to 115 mph ± 5%, exceeding the Class F requirement of 110 mph. The wind speed was monitored and temperature was recorded every 10 minutes throughout the 2 hour duration of the test. The results of the test are provided in Table 1 and a copy of the test data sheet is included in the appendix.

4.2.3. Penetration

Five representative samples were tested in an Instron universal loading machine per ICC-ES AC 07, Section 3.4.9. Each specimen was fully supported in the Instron on thick plywood backing. A 200 lb (890 N) load was then applied to the center of the sample using a 3 in. (76 mm) diameter steel plate with rounded edge. The surface penetration was determined under the applied load, then the load was released and the residual penetration was measured. The load was then applied and removed for four more cycles with surface penetration and residual readings taken each time. At the completion of each test, the specimens were inspected for any evidence of failure that would cause unsatisfactory performance of the roof covering. The results are reported in Table 1 and a copy of the test data sheet is included in the appendix.

5 Test Results

The results of the tests conducted are shown in Table 1 below. A copy of the test data sheets is included in the appendix.

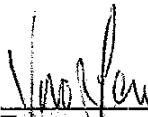
Table 1			
Property	Test Result	Requirement	Pass/ Fail
Wind Resistance	115 mph per ASTM D3161-05	110 mph minimum for Class F	Pass
Penetration Test	No tearing, cracking or excessive deformation	No tearing, cracking or excessive deformation	Pass

6 Conclusion

The Novik Inc. Heritage Slate™ (or Novi Slate™) polymer roofing system identified and evaluated in this report has been tested to the requirements of Section 3.4.9 of ICC-ES AC 07, "Acceptance Criteria for Special Roofing Systems" and ASTM D3161-05 *Standard Test Method for Wind-Resistance of Asphalt Shingles*. The samples have demonstrated compliance with these requirements as presented in Section 5 of this test report.

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