

TEST REPORT

Intertek

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EVALUATION CENTER

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

RENDERED TO

EXCELL RAILING SYSTEMS LTD.
#306 – 12886 ANVIL WAY
SURREY, BC V3W 8E7

PRODUCT EVALUATED: Excell Picket and Glass Railing Systems
EVALUATION PROPERTY: Load Requirements

Report of Excell Picket and Glass Railing Systems for compliance with the applicable requirements of the following criteria: 2006 International Building Code, Section 1607.7.1

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2 Introduction

Intertek Testing Services NA Ltd. (Intertek) has conducted a test program for Excell Railing Systems Ltd. on two face mounted aluminum railing systems. The evaluation was carried out to determine whether the railing systems would meet the loads specified in the 2006 International Building Code (IBC), Section 1607.7. The evaluation was conducted in the month of March 2009.

3 Test Samples

3.1. SAMPLE SELECTION

The client submitted one (1) aluminum face mounted picket railing sample and one (1) aluminum face mounted glass in-fill railing sample to the Evaluation Center on March 16, 2009. Samples were not independently selected for testing and cannot be used for Intertek Certification.

3.2. SAMPLE AND ASSEMBLY DESCRIPTION

The samples were identified as the following:

- 6 ft. Excell Welded Picket Railing System, which consists of the following:

Post: 1.72 in. x 1.72 in. 6061-T6 extruded aluminum post

Base Plate: 2 in. x 2 in. x 5 in. x 1/4 in. 6061-T6 fascia mounted angle bars (2) each with 2 mounting holes

Top Rails: 42 in. high, 6063-T5 aluminum rail (1-piece round profile)

Picket Insert: 5/8 in. x 5/8 in. 6063-T5 aluminum spaced 4-1/2 in. o/c

Connections: Connection details are provided in Appendix B.

- 5 ft. Excell Glass In-fill Railing System, which consists of the following:

Post: 1.72 in. x 1.72 in. 6061-T6 extruded aluminum post

Base Plate: 2 in. x 2 in. x 5 in. x 1/4 in. 6061-T6 fascia mounted angle bars (2) each with 2 mounting holes

Top Rails: 42 in. high, 6063-T5 aluminum rail (1-piece round profile)

Panel Insert: 6 mm, tempered glass panel measuring 54 in. wide x 38 in. high

Connections: Connection details are provided in Appendix C.

Note: Post to sub-structure fastener evaluation is beyond the scope of this report. Four 3/8 inch Grade 5 bolts were used to install deck mount posts.

4 Testing and Evaluation Methods

Each test specimen was loaded at a rate to achieve the specified loads between 10 seconds and 5 minutes. The specified test loads were held for one minute before the load was released. As per Section 1607.7.1 of the 2006 IBC, the following tests were conducted:

4.1. GENERAL (Clause 1607.7.1)

One complete railing system, consisting of two posts, was tested at maximum spacing and in the worst-case scenario.

4.2. IN-FILL LOAD TEST (Clause 1607.7.1.2)

A load consisting of 125 lbf was applied over 1 sq. ft. (0.0929 m²) normal to the in-fill in a worst-case scenario for the picket railing system. A load consisting of 200 lbf was applied over 1 sq. ft. (0.0929 m²) normal to the in-fill in a worst-case scenario for the glass railing system. As per Section 2407.1.1 of the 2006 IBC, a safety factor of 4 was used for glass panel.

4.3. UNIFORM LOAD TEST (Clause 1607.7.1)

A load consisting of 125 lbf/ft was applied across the top rail of each system in a 45° vectored direction.

4.4. CONCENTRATED LOAD TEST (Clause 1607.7.1.1)

The top rail of the guardrail system was subjected to two separate tests where a concentrated load of 500 lbf was applied at the following locations:

- Horizontally at the centre of the guardrail.
- Horizontally at the top rail adjacent to the rail to post connection to verify the connection capacity.

5 Testing and Evaluation Results

5.1. RESULTS AND OBSERVATIONS


The product test results are shown in Table 1 below and a copy of the test data sheets are located in Appendix A.

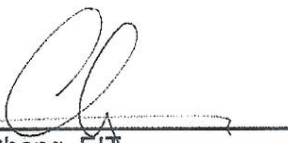
Table 1. Test Results				
System Description	System Height (inches)	Maximum Post to Post Center Spacing (inches)	Test	Compliance
6 ft. Excell Welded Picket Railing System	42	72	In-fill load	Complied
			Uniform Load	Complied
			Mid-span Concentrated Load	Complied
			Adjacent to Post Concentrated Load	Complied
5 ft. Excell Glass In-fill Railing System	42	60	In-fill load	Complied
			Uniform Load	Complied
			Mid-span Concentrated Load	Complied
			Adjacent to Post Concentrated Load	Complied


6 Conclusion

The Excell Welded Picket and Glass In-fill Railing Systems identified in this test report have complied with the loads specified in the 2006 International Building Code, Section 1607.7.1 as presented in Section 5 of this test report.

INTERTEK TESTING SERVICES NA LTD.

Tested by: 
Riccardo DeSantis
Project Coordinator / Test Technician, Construction Products

Reported by: 
Chris Chang, EIT
Project Leader / Test Engineer, Construction Products

Reviewed by: 
Heiko Neugebauer, ASCT
Manager, Fenestration / Construction Products Group