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**EVALUATION CENTER**

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**RENDERED TO**

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PRODUCT EVALUATED: 1.72 in. Durarail Glass In-fill Railing System  
EVALUATION PROPERTY: Load Requirements

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**Report of 1.72 in. Durarail Glass In-fill Railing System for compliance with the applicable requirements of the following criteria: 2006 International Building Code, Section 1607.7.1**

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## 2 Introduction

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Intertek Testing Services NA Ltd. (Intertek) has conducted a test program for Excell Railing Systems Ltd. on an aluminum railing system. The evaluation was carried out to determine whether the railing system would meet the loads specified in 2006 International Building Code (IBC), Section 1607.7. The evaluation was conducted in the month of June 2008.

## 3 Test Samples

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### 3.1. SAMPLE SELECTION

The client submitted the one (1) aluminum glass in-fill railing sample to the Evaluation Center on June 18, 2008. Samples were not independently selected for testing and cannot be used for Intertek Certification.

### 3.2. SAMPLE AND ASSEMBLY DESCRIPTION

The sample was identified as the following:

- 5 ft. Durarail 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 (deck):	4 in. x 4 in. x 3/8 in. 6061-T6 aluminum base plate with 4 mounting holes
Top Rails:	42 in. high, 6063-T5 aluminum rail (Two-piece round profile)
Panel Insert:	1/4 in., tempered glass panel measuring 56 in. wide x 38 in. high
Connections:	Connection details are provided in Appendix B.

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

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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 200 lbf was applied over 1 sq. ft. (0.0929 m<sup>2</sup>) normal to the in-fill in a worst-case scenario. As per Section 2407.1.1 of the 2006 IBC, a safety factor of 4 was used for glass panels.

**4.3. UNIFORM LOAD TEST (Clause 1607.7.1)**

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

**4.4. CONCENTRATED LOAD TEST (Clause 1607.7.1.1)**

A single concentrated load consisting of 500 lbf was applied horizontally to the top-rail at mid-span.

Additionally, a second concentrated load consisting of 500 lbf was applied directly adjacent to the post to evaluate the connection capacity.

**5 Testing and Evaluation Results**

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**5.1. RESULTS AND OBSERVATIONS**

The product test results are shown in Table 1 below and the test data sheet is located in Appendix A.

<b>Table 1. Test Results</b>				
<b>System Description</b>	<b>System Height (inches)</b>	<b>Maximum Post to Post Center Spacing (inches)</b>	<b>Test</b>	<b>Compliance</b>
5 ft. Durarail 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

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The 1.72 in. Durarail Glass In-fill Railing System identified in this test report has complied with the loads specified in 2006 International Building Code, Section 1607.7.1 as presented in Section 5 of this test report.

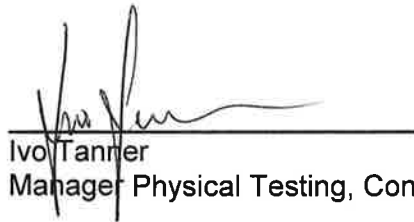
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