

***Performance Testing of B.W. Creative Wood Industries Ltd.'s
Treated Pine Post and Cedar Post to the 1997 Ontario Building
Code Supplementary Requirement SG-7***

Final Report No.: 3088853COQ-016
Original Issue Date: November 30, 2006



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2 Preface

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3 Introduction

Intertek Testing Services NA Ltd. (Intertek) personnel have conducted tests of Structural Performance on the treated pine post and the cedar post to deck connections for B.W. Creative Wood Products Ltd. post to deck connections were evaluated for the ability to resist the concentrated load specified in the 1997 Ontario Building Code (OBC), Section 4.1.10.1 *Loads on Guards*, and for compliance with applicable sections of the Supplementary Guideline (SG) 7. This evaluation was completed in the month of November 2006.

4 Materials and Methods

4.1. SAMPLE SELECTION

The sample post and deck assemblies were submitted by the client on November 10, 2006.

4.2. SAMPLE DESCRIPTION

A description of the tested system components is shown below. A full set of connection drawings is shown in Appendix B.

Treated Pine Posts:

- A 3-1/4 in. x 54 in. square treated pine post

Cedar Posts:

- A 3-1/4 in. x 54 in. square cedar post

Post Fastening:

- Four No. 10 x 3 in. (76 mm) screws through rim joist into front of post
- Four No. 10 x 3 in. (76 mm) screws through 2x8 backing joist into back of post

Deck Materials:

- Rim Board 2 in. x 8 in. SPF grade 2 dimensional lumber
- Primary Joists 2 in. x 8 in. SPF grade 2 dimensional lumber
- Secondary Joists 2 in. x 8 in. SPF grade 2 dimensional lumber
- Blocking 2 in. x 8 in. SPF grade 2 pressure treated dimensional lumber
- Decking 5/4 in. x 6in. treated SPF decking

Joist Fasteners:

- 3 in. galvanized spiral nails

Construction Details:

- EB-2 Post screwed to rim joist
- Note: Additional 2x8 (nominal) lumber used as backing per installation details in Appendix B

4.3. CODE REQUIREMENTS

4.3.1. Section 4.1.10.1 Loads on Guards

- 1) The minimum specified horizontal load applied inward or outward at the top of every required *guard* shall be:
 - a) 3.0 kN/m (200 lb/ft) for *means of egress* in grandstands, stadia, bleachers and arenas,
 - b) a concentrated load of 1.0 kN (225 lb) applied at any point, for access walkways to equipment platforms, contiguous stairs and similar areas where the gathering of many people is improbable, and
 - c) 0.75 kN/m (50 lb/ft) or a concentrated load of 1.0 kN (225 lb) applied at any point, whichever governs, for locations other than described in Clauses (a) and (b).

- Notes:
1. Clauses (a) and (b) refer to means of egress and equipment access walkways and therefore are not applicable.
 2. A live load factor of 2 is applicable to the above loads.

4.3.2. SG- 7, Section 2.1.3. Floor Construction

- (1) The minimum dimensions of wood floor joists and wood decking shall conform to Table 2.1.3.
- (2) Except as provided in Details EA-1 to ED-5, wood decking shall be fastened to each floor joist with nailing conforming to table 2.1.3.

4.3.3. SG- 7, Section 2.1.4. Connectors

- (1) Nails, screws, lag bolts and machine bolts shall not cause splitting of wood elements.
- (2) Fasteners shall be corrosion resistant.
- (3) All nails shall be common spiral.

4.3.4. SG- 7, Section 2.2.1. Structural Details

- (1) An exterior guard constructed as a Post and Rail System shall conform to the applicable connection details listed in Table 2.2.1.

5 Test Results

The post and deck specimens were evaluated and found to be in conformance with the above listed sections of the Supplementary Guidelines of the 1997 Ontario Building Code. Further performance testing was conducted as required in Section 4.1.10.1 *Loads on Guards*. The test results are summarized in Table 1 and Table 2 below. A copy of the test data sheets is located in Appendix A of this report.

Table 1 – Treated Pine Post Test Results				
System Description	System Height (in.)	Concentrated Load Requirement (lbf)	Load Direction	Compliance
Treated Pine Post	42	449	Inward	Complied
			Outward	Complied

Table 2 – Cedar Post Test Results				
System Description	System Height (in.)	Concentrated Load Requirement (lbf)	Load Direction	Compliance
Cedar Post	42	449	Inward	Complied
			Outward	Complied

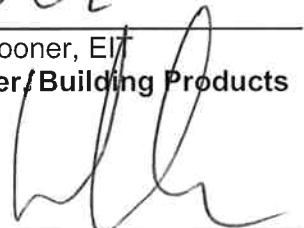
6 Conclusion

The treated pine and cedar post to deck connection methods identified and evaluated in this report have been evaluated to the concentrated load requirements of Section 4.1.10.1 *Loads on Guards* of the 1997 Ontario Building Code and to the design configurations of Supplementary Guideline SG-7 *Guards for Housing and Small Buildings*. The results are as reported in Section 5 of this test report.

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Appendix A: Test Data (1 page)



ETL SEMKO

Test: **Ultimate Loads on Posts**
 Date: 8-Nov-06
 Client: B W Creative
 Product: 3-1/4 in. Clearview Cedar and Traditional Treated Pine Posts
 Number of Posts: N/A
 Post Spacing (ft): N/A
 System Length (ft): N/A
 Height (in.): (42 finished height)
 Method: Ontario Building Code 1997 Section 4.1.10.1 *Loads on Guards*
 Supplementary Guideline SG-7 *Housing and Small Buildings*
 Safety Factor: 2
 Equipment: Artech 2000 lbs Load cell ID # 2723 due August 2007

Project #: 3088853
 Technician: Adam Mantei
 Kevin Penner

Deck Assembly: Framing nominal 2"x8" treated SPF, joists 24" o/c, decking 5/4" x 6"

Horizontal Concentrated Load on Post	Sample Description	1 min Proof Load (lbf)	Pass / Fail
Sample 1	Drawing Detail 1-4 Modified: 2"-x-8" double-layer bridge bracing Outward test. (Ultimate load 600 lbs.) 3-1/4 in. Clearview cedar post - conforms with OBC Detail EB-2	449	Pass
Sample 3	Detail 1-4 Modified: 2"-x-8" double-layer bridge. Outward test. (Ultimate load 710 lbs.) 3-1/4 in. Clearview cedar post - conforms with OBC Detail EB-2	449	Pass
Sample 5	Detail 1-4 Modified: 2"-x-8" double-layer bridge. Outward test. (Ultimate load 650 lbs.) 3-1/4 in. Traditional treated pine post - conforms with OBC Detail EB-2	449	Pass
Sample 7	Detail 1-4 Modified: 2"-x-8" double-layer bridge. Inward test. (Ultimate load 510 lbs.) 3-1/4 in. Traditional treated post - conforms with OBC Detail EB-2	449	Pass