



**TEST REPORT**

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**EVALUATION CENTER**

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**RENDERED TO**

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Attn: Richard Bergman

**PRODUCT EVALUATED**

Deck Foot Anchors

**EVALUATION PROPERTY**

Load Capacity

**Report of Deck Foot Anchors for Compressive Load Capacity using standard test procedures as agreed upon between Intertek Testing Services and Titan Building Products.**

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## 2 Introduction

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Intertek Testing Services NA Ltd. (Intertek) has conducted testing for Titan Building Products on a deck foot anchor assembly with two sizes of post brackets for compressive load capacity. Testing was conducted in using standard procedures for axial compression loading and as agreed upon between Intertek Testing Services and Titan Building Products. This evaluation began October 26, 2015 and was completed October 27, 2015.

## 3 Test Samples

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### 3.1. SAMPLE SELECTION

Samples were submitted to Intertek directly from the client. Samples were not independently selected for testing. Components to assemble six test samples were received at the Evaluation Center on October 14, 2015.

### 3.2. SAMPLE AND ASSEMBLY DESCRIPTION

Each test sample consisted of three components, a 3 mm thick 311 mm x 311mm formed galvanized steel Deck Foot Anchor Plate, a 600 mm long x19 mm diameter galvanized steel Deck Foot Anchor Rod threaded one end and a formed and welded galvanized steel Deck Post Bracket fabricated from 2 mm (14 ga.) sheet steel. Two sizes of Post Brackets were tested, a 4x4 and a 6x6. Details of Deck Foot Anchor are shown on the Titan Building Products DWG. NOS. TI-GA-600-44 and TI-GA-600-66.

## 4 Testing and Evaluation Methods

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### 4.1. SPECIMEN PREPARATION

As directed by client the condition and compaction of the soil into which the assembly would normally be installed was not considered in these tests due to the wide variability of soil conditions. To achieve this, the anchor rod was cut off 19 mm below the weld on washer removing approximately 580 mm of its length and leaving the threaded portion protruding up through the deck foot anchor plate. The deck foot anchor plate was shimmed beneath with a  $\frac{3}{4}$ " piece of plywood which sat directly on the table of the testing machine. Twelve inch lengths of pressure treated 4x4 and 6x6 were fastened into the respective post brackets using four 2" by  $\frac{1}{4}$ " lag bolts.

### 4.2. CONDITIONING

No specific conditioning required. Samples were tested under ambient lab conditions.

### 4.3. PROCEDURE

Each assembled test sample in turn was centred on the table under the lower crosshead of the testing machine (Photo1). A compressive load was applied to top of the 4x4 or 6x6 installed in the post bracket by means of a Baldwin Universal Tester (280 01 0015 Cal Due Aug 12/16) using a test speed of 12 mm/min. The gradually increasing compressive load was applied until ultimate load was achieved (Photo 2). The failure mode and ultimate load were recorded.

## 5 Testing and Evaluation Results

Table 1

Test Number	Item	Ultimate Load		Remarks
		kN	(lbf)	
1-4	4x4 Deck Foot Anchor	90.48	20340	Base Crushed/Sides of bracket distorted
2-4	4x4 Deck Foot Anchor	98.89	22230	Base Crushed/Sides of bracket distorted
3-4	4x4 Deck Foot Anchor	99.29	22320	Base Crushed/Sides of bracket distorted
1-6	6x6 Deck Foot Anchor	96.98	21800	Base Crushed/Sides of bracket distorted
2-6	6x6 Deck Foot Anchor	93.28	20970	Base Crushed/Sides of bracket distorted
3-6	6x6 Deck Foot Anchor	87.54	19680	Base Crushed/Sides of bracket distorted

#### 5.1.1. Statement of Measurement Uncertainty


When determining the test result, measurement uncertainty has been considered.

## 6 Conclusion

Intertek Testing Services NA Ltd. has conducted testing for Titan Building Products on deck foot anchor assemblies with two sizes of post brackets for compressive load capacity. Results are given in Table 1 of this report.

### INTERTEK TESTING SERVICES NA LTD.

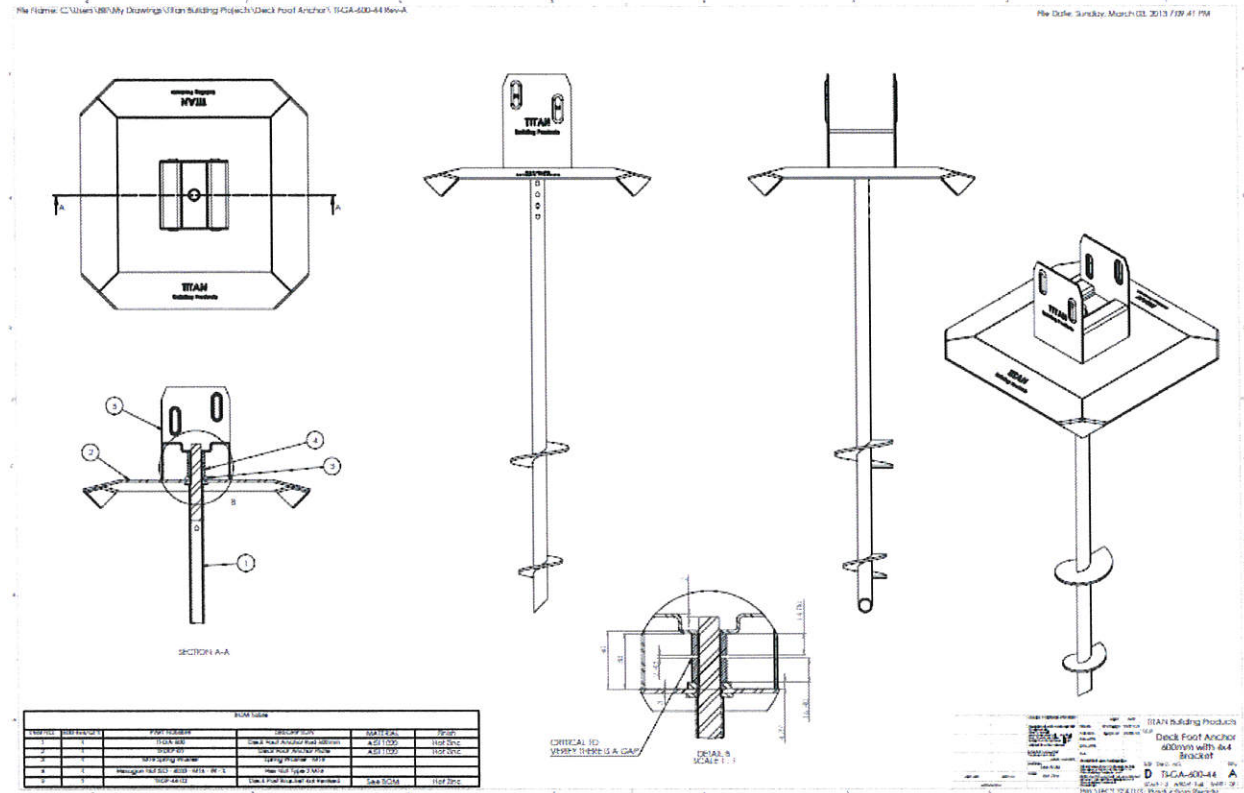
Reported by:

  
Vern W. Jones  
Senior Technologist, Building Products

Reviewed by:

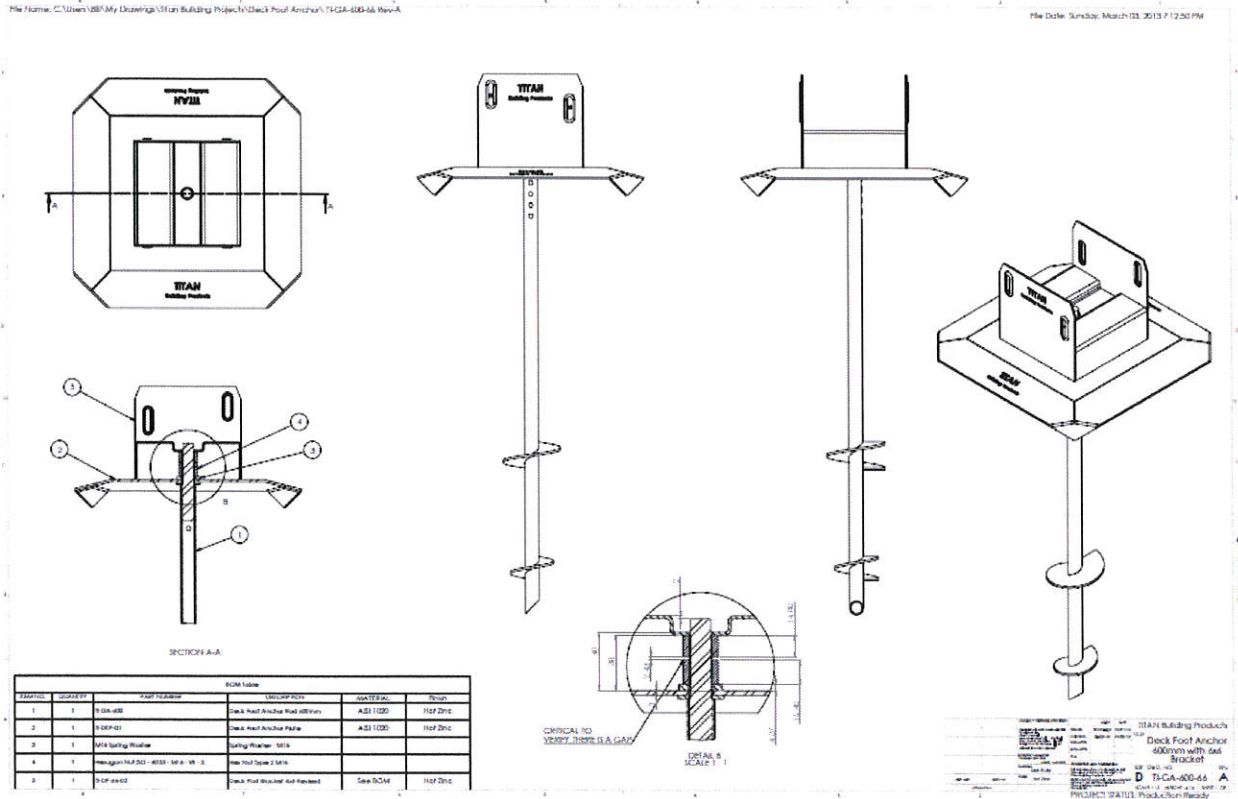
  
Riccardo DeSantis  
Manager, Building Products

# 7 Appendix A: Drawings



4" x4" Deck Foot Anchor

\*Note Auger portion not part of test assembly



6" x 6" Deck Foot Anchor

\*Note Auger portion not part of test assembly

## 8 Appendix B: Photographs

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Photo 1 Deck Foot Anchor Set Up in Testing Machine



Photo 2 Post Bracket at Ultimate Load



## 9 Revision Page

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<b>Revision No.</b>	<b>Date</b>	<b>Changes</b>	<b>Author</b>	<b>Reviewer</b>
0	November 16, 2015	First issue	Vern Jones	Riccardo DeSantis

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