

# **GRABBER**<sup>®</sup>

## **CONSTRUCTION PRODUCTS**

*A 100% Employee Owned Company*

### **PRODUCT SUBMITTAL:**

### **EVALUATION SUBJECT**

GRABBER **LAG-MASTER**<sup>™</sup> and **TIE-MASTER**<sup>™</sup> MULTI-PURPOSE WOOD FASTENERS

### **REPORT HOLDER:**

GRABBER CONSTRUCTION PRODUCTS, INC.

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(916) 215-0950

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## **1.0 VALUATION SCOPE**

### **Compliance with the following codes:**

- 2012, 2009, 2006 *International Building Code*<sup>®</sup> (IBC)
- 2012, 2009, 2006 *International Residential Code*<sup>®</sup> (IRC)

### **Property evaluated**

- Structural

## **2.0 USES**

The Grabber Lag-Master<sup>™</sup> and Tie-Master<sup>™</sup> fasteners described in this report are used as substitutes for engineered connection designs in accordance with the IBC and National Design Specification<sup>®</sup> (NDS) for wood construction where 1/4" diameter wood screws and lag screws are used in engineered connections of solid-sawn

## **EVIDENCE SUBMITTED**

**2.1** Data submitted in accordance with the ICC-ES Acceptance Criteria for Alternate Dowel-Type Threaded Fasteners (AC233), approved June 2012 pending recognition by ICC.

**2.2** Data in accordance with ASTM B695 Class 55 for plating thick

## **3.0 IDENTIFICATION**

Each container of fasteners has a label bearing the company name (GRABBER<sup>®</sup>), screw series (LAG-MASTER<sup>™</sup> or TIE-MASTER<sup>™</sup>), fastener description (size/diameter and length).

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TABLE 1—LAG-MASTER™ AND TIE-MASTER™ FASTENER SPECIFICATIONS

FASTENER DESIGNATION	OVERALL LENGTH <sup>1</sup> (inches)	THREAD LENGTH <sup>2</sup> (inches)	ROOT THREAD DIAMETER <sup>4</sup> D <sub>r</sub> (inches)	SHANK DIAMETER <sup>4</sup> (inches)	OUTSIDE THREAD DIAMETER <sup>4</sup> (inches)	Bending Yield Strength <sup>3</sup> F <sub>yb</sub> (psi)	ALLOWABLE FASTENER STRENGTH	
							Tension (lbf) [psi]	Shear (lbf) [psi]
Lag-Master	#14 x 2-7/8"	2 7/8	1 1/2	0.187	0.204	162,860	1,826 [67,927]	905 [33,655]
	#14 x 3-3/8"	3 3/8	2	0.185	0.204			
	#14 x 3-5/8"	3 5/8	2	0.185	0.205			
	#14 x 3 7/8"	3 7/8	2	0.186	0.204			
	#14 x 4 7/8"	4 7/8	2 1/2	0.187	0.204			
	#14 x 5"	5	2 1/2	0.186	0.204			
	#14 x 5-7/8"	5 7/8	3	0.187	0.204			
Tie-Master	#14 x 4"	3 7/8	2 1/2	0.189	0.206	151,320	1,492 [53,180]	1,046 [37,275]
	#14 x 6"	5 7/8	2 1/2	0.184	0.209			
	#14 x 8"	7 6/8	2 1/2	0.188	0.205			
	#14 x 10"	9 7/8	2 1/2	0.184	0.203			

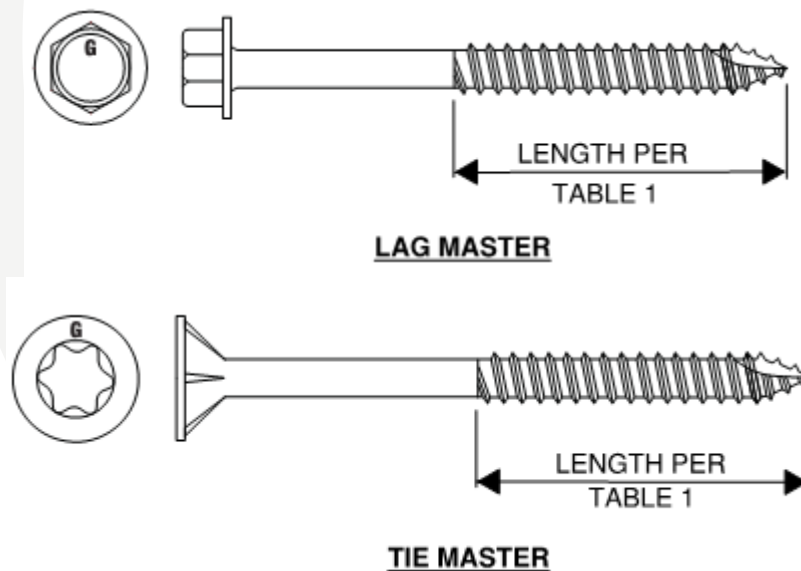
For SI: 1 inch = 25.4 mm; 1 psi = 6.9 kPa.

<sup>1</sup> The overall length of a TIE-MASTER™ fastener is measured from the top of the head to the bottom of the tip. The overall length of the LAG-MASTER™ fastener is measured from the underside of the head to the bottom of the tip. Refer to Figure 1.

<sup>2</sup> Length of thread includes tip. See Figure 1.

<sup>3</sup> Bending yield strength determined in accordance with ASTM F 1575 using the root thread diameter.

<sup>4</sup> Root diameter and shank diameters are shown in table without manufacturing tolerances.



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