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Technical Evaluation Report

DIVISION: 05 00 00–METALS, SECTION: 05-05-23 METAL FASTENINGS

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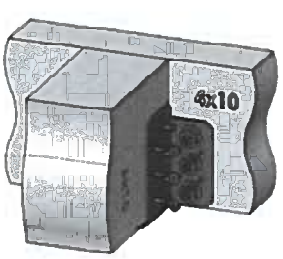
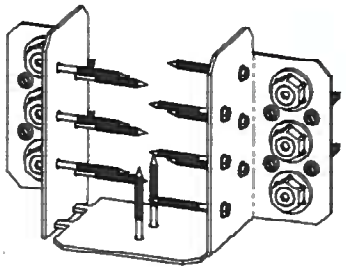
(Subject to Renew January 1, 2024 or next code cycle)

EVALUATION SUBJECT: 6" BEAM HANGER, ITEM #'s 51714 (6-BH-IW) & 57714 (6-BH-LS) **TER-22-50052**

REPORT HOLDER:
The Hillman Group, Inc.
10590 Hamilton Ave.
Cincinnati, OH 45231
www.hillmangroup.com

OWT Ornamental Wood Ties
OZCO BUILDING PRODUCTS





NOTE: THE GRAPHICAL DEPICTIONS IN THIS REPORT ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY DIFFER IN APPEARANCE.

SCOPE OF EVALUATION (compliance with the following codes):

THIS IS A STRUCTURAL (STATIC LOAD) PERFORMANCE EVALUATION ONLY. NO OTHER PERFORMANCE RATINGS OR CERTIFICATIONS ARE OFFERED OR IMPLIED HEREIN.

This Product Evaluation Report is being issued in accordance with the requirements of the ***International Building & Residential Codes (2012, 2015, & 2018), *California Building & Residential Codes (2019), & the *Florida Building Code Seventh Edition (2020)** per FBC/IBC Section 104.11, FBC/IBC Building Ch. 16, and ASCE 7. The product noted on this report has been tested and/or evaluated as summarized herein.

IN ACCORDANCE WITH THESE CODES EACH OF THESE REPORTS MUST BEAR THE ORIGINAL SIGNATURE & RAISED SEAL OR DIGITAL SEAL OF THE EVALUATING ENGINEER.

SUBSTANTIATING DATA:
• Product Evaluation Documents
Substantiating documentation has been submitted to provide this TER and is summarized in the sections below.
• Structural Engineering Calculations
Structural engineering calculations have been prepared which evaluate the product based on comparative and/or rational analysis to qualify the following design criteria:

- Max. allowable load rating

Calculation summary is included in this TER and appears herein. NOTE: No 33% increase in allowable stress has been used in the design of this product.

LIMITATIONS & CONDITIONS OF USE:
Use of the product(s) listed herein shall be in strict accordance with this TER as noted herein and manufacturer-provided model specifications. Installation shall conform to the minimum standards stated in the referenced building code(s) in addition to the specifications and limitations stated herein. See herein for complete limitations & conditions of use.

OPTIONS:
This evaluation is valid for all applications that appear in the design schedules of this report. Any structural changes outside of the design as described herein would void this certification.

UNIT MATERIAL:
0.20" thick powder coated ASTM A36 steel. See design schedules for fastener information. Contact Report Holder for further unit construction information.

TERMINOLOGY:
See herein for definitions of terms and abbreviations used in this report.

STRUCTURAL PERFORMANCE:
Models referenced herein are subject to the following design limitations:

Maximum Rated Design Loads:
SEE DESIGN SCHEDULES

- Required design loadings shall be determined separately in accordance with applicable sections of the building code(s).

- Required design loadings shall be less than or equal to the maximum allowable (ASD) loadings listed herein.

- Valid for use inside and outside the High-Velocity Hurricane Zone (HVHZ).

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July 28, 2022

Frank Bennardo, P.E.
ENGINEERING EXPRESS®
FL PE #0046549 FLCA #9885

☐ If Checked,
Certifying Engineer
PE# & CA# Appear Above

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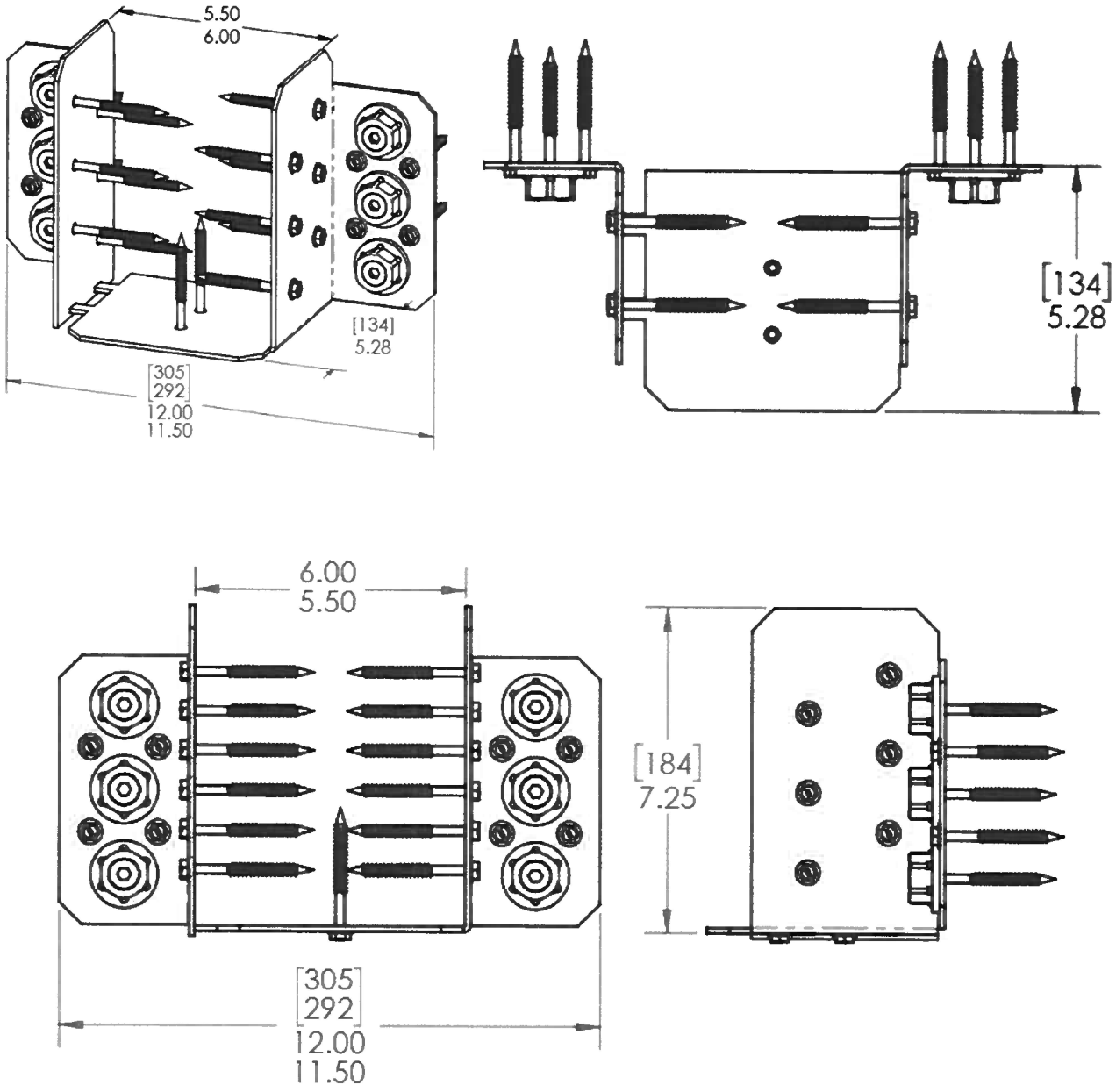
The codes listed above define APPROVED SOURCE (Section 202) as: "An independent person, firm or corporation, approved by the building official, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses." Engineering Express® professionals meet the competency requirements as defined in the codes referenced herein and can seal their work. Engineering Express® is regularly engaged in conducting and providing engineering evaluations of single-element and full-scale building systems tests.

PRODUCT DIMENSIONS



ALL DIMENSIONS ARE LISTED IN THE FOLLOWING FORMAT: INCHES [MILLIMETERS]

IN ALL CONDITIONS IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER TO ENSURE THE HOST STRUCTURE IS CAPABLE OF WITHSTANDING THE RATED GRAVITY, LATERAL, AND UPLIFT FORCES BY SITE-SPECIFIC DESIGN. NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS OFFERED BY ENGINEERING EXPRESS AS TO THE INTEGRITY OF THE HOST STRUCTURE TO CARRY DESIGN FORCE LOADS INCURRED BY THIS UNIT.

DESIGN SCHEDULE

Fastener Specifications	Joist Size	Min. Post Size	Wood Type (Specific Gravity)	Maximum (ASD) Design Load Capacities			
				Uplift (1.6)	Floor (1.0)	Snow (1.15)	Roof (1.25)
(28) #12 x 2 ¾" OWT screws per hanger. See "Product Dimensions" section herein for fastener positioning. (ITEM NO. 56626)	6" x 8"	6" x 6"	G = 0.42	2320 lb	1450 lb	1665 lb	1810 lb
			G = 0.55	3264lb	2040 lb	2345 lb	2550 lb

DESIGN SCHEDULE NOTES:

1. Maximum design connection loads were calculated per the American Wood Council National Design Specification (NDS) version as referenced in the approved FBC/IBC codes listed herein. Wood design parameters used in the calculations in this schedule are listed below:
   - Load Scenario = Single Shear
   - Wet Service Factor = 1.0
   - Temperature Factor = 1.0
   - Group Action Factor = 1.0
   - Geometric Factor = 1.0
   - Direction Of Load to Grain = 0 Deg. (End Grain Factor = 1.0)
2. The maximum design loadings listed may be adjusted for alternate wood design parameters if certified separately by a registered Professional Engineer.
3. This schedule does not certify the integrity of any wood member (connection capacity only). All wood members of the truss shall be calculated and certified separately for maximum allowable member loads. If allowable member load is calculated to be less than the value listed in this schedule, the lesser value shall be used for maximum design load.
4. This schedule assumes axial (compression or tension) member loading only. This schedule is not certified for any additional moment, torsion, or any other loads not described.
5. Member types listed are nominal values. Actual member thickness for 4X members = 3.5".

   Actual member thickness for 2X members = 1.5"
6. Minimum thread penetration for wood screws = actual member thickness – 3/8" (screw penetration does not include any wood finishes).
7. All wood screws shall have a minimum bending yield stress (Fyb) of 70 ksi. All bolts shall have a minimum Fyb = 45 ksi.

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TERMINOLOGY, CONTINUED

The following abbreviations may appear in this report: "Addtl." for "additional", "AHJ" for "Authority Having Jurisdiction", "alum" for "aluminum", "ASCE" for "American Society of Civil Engineers", "ASD" for "Allowable Stress Design", "ASTM" for "American Society for Testing and Materials", "EA." for "each", "E.D." for edge distance", "EDDS" for "extra deep drawing steel", "e.g." for "*exempli gratia*" or "for example", "equiv." for "equivalent", "FBC" for "Florida Building Code", "FEA" for "Finite Element Analysis", "FLCA" for "Florida Certificate of Authorization", "FS" for "Florida Statutes", "Fu" for "ultimate tensile strength" or "ultimate tensile stress", "Fy" for "yield strength" or "yield stress" "GA" or "GA." for "gauge", "GR." or "Gr." for "grade", "HVAC" for "heating, ventilation, and air conditioning", "HVHZ" for "High-Velocity Hurricane Zone", "i.e. " for "*id est*" or "in other words", "in" for "inch", "lb" for "pound (force)", "max." for "maximum", "min." for "minimum", "mm" for "millimeter", "NTS" for "not to scale", "O.C. " for "on center", "OD" for "outer diameter", "PE" for "Professional Engineer", "qty" for "quantity", "RTU" for "rooftop unit", "SAE" for "Society of Automotive Engineering", "SDS" for "self-drilling screws", "SMS" for "sheet metal screws", "SS" for "stainless steel", "TER" for "Technical Evaluation Report", "typ." for "typical", "U.N.O." for "unless noted otherwise", "UTS" for "ultimate tensile strength" or "ultimate tensile stress", "WLL" for "working load limit", "w/o" for "without", "YS" for "yield strength" or "yield stress", "#" for "number", "&" for "and", and "Ø" for "diameter". For additional abbreviation/terminology clarifications, please contact this office.

LIMITATIONS & CONDITIONS OF USE, CONTINUED:

Use of this product shall be in strict accordance with this TER as noted herein. The supporting host structure shall be designed to resist all superimposed loads as determined by others on a site-specific basis as may be required by the Authority Having Jurisdiction. Host structure conditions which are not accounted for in this product's respective anchor schedule shall be designed on a site-specific basis by a registered professional engineer. No evaluation is offered for the host supporting structure by use of this document; Adjustment factors noted herein and the applicable codes must be considered, where applicable. Product components shall be of the material(s) specified in the manufacturer-provided product specifications. All fasteners and anchors shall be installed in accordance with the applicable provisions specified herein in addition to the anchor/fastener manufacturers' published installation instructions. Fasteners must penetrate the supporting members such that the full length of the threaded portion is embedded within the main member.

*NOTE: State-specific building and/or residential codes referenced herein apply only when this evaluation report bears the Certifying Engineer's license information and digital or raised seal corresponding to the state in question. The Certifying Engineer shall verify that this evaluation complies with the state-specific code requirements.

This evaluation does not offer any certification to meet large missile impact debris requirements which typically are not required for this type of product. Contact Engineering Express for any reevaluation needs as designated by the Authority Having Jurisdiction.

Proj. #	Remarks	By	Checked	Date	Proj. #	Remarks	By	Checked	Date
22-50052	Initial Issue	CDR	RWN	05/05/22					