

## **Loss Mitigation Grant Program Wind Resistive Device (WRD) Product Evaluation**

---

The product as described herein has been evaluated by the Department of Commerce and Consumer Affairs (DCCA) for compliance with the technical requirements for wind resistive devices installed in single or multi-family residential dwellings. Installation costs of approved products are partially reimbursable under the provisions of the Loss Mitigation Grant Program. The results of the product evaluation are presented in the following report.

### **1.0 Product Information**

---

#### **1.1 Product Name:**

Simpson Strong Tie H3Z

#### **1.2 Description:**

Simpson Strong Tie H3Z is a hurricane uplift clip designed primarily for use on conventional double wall construction; however it may also be used on Hawaiian single wall construction. The clip attaches to the rafter or truss and to the top plate of the wall, or for single wall construction to a minimum 1 inch thick fascia board in accordance with the WRD technical specification. This is the same as a Simpson H3; the Z is the manufacturer's indication of corrosion protection.

#### **1.3 Category:**

Submitted for evaluation as a WRD option 1- Roof to wall uplift restraint

#### **1.4 Submitted By:**

- a. Manufacturer:  
Simpson Strong-Tie Company, Inc.  
260 N. Palm St.  
Brea, CA 92821-2870
- b. Technical Representative:  
Annie Tran, P.E.  
Branch Engineer  
Ph: (714) 738-2108  
Fax: (714) 879-6419  
[atran@strongtie.com](mailto:atran@strongtie.com)
- c. Local Sales Representative:  
Tim Waite  
Ph: (808) 479-1216  
Fax: (808) 941-9079

## 2.0 Product Evaluation

---

### 2.1 Uplift Resistance:

- a. The H3Z connector was tested in accordance with ICC AC13. Load is applied at a rate of 0.100 in/min until 1/8" of deflection is reached and the load recorded. The test was conducted using a connector on only one side of a rafter (1 connector). A summary of the test results is presented in table 1.

Table 1. Uplift capacity test results

No. of Connectors	Allowable Uplift Load	Required Capacity for WRD Approval	Approved
1	405 lb.	400 lb.	Yes
2	810 lb.	200 lb./ft.	Yes

### 2.2 Installation:

Simpson Strong Tie H3Z is to be installed in accordance with the manufacturer's published installation instructions, engineering drawings and this report.

The manufacturer's published installation instructions and this report shall be strictly adhered to and a copy of these shall be available at all times on the job site during installation.

### 2.3 Substantiating Data:

- a. Manufacturer's descriptive literature, specifications and installation instructions
- b. Test Report on uplift capacity of H3 uplift connector, prepared by Testing Engineers, Inc., Test Report No. N264 dated November 29, 2006, Signed and Sealed by Terry L. England, P.E.
- c. Calculations for hurricane tie attaching roof rafter to single top plate wall with redwood siding and block frieze board, dated December 17, 2006, Report No. 2057, prepared by Simpson Strong-Tie

## 3.0 Findings

---

Evaluation in review of the submitted data indicates that the Simpson Strong Tie H3Z as described in this report does conform to the requirements of the loss mitigation grant program and is an acceptable WRD to provide additional uplift capacity to the roof trusses or rafters for both single and double wall construction. Use on masonry wall construction is also permitted if the clip is attached to an anchored top plate, as depicted in Figure 5 of the WRD Technical Specification.

One H3Z clip may be approved for use on rafters or trusses spaced at no more than 24 inches o.c. and having a span of 24 feet or less, or when the product of the truss spacing (ft) and truss span (ft) is no more than 48 ft<sup>2</sup>. Two H3Z clips may be approved for use on rafters or trusses spaced at no more than 48 inches o.c. and having a span of 24 feet or

less, or when the product of the truss spacing (ft) and truss span (ft) is no more than 96 ft<sup>2</sup>. The uplift capacity of two H3Z clips is insufficient for WRD approval when the product of the truss spacing (ft) and truss span (ft) exceeds 96 ft<sup>2</sup>.

All fasteners shall be corrosion resistant, either Type 316 stainless steel or galvanized steel with a zinc coating thickness equal to or greater than 1.5 ounces of zinc per square foot of surface area per ASTM A653. Stainless steel clips or straps shall be installed with stainless steel nails or screws. Galvanized clips or straps shall be installed with ASTM A153 galvanized nails or hex drive screws.

**3.1 Limitations:**

- a. Simpson Strong Tie H3Z qualifies as an approved WRD product for use on single and double wall construction. Use on masonry wall construction is also permitted provided that it is attached as indicated on Figure 5 of the WRD Technical Specifications.
- b. Using one connector, the product of the truss spacing (ft) and truss span (ft) must be no more than 48 ft<sup>2</sup>. Using two connectors, the product of the truss spacing (ft) and truss span (ft) must be no more than 96 ft<sup>2</sup>.
- c. All clips must be corrosion resistant, either stainless steel or galvanized steel with a zinc coating.
- d. Simpson Strong Tie H3Z must be installed in accordance with the installation instructions in this report and the manufacturer's published installation instructions.

Gary Y. K. Chock, S.E.  
Product Examiner  
June 13, 2007