



Report Number: 0100

Issued: 08/2009

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DIVISION: 06-WOOD AND PLASTICS
Section: 06090- Wood and Plastics
Fastenings

REPORT HOLDER:
Hubbard Enterprises
2560 Progress Street
Vista, CA 92081
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EVALUATION SUBJECT:

Hubbard Enterprises Quick Belt and Quick Strap Bracing Systems

1.0 Evaluation Scope

1.1 Compliance with the following Codes:

- 2006 International Residential Code ® (IRC)
- 2006 International Building Code ® (IBC)

1.2 Evaluated in accordance with:

- EC 001-2005

Property Evaluated:

- Structural

2.0 USES

Bracing System for Water Heaters to Wood Studs. Bracing systems shall consist of two restraints, one each to be located within the top 1/3 and bottom 1/3 of the water heater

3.0 DESCRIPTION

3.1 General. Lower strap shall not interfere with controls. Each restrain shall consist of two points of attachment to affix restraint to the wood studs in the wall, one on each side of the water heater, a strap element that is affixed to the wall attachments and can either extend around the front of the heater or wrap completely around the heater to hold it up against the wall and a method of tensioning or ensuring that slack is removed from the strap element.

3.2 Product Information

3.2.1 Bracket & Buckles: Brackets and buckles shall be manufactured from minimum 14 gauge (AISI) steel complying to ASTM A653 or ASTM A1008. Brackets and buckles formed of unfinished steel shall be protected from rust by a finish such as zinc plate, paint, powder coat, etc. and comply with Sections 5.2.2 Corrosion Test in ASME A112.18/CSA B125.1-05.

3.2.2 Straps: Polyester straps shall be no less than 1-3/4" in width and shall have the following specifications that shall be affirmed to by the manufacturer or supplier:

- a) Breaking Strength: 4400 – 6600 lbs (2.0 – 3.0 kN).
- b) Thickness: 0.01 - 0.06 inches (1.1 – 1.6mm)
- c) Webbing is UV resistant.
- d) Melting point of 509°F (265°C) nominal.

Metal Straps shall be no less than 1 1/2" in width and shall not be less than 24 gauge (AISI) steel complying with ASTM A 653 or ASTM A 1008. Straps of unfinished steel shall be protected from rust by a finish such as zinc plate, paint, powder coat, etc. and comply with Section 5.2.2 Corrosion Test in ASME A112.18.1/CSA B125.1-05.



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3.2.3 Lag Bolts: Lag Bolts used to attach brackets or straps to the wood wall studs shall be minimum ¼" X 2 ½" and shall be manufactured from heat-treated carbon steel. Graded bolts shall be a minimum SAE & J529 Grade 3. Lag bolts shall be hot-dipped or plated with a suitable finish to resist rust and corrosion and comply with Section 5.2.2 Corrosion Test in ASME A112.18.1/CSA B125.1-05

4.0 INSTALLATION

4.1 Installation: Installation instructions shall be provided and clearly indicate the following:

- a) Water heater shall be secured against the spacer(s).
- b) Lag bolts must attach to studs, and cannot attach to spacer(s).
- c) Utilities behind wall may present a hazard to installer.
- d) Product may be used unless materials or method would violate water heater manufacturer's instructions.
- e) Lower strap shall not interfere with controls.

5.0 CONDITIONS OF USE

The bracing system described in this report complies with, or is a suitable alternative to what is specified in, those code listed in Section 1.0 of this report, subject to the following conditions.

5.1 System fabrication, identification and installation must comply with this report and the manufacturer's published installation instructions.

5.2 The system is limited to use as a seismic restraint for water heaters.

5.3 System connections to the supporting structure must be designed, and the justification submitted to the building official for approval.

5.4 The remaining portions of the system are designed and constructed in accordance with applicable code.

5.5 The bracing systems are fabricated by Hubbard Enterprises, in Vista, California.

6.0 EVIDENCE SUBMITTED

6.1 Tests performed in accordance with IAPMO EC 001-2005. Test results are from laboratories in compliance with ISO/IEC 17025.

7.0 IDENTIFICATION

Each package of bracing systems is identified by a label bearing the name and address of Hubbard Enterprises, and the evaluation report number (Evaluation Report 0100).



A handwritten signature in black ink, appearing to read "Amir Fall" followed by a flourish.

Director of Evaluation Services