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ESR-3213

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Reissued 09/2016
This report is subject to renewal 09/2017.

DIVISION: 03 00 00—CONCRETE
SECTION: 03 16 00—CONCRETE ANCHORS
DIVISION: 04 00 00—MASONRY
SECTION: 04 05 19.16— MASONRY ANCHORS
DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
SECTION: 06 05 23— WOOD, PLASTIC, AND COMPOSITE FASTENINGS

REPORT HOLDER:

DEWALT

**701 EAST JOPPA ROAD
TOWSON, MARYLAND 21286**

EVALUATION SUBJECT:

**TAPPER+™ SCREW ANCHORS AND WOODWORM™ SCREWS IN CHEMICALLY
TREATED WOOD (DEWALT / POWERS)**



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COMPOSITES**
**Section: 06 05 23—Wood, Plastic, and Composite
Fastenings****REPORT HOLDER:****DEWALT**
701 EAST JOPPA ROAD
TOWSON, MARYLAND 21286
(800) 524-3244
www.dewalt.com
engineering@powers.com**ADDITIONAL LISTEES:****POWERS FASTENERS**
701 EAST JOPPA ROAD
TOWSON, MARYLAND 21286
(800) 524-3244
www.powers.com
engineering@powers.com**ALL POINTS SCREW, BOLT & SPECIALTY CO.**
1590 N.W. 27TH AVENUE, #9
POMPANO BEACH, FLORIDA 33069
greg.mann@hillmangroup.com**THE HILLMAN GROUP**
10590 HAMILTON AVENUE
CINCINNATI, OHIO 45231
info@hillmangroup.com**EVALUATION SUBJECT:****TAPPER+™ SCREW ANCHORS AND WOODWORM™
SCREWS IN CHEMICALLY TREATED WOOD (DEWALT /
POWERS)****1.0 EVALUATION SCOPE****Compliance with the following codes:**

- 2015, 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2015, 2012, 2009 and 2006 *International Residential Code*® (IRC)

Property evaluated:

Corrosion resistance

2.0 USES

The Tapper+ screw anchors and Woodworm screws with a proprietary Perma-Seal coating are used for connections where one or more of the members is wood, where the fastener is required to exhibit resistance to environmental or chemically treated wood corrosion. The Perma-Seal coating is considered an alternative to hot-dip zinc-galvanized fasteners complying with ASTM A153, Class D.

3.0 DESCRIPTION

Structural properties of Tapper+ coated screw anchors are recognized in [ESR-3196](#), [ESR-3068](#) and [ESR-3042](#). Structural properties of Woodworm coated screws are recognized in [ESR-3164](#). This evaluation report recognizes the use of a proprietary Perma-Seal coating applied to these screws. The Tapper+ screw anchors have a uniform blue, white, silver or bronze coating and are available in shank diameters of $\frac{3}{16}$ inch and $\frac{1}{4}$ inch and lengths ranging from $1\frac{3}{4}$ inches to 6 inches. The Woodworm screws are available with the fastener designations of Woodworm Ledger Screw, Woodworm Truss Screw, Woodworm Waferhead (Lumber) Screw and Woodworm Timber Screw. The Woodworm screws have a bronze, black or red coating and have lengths ranging from $2\frac{1}{2}$ inches (63.5 mm) to 12 inches (305 mm) and shank diameters of $\frac{3}{16}$ and $\frac{1}{4}$ inch.

4.0 DESIGN AND INSTALLATION

Structural applications for Tapper+ screw anchors are described in [ESR-3196](#), [ESR-3068](#) and [ESR-3042](#). Structural applications for Woodworm screws are described in [ESR-3164](#). The Tapper+ screw anchors and Woodworm screws are used in Exposure Conditions 1 through 4 with typical applications and recognition limitations as shown in Table 1 of this report. The Tapper+ screw anchors and Woodworm screws may be used in wood treated with water-borne alkaline copper quaternary (ACQ) preservatives with a maximum retention of 0.4 pcf (6.4 kg/m^3) and preservatives with lesser corrosion effects. The Tapper+ screw anchors may be used in wood treated with water-borne alkaline copper azole (CA-B) preservatives with a maximum retention of 0.3 pcf (4.9 kg/m^3) and preservatives with lesser corrosion effects.

5.0 CONDITIONS OF USE

The Tapper+ screw anchors and Woodworm screws as described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The fasteners must be installed in accordance with this evaluation report and [ESR-3196](#), [ESR-3068](#), [ESR-3042](#), or [ESR-3164](#), as applicable; the manufacturer’s published installation instructions; and the applicable code. The instructions within this report govern if there are any conflicts between the manufacturer’s published installation instructions and this report.
- 5.2 Use of the screws in contact with fire-retardant-treated wood is outside the scope of this report.
- 5.3 The structural performance of the fasteners is limited to that documented in [ESR-3196](#), [ESR-3068](#), [ESR-3042](#) and [ESR-3164](#).

Corrosion Effect of Wood Treatment Chemicals (AC257), dated October 2009 (editorially revised May 2015).

7.0 IDENTIFICATION

The screws are packaged in cartons bearing labels that provide the manufacturer name and the name of the product (Tapper+ screw anchors or Woodworm screws); screw description (type, length, and shank diameter); and the evaluation report number (ESR-3213). The cartons are also identified as described in [ESR-3196](#), [ESR-3068](#), [ESR-3042](#) and [ESR-3164](#).

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Corrosion-resistant Fasteners and Evaluation of

TABLE 1—EXPOSURE CONDITIONS FOR FASTENERS WITH INTENDED USE AND LIMITATIONS OF RECOGNITION

EXPOSURE CONDITION	TYPICAL APPLICATIONS	RECOGNITION LIMITATIONS
Corrosion Resistance of Fasteners		
1	Treated wood in dry use applications	Limited to use where equilibrium moisture content of the chemically treated wood meets the dry service conditions as described in the NDS.
2	Aboveground with coastal salt exposure	Limited to clean untreated wood and materials without known corrosion effects greater than that of clean untreated wood.
3	General construction	Limited to freshwater and chemically treated wood exposure, i.e., no saltwater exposure.
4	Coastal construction	No limitations on use with respect to moisture and chemically treated wood except that chemical wood treatment must have the same or lesser corrosion effects as qualification conditions.

ICC-ES Evaluation Report**ESR-3213 FBC Supplement***Reissued September 2016**This report is subject to renewal September 2017.*www.icc-es.org | (800) 423-6587 | (562) 699-0543

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TOWSON, MARYLAND 21286
(800) 529-3244
www.powers.com
engineering@powers.com**EVALUATION SUBJECT:****TAPPER+™ SCREW ANCHORS AND WOODWORM™ SCREWS IN CHEMICALLY TREATED WOOD (DEWALT / POWERS)****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that the Tapper+ screw anchors and Woodworm screws with a proprietary Perma-Seal coating, recognized in ICC-ES master report ESR-3213, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2014 and 2010 *Florida Building Code—Building*
- 2014 and 2010 *Florida Building Code—Residential*

2.0 CONCLUSIONS

The Tapper+ screw anchors and Woodworm screws with a proprietary Perma-Seal coating, described in Sections 2.0 through 7.0 of the master evaluation report ESR-3213, comply with the 2014 and 2010 *Florida Building Code—Building* and the 2014 and 2010 *Florida Building Code—Residential*, provided the design and installation are in accordance with the *International Building Code*® provisions noted in the master report.

Use of the Tapper+ screw anchors and Woodworm screws with a proprietary Perma-Seal coating has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the 2014 and 2010 *Florida Building Code—Building* and the 2014 and 2010 *Florida Building Code—Residential*.

For products falling under Florida Rule 9N-3, verification that the report holder's quality assurance program is audited by a quality-assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the master report, reissued September 2016.