FASTENERS TO USE WITH TREATED WOOD PRODUCT

2012 International Building Code – Fasteners – Section 2304.9.5

2304.9.5 Fasteners and connections in contact with preservative-treated and fire-retardant-treated wood.
Fasteners, including nuts and washers, and connectors in contact with *preservative-treated* and *fire-retardant-treated wood* shall be in accordance with Sections 2304.9.5.1 through 2304.9.5.4. The coating weights for zinc-coated fasteners shall be in accordance with ASTM A153.

2304.9.5.1 Fasteners and connections for preservative-treated wood.

Fasteners, including nuts and washers, in contact with *preservative-treated wood* shall be of hot-dipped zinc coated galvanized steel, stainless steel, silicon bronze or copper. Fasteners other than nails, timber rivets, wood screws and lag screws shall be permitted to be mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B 695, Class 55 minimum. Connectors that are used in exterior applications and in contact with preservative treated wood shall have coating types and weights in accordance with the treated wood or connector for manufacturer's recommendations. In the absence of manufacturer's recommendations, a minimum of ASTM A 653, type G185 zinc-coated galvanized steel, or equivalent, shall be used.

Exception: Plain carbon steel fasteners, including nuts and washers in SBX/DOT and zinc borate preservative treated wood in an interior, dry environment shall be permitted.

2009 International Residential Code – Fasteners – Section R-317.3

R317.3 Fasteners and connectors in contact with preservative treated wood.

Fasteners and connectors in contact with preservative-treated wood and fire-retardant-treated-wood shall be in accordance with this section. The coating weights for zinc-coated fasteners shall be in accordance with ASTM S 153.

> **R317.3.1 Fasteners for preservative-treated wood.** Fasteners for preservative-treated wood shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper. Coating types and weights for connectors in contact with preservative-treated wood shall be in accordance with the connector manufacturer's recommendations. In the absence of manufacturer's recommendations, a minimum of ASTM A653 type G185 zinc-coated galvanized steel, or equivalent, shall be used.
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> Exceptions:
> 1. One-half-inch (12.7 mm) diameter or greater steel bolts.
> 2. 2. Fasteners other than nails and timber rivets shall be permitted to be of mechanically deposited zinc coated steel with coating weights in accordance with ASTM B 695, Class 55 minimum.

Pressure Treated Wood

The pressure-treated wood industry has transitioned away from the use of Chromated Copper Arsenate (CCA-C) to alternative preservative systems for residential use, effective 12/31/03. Some of the replacement alternatives are generally more corrosive than CCA-C. The corrosive content of treated wood may be variable. Over time, the durability and load-carrying capacity of Simpson products used with treated woods can vary widely depending on the many variables. This makes it impossible to predict accurately if, or when, significant corrosion of connectors, anchors, and fasteners will begin or reach a critical level. The treated wood industry specifies or recommends stainless steel and hot-dip galvanized products for use with pressure treated wood. To select the appropriate connector for use with various pressure treated woods, see the Pressure Treated Wood Technical Bulletin (PDF).

The manufacturers of ACQ, CA, CA-B, ACZA and borate treated material recommend the following to be used with their treated wood products.

CCA-C	Chromated Copper Arsenate
ACQ-C	Alkaline Copper Quaternary - Type C
ACQ-D	Alkaline Copper Quaternary -Type D
CA	Copper Azole
CA-B	Copper Azole – Type B
SBX/DOT	Sodium Borates
ACZA	

"The effect of **Wolmanized Outdoor** wood on fasteners is similar to that of CCA treated wood. Hot-dipped fasteners meeting ASTM A- 153 are recommended for protection against the moisture often present where treated wood is usually used. For Permanent Wood Foundations, use 304 or 316 stainless steel. Aluminum should not be used in direct contact with this wood."
Arch Wood Protection, Inc.
1955 Lake Park Drive, Suite 250
Smyrna, Georgia 30080
770-801-6600 www.wolmanizedwood.com

"As a minimum requirement for use with **Preserve and Preserve Plus** treated wood, hot-dipped galvanized coated fasteners should conform to ASTM Standards A-153. For optimum performance and longevity in treated wood, stainless steel fasteners should be considered."
Chemical Specialties, Inc.
200 East Woodlawn Road, Suite 250
Charlotte, North Carolina, 28217
800-421-8661 www.treatedwood.com

"Fasteners for use with **NatureWood** preserved wood product including hot-dip galvanized fasteners conforming to ASTM Standard A- 153. Stainless steel fasteners are required for

Permanent Wood Foundations below grade and are recommended for use with treated wood in severe exterior applications such as swimming pools, salt water exposure, etc. Type 304 and 316 are the recommended grades to use."
Osmose, Inc.
1016 Everee Inn Road
Griffin, Georgia 30224
800-241-0240 www.osmose.com

Chemonite ACZA Recommendations: For fasters and connectors always use hot-dipped galvanized (ASTM A-153), stainless steel, or approved equal.
J.H. Baxter
1700 South El Camino
San Mateo, California 94402
650-349-0201 www.jhbaxter.com

Lumber and plywood pressure-treated with **Tim-bor** Industrial and used in the appropriate applications-protected and above ground-can utilize standard fasteners and connectors such as those that have historically been used with CCA treated wood.
U.S. Borax, Inc.
26877 Tourney Road
Valenica, California 91355
800-U.S. BORAX www.borax.com/wood

Note:
Electroplated galvanized fasteners and metal products are typically not accepted by the building codes for use in exterior applications, regardless of the type of wood used.