

R317.3

Fasteners in Treated Wood

CHANGE TYPE: Modification

CHANGE SUMMARY: Staples in preservative-treated wood and fire-retardant-treated wood are now required to be made of stainless steel.

2018 CODE: R317.3.1 Fasteners for preservative-treated wood. Fasteners, including nuts and washers, for preservative-treated wood shall be of hot-dipped, zinc-coated galvanized steel, stainless steel, silicon bronze or copper. Staples shall be of stainless steel. 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 not less than ASTM A 653 type G185 zinc-coated galvanized steel, or equivalent, shall be used.

Exceptions:

1. ½-inch-diameter (12.7 mm) or greater steel bolts.
2. Fasteners other than nails, staples, 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.
3. Plain carbon steel fasteners in SBX/DOT and zinc borate preservative-treated wood in an interior, dry environment shall be permitted.

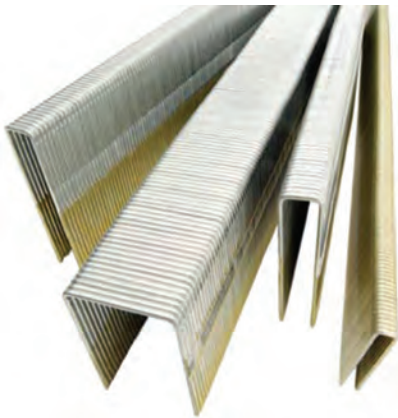
R317.3.3 Fasteners for fire-retardant-treated wood used in exterior applications or wet or damp locations. Fasteners, including nuts and washers, for fire-retardant-treated wood used in exterior applications or wet or damp locations shall be of hot-dipped, zinc-coated galvanized steel, stainless steel, silicon bronze or copper. Fasteners other than nails, staples, 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.

CHANGE SIGNIFICANCE: In the IRC, Table R602.3(1) lists fastener options for wood-to-wood connections. As an alternative, Table R602.3(2) Alternate Attachments to Table R602.3(1) lists additional connection options. Staples have been included in both tables as a fastener option for some connections. Fastener requirements for preservative-treated and fire-retardant-treated lumber are found in Sections R602.3 and R507 with additional requirements for the fasteners found in Section R317. Nails, nuts, washers, screws, bolts and timber rivets may be made of stainless steel, hot-dipped galvanized steel, silicon bronze or copper materials.

In the 2018 IRC, stainless steel staples are added as an additional code accepted solution. This addition specifically limits staples to stainless steel when installed in preservative-treated lumber.

The thin wire gages used in staples are much thinner than those used in nails, and are consequently more susceptible to corrosion. While currently stainless steel staples are the only available option for staples meeting increased corrosion-resistance requirements, if a manufacturer has a non-stainless steel staple solution for preservative-treated lumber, evaluation reports based on testing can be used to show equivalence to the minimum requirements in Section R317.3.1.

Staples in fire-retardant-treated wood are required to be made of the same materials as nails and timber rivets—stainless steel, hot-dipped galvanized steel, silicon bronze or copper materials.



Stainless steel staples

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