2304.9.5

Fasteners in Preservative-treated and Fire-retardant-treated Wood

CHANGE TYPE: Modification

CHANGE SUMMARY: The requirements for fasteners used in preservative-treated and fire-retardant-treated wood have been clarified to eliminate confusion between the code requirements and the manufacturer's recommendations. Nails, timber rivets, wood screws and lag screws used in SBX/DOT and zinc borate preservative-treated wood in an interior, dry environment are not required to be hot dipped galvanized.

2009 CODE: **2304.9.5 Fasteners and Connectors in Contact With Preservative-treated and Fire-retardant-treated Wood.** Fasteners and connectors in contact with ~~for~~ preservative-treated and fire-retardant-treated wood shall be in accordance with Sections 2304.9.5.1 through 2304.9.5.4 ~~of hot-dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper~~. The coating weights for zinc-coated fasteners shall be in accordance with ASTM A153.

> **Exception:** ~~Fasteners other than nails, timber rivets, wood screws and lag screws shall be permitted to be of mechanically deposited zinc coated steel with coating weights in accordance with ASTM B695, Class 55 minimum~~

~~Fastenings for wood foundations shall be as required in AF&PA Technical Report No. 7.~~

2304.9.5.1 Fasteners and Connectors for Preservative-Treated Wood. Fasteners 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 of mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B695, 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 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 in SBX/DOT and zinc borate preservative-treated wood in an interior, dry environment shall be permitted.

2304.9.5.2 Fastenings for Wood Foundations. Fastenings for wood foundations shall be as required in AF&PA PWF.

2304.9.5.3 Fasteners for Fire-Retardant-Treated Wood Used in Exterior Applications or Wet or Damp Locations. Fasteners 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,

timber rivets, wood screws, and lag screws shall be permitted to be of mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B695, Class 55 minimum.

2304.9.5.4 Fasteners for Fire-Retardant-Treated Wood Used in Interior Applications. Fasteners for fire-retardant-treated wood used in interior locations shall be in accordance with the manufacturer's recommendations. In the absence of manufacturer's recommendations, Section 2304.9.5.3 shall apply.

CHANGE SIGNIFICANCE: The requirements for fasteners used in preservative-treated and fire-retardant-treated wood in exterior and interior locations have been clarified. It is now intended that coating weights for zinc-coated fasteners be in accordance with ASTM A153, with the exception of fasteners other than nails, wood screws, and lag screws, which are permitted to be of mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B695, Class 55. Because the interior exposure level for fire-retardant-treated wood is much less severe than the exposure for wet, damp, or exterior locations, fasteners for fire-retardant-treated wood in interior locations may be in accordance with the manufacturer's recommendations, or Section 2304.9.5.3 in the absence of such recommendations. The new text will eliminate confusion between the code and the manufacturer's recommendations for fasteners used in preservative-treated and fire-retardant-treated wood. There is no documented evidence of corrosion of plain steel fasteners used in SBX/DOT or zinc borate preservative treated wood in an interior, dry environment. The exception permits plain carbon steel fasteners such as nails, and timber rivets, wood screws and lag screws to be used in SBX/DOT and zinc borate preservative-treated wood when in an interior, dry environment.