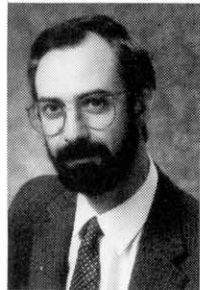


Considerations when using treated wood

by Thomas L. Smith, AIA, CRC

Preservative or fire retardant pressure-treatments are often used for wood nailers and plywood substrates. Selection of the type of treatment is important to prevent corrosion of metal components, such as metal copings or metal roof panels. Use of the proper type of fasteners and the use of separator materials between the treated wood and metal components is also helpful in preventing problems.



Preservative treatments

The Roofing Industry Educational Institute (RIEI) recommends that wood nailers associated with the roofing system be treated with a water-borne preservative treatment to prevent deterioration.

Although not explicitly stated, this recommendation is also applicable to plywood and lumber used to construct curbs for expansion joints and equipment. Because nailers and curbs are in problematic locations vulnerable to leakage due to metal or membrane flashing problems, treatment is recommended to avoid deterioration of the wood.

To order or specify above-grade, water-borne treatment for lumber, request compliance with the American Wood Preservers Association (AWPA) standards C2 and P5. For plywood, reference AWPA C9 and P5. Alternatively, the American Wood Preservers Bureau (AWPB) LP-2 could be referenced for both lumber and plywood.

Preservative treated lumber and plywood complying with these AWPA or AWPB standards is com-

monly referred to as "wolmanized" (a proprietary name). Generally, this type of treatment gives the wood product a greenish tint.

Typically, this treatment is compatible with built-up and single-ply membranes. However, it is recommended that fasteners be hot-dipped galvanized (or stainless steel, if desired). When attaching copings or metal edge flashings to treated wood, it is recommended that electro-plated galvanized fasteners not be substituted for hot-dipped galvanized.

As a conservative measure, it is also prudent to separate the metal copings and edge flashings from the treated wood. A strip of felt or other membrane material may be used for this purpose.

However, in this case, the primary reason for the felt or membrane material is to provide a secondary line of defense against water getting into the roof or wall system from a leaking expansion joint in the metal or a split in the membrane flashing.

Fire retardant treatments

Much has been written in the past few years about premature deterioration of fire retardant treated (FRT) plywood. However, when using FRT lumber or plywood, consideration should also be given to corrosion of fasteners or other metal components (copings, metal roofing panels). Particularly with earlier generations of interior treatments, severe corrosion has been experienced.

On one job, an FRT nailer was placed on top of a concrete parapet (FRT was used to meet the building code, which prohibited untreated wood for this building's type of construction). Because the nailer was protected by the coping, an interior type of treatment was specified.

Within two years, there were large holes along the top of the aluminum coping, with the metal attack originating from the underside of the coping. It was conclud-

ed that there was sufficient moisture from the humidity, in conjunction with the treatment chemicals, to cause the corrosive attack of the metal.

To order or specify interior FRT lumber, request compliance with AWPA standard C20 Interior Type A. For interior FRT plywood, reference AWPA standard C27 Interior Type A.

To order or specify exterior FRT lumber, request compliance with AWPA standard C20 Exterior Type. For exterior FRT plywood, reference AWPA standard C27 Exterior Type.

Typically, when the lumber or plywood is not exposed, interior treatment is used. Thus, most roofing components (copings, metal roofing panels) are installed over interior treated material when FRT wood is used. However, reportedly, the exterior treated material is less corrosive than interior treated material. Some treatment manufacturers even classify their exterior treated products as non-corrosive.

With the current generation of interior FRT products, some treatment manufacturers report that these products are no more corrosive to metal than untreated wood. However, these claims have not been validated by the test of time.

Even with the current interior FRT products, it is prudent to place a separator between the wood and metal components. Typically, a felt or other type of membrane material is used. A more conservative (but typically more expensive) approach is to use an exterior treatment. But incorporating an underlayment between the metal roofing, coping or metal edge flashing is still advisable (primarily as a secondary line of defense against water infiltration).

As with preservative treated wood, hot-dipped galvanized (or stainless-steel) fasteners should be used with both interior and exterior FRT wood. PR

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