Specification Bulletin

Wood Treatments & Wood Nailers

May 1, 2008

Due to the Environmental Protection Agency's (EPA) concerns with Chromated Copper Arsenate (CCA), there has been a voluntary transition in the building materials industry to use new alternative wood preservatives that do not contain arsenic.

In lieu of the previously popular CCA wood treatment, the commonly available wood treatments in today's market are:

- **Alkaline Copper Quatenaries (ACQ)** – the more popular of the treatments but it is also more corrosive. It is not compatible with aluminum and the high copper content will foster galvanic reaction with fasteners and steel decks.
- **Sodium Borates (SBX)** – not recommended for exposed construction because it is susceptible to preservative washout that leaves the wood unprotected.
- **Copper Azoles (CBA)** – as corrosive as ACQ but it is less popular.
- **Copper Zinc Arsenate (ACZA)** – less corrosive than CCA but not popular.

While wood nailers are typically not required in most of Carlisle's installation details, they are commonly used for edgings, coping, prefabricated curbs, and some scupper details. Because of the higher corrosiveness of the more popular ACQ treated lumber and due to the lack of substantiating laboratory analysis **Carlisle will no longer require the use of treated wood nailers.** Non-treated nailers may be used where wood nailers are required.

Listed below are some recommendations pertaining to the use of wood nailers:

1. When non-treated nailers are to be used fastening of metal components:
   - Nailers must be elevated and protected from moisture when stored on the roof.
   - **On phased roofing** non-treated nailers that are already installed must be protected to avoid moisture contamination. If possible, coordinate nailer installation for when roofing work begins.
   - **In reroofing**, if moisture is present, use a separator layer to elevate the non-treated nailer.
   - **Masonry/concrete surfaces** – When a nailer is to be installed over a substrate that contains moisture, a separation layer such as "sill sealer" may be used to prevent moisture absorption.

2. When ACQ treated nailers are used, it is advised to provide separation between the wood nailer and the galvanized steel deck with either a "sill sealer" or other suitable material. The nailer must be protected with a section of membrane or an air/vapor barrier to reduce possible moisture contamination, especially on phased roofing. Early

laboratory testing, while not totally conclusive, indicates galvanic corrosion when moisture is present.

3. When nails are to be used for the securement of the metal components to ACQ treated nailers, hot-dipped galvanized ring shank nails shall be used. Hot-dipped galvanized ring shank nails should meet ASTM A653, Class G 185 sheet with 1.85 oz. of zinc coating per square foot minimum.

   When screw type fasteners are to be utilized in the fastening of metal components or for securement at angle changes when a wood nailer is present, any of the appropriate Carlisle fasteners can be selected.

4. Aluminum edging, if specified, should never be placed directly over an ACQ treated wood nailer due to the possible galvanic reaction anticipated. Except for coated metal applications, Carlisle's details do not permit such an application because Carlisle typically requires the membrane to be installed beneath the edging; this provides the physical and required separation. When coated metal is used with a heat welded roofing system use a slip sheet of membrane between the coated metal and the nailer.

5. As option to the use of an ACQ treated nailer (which is twice as corrosive as the old CCA), even though not common, sodium borates (SBX) treated lumber may be specified. SBX is slightly less corrosive than the old CCA treatment and can be used without any of the above recommendations.

There have been industry recommendations to use hot-dipped galvanized screws or 300 series stainless steel anchors. These fasteners are hard to use due to the thickness of the coating that fills the threads and the fastener heads. Also, the 300 series stainless steel is not common in roofing due to the pre-heating that causes the fastener to soften and bend easily and the required pre-drilling.

Please contact Carlisle's Project Review and Design group if you have any further questions at 800-479-6832.

Sincerely,

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