



TPI/WTCA Guidelines for Use of Alternative Preservative Treatments with Metal Connector Plates

May 28, 2004, updated June 4, 2007

As of December 31, 2003, chromated copper arsenate (CCA) preservative treated products are unavailable for use in truss applications. There are numerous alternative replacement products available. Our industry's guidelines on preservative treatment and metal connector plates are as follows:

Always check with your preservative treatment supplier ("treater") for acceptability of a preservative for your application, and to obtain lumber and metal connector plate design values.

For products treated with sodium borate or iodine based preservatives, the treaters recommend the use of G60 galvanized steel connector plates, which are the typical metal connector plate used today.

For products treated with sodium borate based fire retardants and preservatives, the treaters also recommend the use of G60 galvanized steel connector plates. However when fire retardants are used, the following issues need to be considered in the truss design process:

- Fire retardant treatments ("FRTs") generally require specific proprietary strength reductions to be applied to lumber and metal connector plate design values .
- Some FRTs are not appropriate for use in areas where high moisture conditions will exist (i.e. where lumber moisture contents will consistently exceed 19%).
- Some FRTs are formulated for exterior use and may be acceptable for use in interior applications where higher humidity/moisture content conditions exist.
- FRTs need to be tested with elevated temperatures, as specified by TPI 1-2002 sec. 6.4.9.1.1, if they are going to be used in roof applications.

In all cases, it is important to obtain the forgoing information from the treater and provide it to the Truss Design Engineer.

For products treated with alkaline copper quat or copper azole based preservatives, the treaters typically recommend either using G185 galvanized, or stainless steel connector plates or else ASTM A153 post manufacture galvanizing of standard G60 connector plates.

Once you know that the project you are working on will involve the use of preservative treated lumber, and prior to bidding the job, contact your Truss Design Engineer and/or metal connector plate supplier and inform him/her of the truss application and treatment being used. This consultation will allow your Truss Design Engineer and/or metal connector plate supplier to determine the design criteria and connector plate type under which a truss design can be prepared. All steel components, not just the metal connector plate, that come in contact with the treated wood, need the same consideration. This includes any and all fasteners and construction hardware.

In addition to the above guidelines regarding corrosion resistance, trusses should not be placed in service where there is repetitive wetting and drying, such as long periods of exterior exposure. Such exposures may reduce the strength of the metal connector plate joints due to an excessive amount of wood swelling and shrinking. This may then reduce the overall strength of the truss. If specifications require a preservative for exterior use or an exterior FRT, it should be verified that the metal connector plates will be used in a dry exposure.

For additional detailed information regarding recommendations and research about some of the new preservative treatments and their interaction with metal products, please visit the following website addresses.

WTCA - Representing the Structural Building Components Industry: www.sbcindustry.com/lumber.php

Truss Plate Institute: www.tpinst.org/my_policies.html