



STEEL DECK PRODUCTS IN CONTACT WITH PRESSURE TREATED LUMBER

Corrosion of steel deck products in direct contact to pressure treated lumber has become an issue due to the change in products used in treating pressure treated lumber.

The pressure treated lumber industry now treats lumber with products referred to as ACQ (Alkaline Copper Quat) and CA-A or CA-B (Copper-azole). Pressure treated lumber treated with these products have shown to be highly corrosive when in direct contact with sheet steel.

Corrosion testing was conducted by Touchstone Research Laboratory, Ltd following the procedures contained in the American Wood-Preservers Association Standard Procedure E-12 "Standard Method for Determining Corrosion of Metal in Contact with Treated Wood." The sheet steel specimens tested were coated with G60 Galvanize, G90 Galvanize, shop applied White Primer and shop applied High Heat Gray Primer. The tests were conducted with steel specimens in direct contact with the pressure treated lumber and with a barrier between the pressure treated lumber and steel specimen. The barriers included were 30 lb. Felt Paper and Water and Ice Shield.

"The results of this study found that the use of Water and Ice Shield material was most effective in preventing a corrosive reaction between any of the steel products tested and either type of pressure treated lumber. Effectively, there was no surface damage where the water/ice shield contacted the metal or painted surfaces. The use of 30 pound roofing felt was somewhat effective in minimizing the corrosion of the various steel products, but does not appear to offer substantial improvement over direct metal to wood contact. Direct contact with the pressure treated lumber grades had the anticipated effect of corrosion on both the galvanized products and the painted steel materials in that the zinc coating and/or the paint and the base steel were damaged by direct contact with the treated lumber."

The Steel Deck Institute recommends a barrier of Water and Ice Shield or equivalent be used between pressure treated lumber and steel deck products or accessories.

Adopted by SDI - August 2006

Reference

Stauver, H. L. (2004)

"Evaluation of the Corrosion of Sheet Steel Building Products In Contact With Pressure Treated Lumber"

Touchstone Research Laboratory, Ltd., report 5349