



Corrosion Inhibitors

Water-Reducible Alkyd Primers

[Application Bulletin No. 9850]

MOLY-WHITE MZAP PROVIDES SUPERIOR COST-EFFECTIVE PERFORMANCE IN WR ALKYD PRIMERS

MOLY-WHITE MZAP outperforms competitive inhibitors in 500 hr salt-spray and 1,008 hr cyclic salt-spray/UV exposure tests

Recent testing of MOLY-WHITE MZAP, a calcium zinc phospho-molybdate corrosion inhibitor, demonstrates the excellent, cost-effective performance of this inhibitive pigment in water-reducible alkyd primer formulations. MOLY-WHITE MZAP systems were found to offer superior salt-spray and cyclic salt-spray/UV exposure results versus a number of competitive inhibitors, all currently promoted for water-reducible alkyd systems.

Testing was conducted in a model formulation based on McWhorter's 74-7478 water-reducible phenolic modified alkyd resin. The formula for the MOLY-WHITE MZAP containing system is shown in Table 1. All corrosion inhibitors were evaluated at an equal weight loading of 1.0 lbs/gal, with slight adjustments made in the extender levels (Atomite and Barimite XF)

as needed to maintain constant PVC and volume solids. All coatings were applied to mild cold-rolled steel test panels at a dry film thickness of 1.2 mils, and allowed 1-week ambient cure before starting exposure tests.

Photographs of the test panels are presented in Figure 1. In both salt-spray (ASTM B117) and cyclic salt-spray/UV exposure (ASTM D5894), the MOLY-WHITE MZAP based formulation can be seen to provide excellent corrosion resistance.

In cyclic salt-spray/UV exposure, the MOLY-WHITE MZAP containing system was noticeably superior to all other systems tested. This was particularly apparent in comparing the degree of undercutting and blistering along panel scribe lines.



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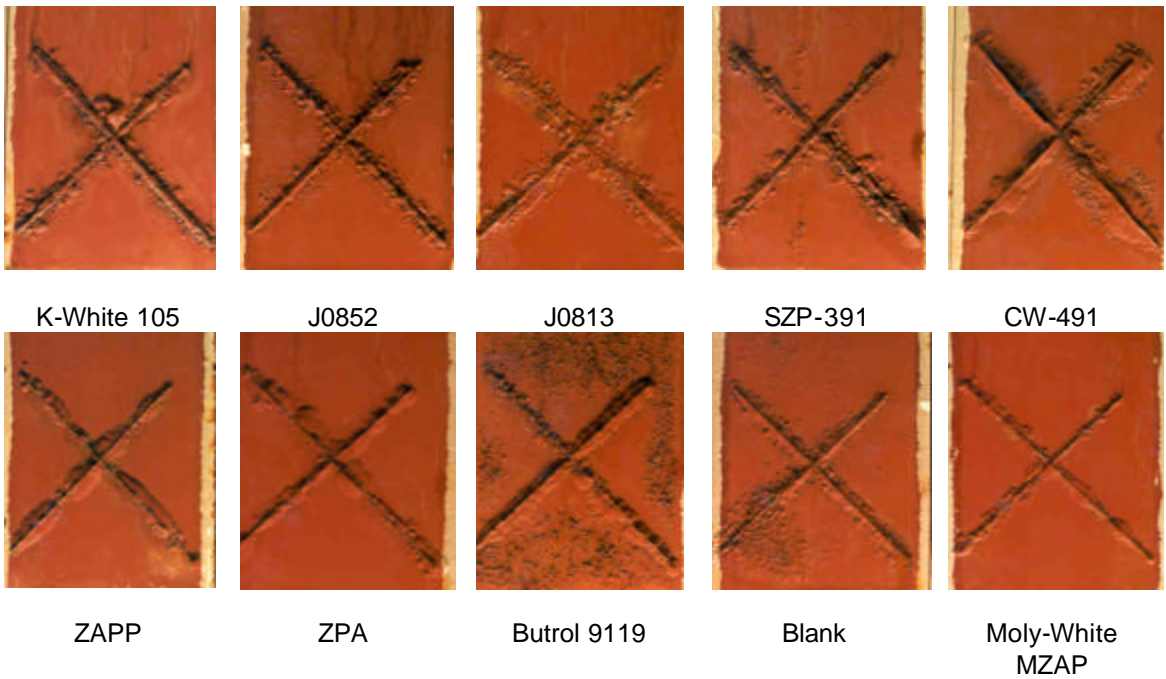
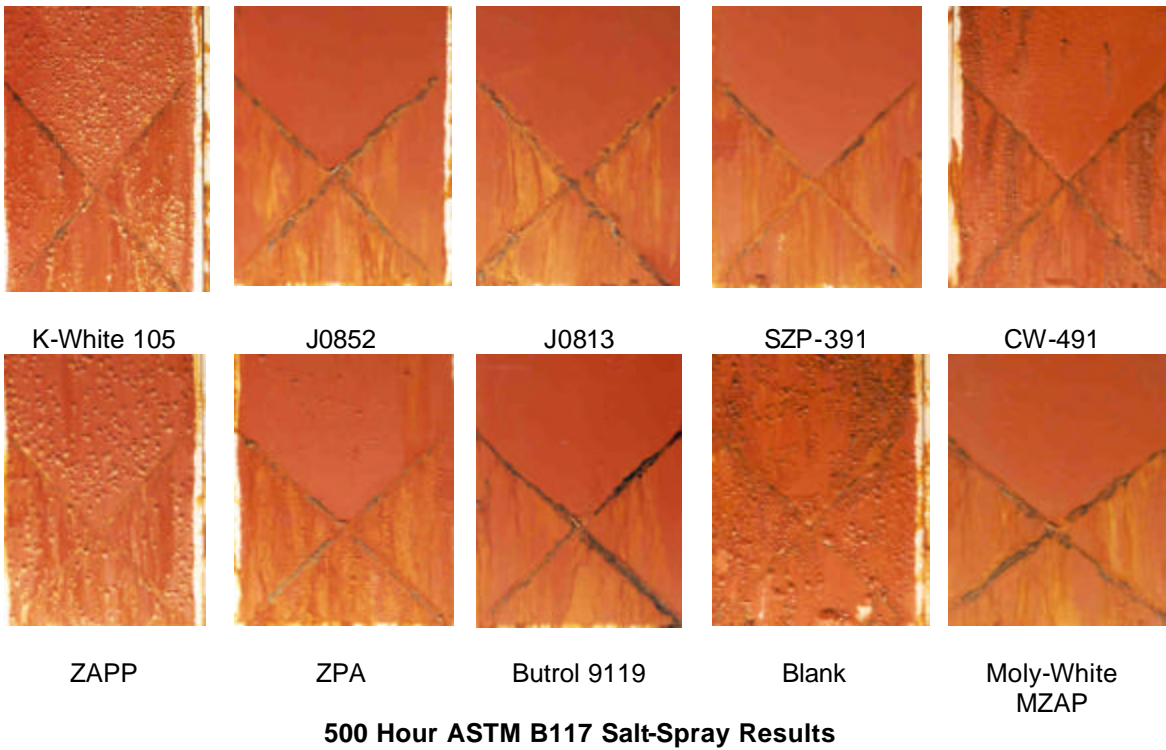


Figure 1 Appearance of Panels After Testing (substrate: mild cold rolled steel, dft: 1.2 mils, inhibitor loadings: 1.0 lbs/gal)

These results show that MOLY-WHITE MZAP provides an excellent, cost-effective route to the development of high performance, corrosion resistant w/r alkyd primer systems. MOLY-WHITE MZAP is also highly effective in latex emulsion and solvent borne formulations. For more information, please contact the MOLY-WHITE Technical Service Department at 1-216-566-1294.

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