

The Development of New Inorganic Chromium-Free Chemical for Galvanized Steel Sheets

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Abstract

Recently, the chromium-free treatment has been widely applied to galvanized steel sheets instead of the chromium treatment. However, the comprehensive performances of these chemicals do not match the performances of hexavalent chromium chemicals. In particular, the difference in corrosion resistance of forming and cross-cut section is remarkable as the chromium-free chemicals have not achieved the same self-healing property of the hexavalent chromium. We have developed the New Cr-Free chemical which exhibits excellent corrosion resistance of forming and cross-cut sections. We can provide various performances by adjusting the ratio of components to create a barrier similar to trivalent chromium and the self-healing property similar to hexavalent chromium.

Key words : galvanized steel sheets, chromium-free, corrosion resistance, self-healing

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