

The Development of Inorganic-Organic Hybrid Coating Chemical for Galvanized Steel Sheets

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Abstract

For many years the conventional surface treatment for electrolytic galvanized steel sheets were a combination of chromate treatment followed by a resin coating to create anti-finger print coating on steels used in household electrical products, etc. However, the use of hexavalent chromium was restricted by environmental regulations. Therefore alternative technologies were introduced including hexavalent chromium-free and chromium-free surface treatments.

We worked the development of the chromium free chemical which can achieve high functionality in the 1-coat system. As a result, we found a relationship between coating performance and blending ratio of special inorganic components and organic components. We succeeded in developing a chromium free chemical, the inorganic-organic hybrid type chemical which can provide not only corrosion resistance but also finger print resistance and paint adhesion with the 1-coat system.

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