

# A DEVELOPMENT OF BLACK CHROMATE-OXIDE FINISHES BY BAKING PROCESS FOR GALVANIZED STEEL

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## Abstract

A method has been developed to form a black coating on an electrogalvanized steel sheet by baking a chromate-oxide finish. This treatment method consists of applying a treatment liquid with main ingredients of chromium and a resin to an electrogalvanized steel sheet and baking the sheet at about 200°C. The coating exhibits a uniform black appearance, is good in both corrosion resistance and adhesion, and has a thickness of several micrometers ( $\mu\text{m}$ ). This paper outlines this black-finishing method used to form a coating on an electrogalvanized steel sheet, and describes the structure and properties of the coating examined using various types of chemical analysis equipment such as SEM, TEM, ESCA, GDS, and FTIR.

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