

# The Development of Thinner Chromium-free Chemical for Zinc Plating

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## **Abstract**

With the first-generation chromium-free chemical, it is necessary to form a thicker coating layer in order to provide good corrosion resistance on a par with the conventional chromium treatment. However, there are several problems associated with its performance. This study details an attempt to develop the next generation chromium-free chemical. The silane compound is the major factor influencing the properties of the new coating film.