

# STUDY OF PHOSPHATE COATING CRYSTALS

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## Abstract

In a car body painting system, the contribution ratio of phosphate treatment as the paint base coating reaches about 20% in corrosion resistance according to the analysis of variance of experimental results. However, this depends on paint, base steel, etc., used. With the zinc phosphate type conversion treatment, coating mainly consisting of hopeite and phosphophyllite is formed on the surface of steel sheet. With an electrodeposition paint base, corrosion resistance becomes higher as the content of phosphophyllite in the coating becomes higher. The reason for this may be sought in the dissolution of phosphate coating when ED paint is applied (solubility) and when it is decomposed during subsequent baking (heat resistance). We conducted wet-synthesis of hopeite and phosphophyllite crystals. A study was made on the crystals thus obtained relating to their morphology, acid resistance, alkali resistance and heat resistance compared to the phosphate coating formed on steel sheet.

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