

Phosphate Treatment for Car Bodies with Aluminum Alloy Parts

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Abstract

In this study, a technique for applying phosphate treatment generally used for the surface treatment of car bodies was investigated for use in the treatment of aluminum alloys.

The results showed that phosphate treatment on aluminum alloy sheets was significantly affected by the concentration of free fluoride ion in the treatment solution, and that there was an optimum value of free fluoride ion concentration. It was also found that when the free fluoride ion concentration was lower than the optimum value, the proper weight phosphate coating could not be obtained, and the corrosion resistance lowered accordingly. When the concentration was higher than the optimum value, secondary adhesion deteriorated. This was found to be caused by deposition of the phosphate film together with soluble salts containing F, Al and Na.

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