[포 6]

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Characterization of Electro-deposited Chrome-Carbon Layer Prepared by Pulse Plating

펄스 전착된 크롬-카본 도금층의 특성

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Abstract

Effects of pulse-plating on the wear and corrosion resistance of chrome-carbon layers were studied. The plating were carried out at 0.6A/cm^2 in modified Sargent bath containing formic acid at 53℃. The chrome layer were super-saturated with carbon up to 2.0wt. %, which precipitated as chrome carbide such as $Cr_{23}C_6$ after vacuum aging above 200℃ for 1 hour. This resulted in improvement of hardness and wear resistance of the chrome layer. Considering the reduction of corrosion resistance due to the thermal effect, optimum vacuum aging condition of the chrome layer in this study was 1-hour at 200℃.