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Abstract

The morphology, electrochemical and mechanical properties of the protective composite coatings, formed on the magnesium alloy surface by means of plasma electrolytic oxidation (PEO) and fluorocarbon materials have been established. After the treatment of the PEO-coating by fluoroparaffins the impedance modulus and polarization resistance have increased by two orders of magnitude and wear resistance in more than 10 times as compared to the base PEO-layer. Hydrophobic properties of the composite coatings have been established: values of the contact angle changed in the range from 122° up to 137°, depending on the flouroparaffin type.

Key words: magnesium alloys, protective coatings, plasma electrolytic oxidation, corrosion, fluoropolymer.