

Increase of the resource of machine parts working by combined methods using plasma electrolytic oxidation

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Abstract

© 2018 Institute of Physics Publishing. All rights reserved. The paper presents the results of a study of the physicomachanical properties of oxide-ceramic coatings formed by plasma electrolytic oxidation on various aluminum alloys. It has been found that filling the pores of an oxide-ceramic coating with oil or applying a copper layer to its surface with a friction-mechanical method increases the wear resistance of movable joints of machine parts by 1.7 times and 4.5 times, respectively. Based on the complex of studies carried out, combined methods are proposed that significantly increase the life of reinforced parts of machines in operation.

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