

Usage of Waterborne Acrylate Anticorrosion Systems for Ecological Environment

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All technical metals used not only in agriculture are subject to degradation processes, there are distinguished two main types: mechanical abrasion and physical-chemical degradation (corrosion). In order to lower abrasion of a machine part, it is necessary to use appropriate technical materials as well as an appropriate heat treatment. To minimize losses caused by corrosion, an appropriate anticorrosion system has to be used. This paper evaluates corrosion and mechanical resistance of waterborne acrylate anticorrosion systems sold on the Czech market. These paints were applied by an air flow technology. Mechanical characteristics of the applied coating were evaluated according to the ČSN EN ISO 4624 (pull-off test for adhesion), ČSN EN ISO 2409 (cross-cut test) and ČSN EN ISO 1520 (cupping test). As used anticorrosion systems were applied also on zinc-dipped coating, this duplex system was also subject to the mentioned tests. Corrosion resistance of the tested anticorrosion systems was analysed in the salt-spray environment (ČSN EN ISO 9227). Based on the results of the individual tests, there can be characterised adhesion, flexibility and mechanical resistance of waterborne anticorrosion systems as well as a further application on zinc layers. Corrosion tests analyse the process and visual appearance of corrosion attack.

Keywords: Corrosion, Ecologic Paints, Paint Tenacity, Wareborne

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