

Functional correlation surface texture / grip of a deposit: case of NiP

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Abstract. This work studies a functional correlation between different texture parameters and the adherence of NiP coating on a metal substrate. Multiple surfaces with different milling feed rate and coated with NiP went through a pulloff adhesion test. This study determined through texture analysis functional correlation between characterization of surface topographies and the strength measured during the test. In order to study if a multi-scale approach improve the correlation, a “conventional” method based on ISO 25178 procedure and a multiscale method based on wavelet filtering are compared.

Keywords: surface metrology, multiscale, wavelet, surface analysis, coating adhesion, ISO 4287-4288, ISO 25178

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