

The Effect of Surface Pre-Treatment and PVD Coating Post-Treatment on Texture of Surface ASP2052®/TiN

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The aim of the paper is analyse changes of the surface texture during pre-treatment, PVD coating and post-treatment. Generally, the effect of the production technology is often discussed with well-known parameters such as material, geometry of tools, coating methods and conditions. Effect treatment of the substrate or tools manufacturing are mostly ignored. Pre-treatment, coating and post-treatment obviously change surface texture. Quality of surface or surface texture together with properties of the surface layer have a significant effect of lifetime and reliability of operation component in practice. Surface texture effect running accuracy components, noise and running in period, friction loss, heat transfer, fatigue strength, resistance against wear and corrosion. The experiment was performed on ASP2052® tool steels during coating by PVD (Physical Vapour Deposition). The surface of the substrate was wet and dry sandblasted. Treated surface of experimental samples were coating of TiN. After coating surface of the samples was polished by and wet sandblasted to achieve glossy finished. The results of the paper show effect various type of the treatment on surface texture before and after PVD coating. Measurement of the surface texture shows progression of the parameters surface textures.

Keywords: Polishing, Sandblasting, Quality of surface, Measurement of surface texture.

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