

B.30. STUDY OF THE PROPERTIES OF APS COATINGS DEPOSITED ON AGRICULTURAL PLOUGH COMPONENTS

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Abstract. The present research, conducted in the field of thermal spray coatings, aims to enhance the properties of agricultural plough components subjected to soil tillage operations. Given the particularly demanding operating conditions to which these components are exposed, wear resistance and impact resistance represent the primary performance requirements governing their service life.

Thermal coatings were deposited using the Atmospheric Plasma Spray (APS) technique, employing WC–12%Co-based metallic powders. The microstructural and mechanical characterization of laboratory specimens encompassed micro-scratch testing, and determination of the coefficient of friction under both rotational and translational motion regimes. The results confirm that thermal spraying constitutes an effective methodology for improving the coating morphology and mechanical properties of newly manufactured components, as well as for reconditioning worn parts to restore their requisite functional parameters.

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