

Wear Resistant Coating of Punching Tools by Metal-Matrix-Composites

Enabling Industries Through Refurbishing & Remanufacturing



Motivation and Relevance

- Tools that are susceptible to wear can be coated in a resource-saving and cost-effective manner to prevent scrap
- Manufacturing companies in all industries use tools whose service life can be increased

Approach

- Extreme Highspeed Laser Application (EHLA)
- Feed rate of 20 m/min
- Material combinations of 1.2888 + TiC and 1.2888 + WC
- Coating of substrate blocks to produce punches by wire erosion

Results

- Achieved hardness of matrix material up to 700 HV0.3
- Nearly defect free coating layers
- Increase in the service life of the tested tools by up to 5 times

Research Area

- Tools & Dies, DED Coatings, Resource Efficiency

Partners



Supported by



Picture



Contact



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