

INFLUENCE OF THE SLIDING SPEED ON THE WEAR RESISTANCE OF PARTS HARD FACED BY THE HIGH-ALLOYED FILLER METAL WHICH OPERATE IN CONDITIONS WITHOUT LUBRICATION

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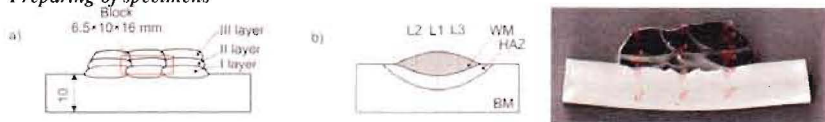
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The objective of this work was to determine the wear resistance of layers hard faced by the high-alloyed filler metal, with or without the austenite inter-layer, on parts that operate at different sliding speeds in conditions without lubrication. The samples were hard faced with filler metal E 10-UM-60-C with high content of C, Cr and W. Used filler metal belongs to alloys aimed for reparatory hard facing of parts damaged by abrasive and erosive wear and it is characterized by high hardness and wear resistance. In experiments, the sliding speed and the normal loading were varied and the wear scar was monitored, based on which the volume of the worn material was calculated analytically. The contact duration time was monitored over the sliding path of 300 mm. The most intensive wear was established for the loading force of 100 N and the sliding speed of 1 m/s, though the significant wear was also noticed in conditions of the small loading and speed of 0.25 m/s, which was even greater than at larger speeds.

Keywords

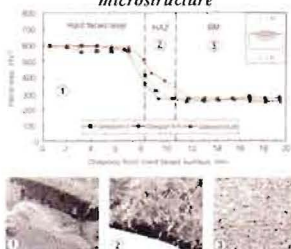
Hard facing, filler metal, abrasive wear, wear resistance, sliding speed.

Preparing of specimens

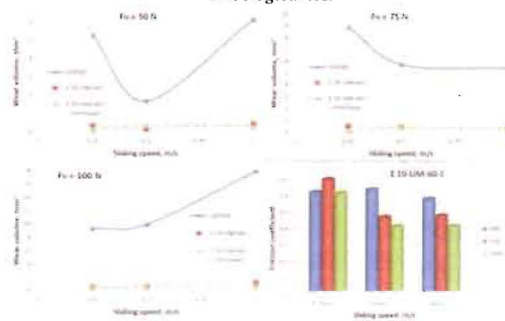


Results

Hardness measurement and microstructure



Tribological test



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