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Res. Agr. Eng.

Chotěborský R., Hrabě P., Müller M., Válek R., Savková J., Jirka M.: Effect of carbide size

in hardfacing on abrasive wear

Res. Agr. Eng., 55 (2009): 149-158

Abrasive wear of high alloyed overlay materials with high contents of carbide phases of M_7C_3 depends on the sizes of the carbide particles and on their distribution in an overlay. This work is focused on the study of the carbide particles size effect on abrasive wear. The size of carbide particles of M_7C_3 type, their distribution (part) in the matrix and their effect on abrasive wear were measured. Hardness in single layers, as well as microhardness of the matrix and of carbide particles, were also measured. The abrasive wear resistance was measured using the pin-on-disk machine with bonded abrasive particles. For the study of the chemical composition, the scanning electron microscopy with energy dispersive X-ray analysis (EDX) was used.

Keywords:
abrasive wear; weld deposition; hardness; pin-on-disk; carbides

[fulltext]