

Struktura i własności płyt ściernych napawanych łukowo drutem proszkowym samoosłonowym

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STRESZCZENIA

In the work results of extensive experimental study on robotized self-shielded wire arc surfacing of 6,0 mm thick steel plate grade S235JRG2 using as the consumable TeroMatec 4666 wire 2,8 mm dia. have been presented. Experimental stand designed and built in the scope of the work, composed of welding robot SRV6 REIS ROBOTICS, inverter power source LINCOLN ELECTRIC IDEALARC® DC-400, wire feeder LINCOLN ELECTRIC LN-7 and water table has been designed and produced. The water table was design to provide precise control of cooling rate of the deposit of a wear plate and to control of mechanism of the deposit crystallization. Study of properties of wear plates produced by robotized SSA surfacing using TeroMatec 4666 wire have shown that deposits are characterized by 16-28% higher deposition rate and 14%-24% higher abrasion wear resistance then wear plates type 4666 DP 0604 produced in Castolin-Kriefftel. Precise control of cooling rates of TeroMatec 4666 wire deposits by direct cooling of the bottom surface of surfaced steel plate by regulated flow of cool water, provides a tool to control of a crystallization mechanism of the weld metal of the composed iron chromium deposit. As the result it is possible to force crystallization process of massive composed carbides $(Fe, Cr)_7C_3$ in perpendicular direction to the deposit face and precipitation in the matrix Nb_2C , Fe_3B and $Fe_3Ni_3 B_2$.