

ARC WELDING INVESTIGATION USING LASER SHADOWGRAPH METHOD

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ABSTRACT

Present article focuses on a methodology and equipments used in metal transfer process investigation, in MIG arc welding. The laser shadowgraph combined with a high-speed digital camera technique was applied to ascertain filler wire melting and metal droplets dynamics during MIG welding under different conditions. Experimental results obtained after images processing (droplets form and diameter, droplets dynamics and velocities) in different phases of the process can be used at the welding metal transfer modeling, modern power supply control algorithm development and new filler metal and gas testing.

KEYWORDS: Laser, shadowgraphy, digital camera, MIG, welding, metal transfer.

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