

FIBER LASER BEAD-ON-PLATE WELDS IN PIPELINE STEEL AND ALUMINIUM

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ABSTRACT

The new generation of high power fiber lasers presents several benefits for industrial applications, namely high power with low beam divergence, flexible beam delivery, low maintenance costs, high efficiency and small implantation area. This paper presents preliminary results of bead-on-plate weld beads produced on 7150 aluminium alloy and thick X100 pipeline carbon-steel plates, with an 8 kW fiber laser. Weld bead depth as function of processing parameters was analysed for both materials.

KEYWORDS: Laser welding, fiber laser, pipeline steel, 7150 aluminium alloy

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