

STUDY OF MAGNETIZING SYSTEMS FOR MAGNETARC WELDING

Valeriu Georgescu¹, Danut Iordachescu², Elena Scutelnicu¹

¹Dunarea de Jos University of Galati, Romania

²Centro Láser-Universidad Politécnica de Madrid, Spain

valeriu.georgescu@ugal.ro

ABSTRACT

The MAGNETARC/ROTARC welding uses a rotating electric arc for heating the extremities of two pipes, which turns due to the electromagnetic force created between the arc column and a radial magnetic field of constant intensity. The paper presents original contributions in designing, testing and improvement of both longitudinal and transversal magnetizing systems, denominated according with the magnetic flux direction in the core of the coils, relative to the longitudinal axis of the bars. The longitudinal magnetizing system with coaxial coils resulted as the simplest and the most efficient solution. The experiments lead to the conclusion that the transversal magnetizing systems present several constructive and practical usefulness issues.

KEYWORDS: MAGNETARC welding, ROTARC, MIAB, magnetizing systems

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