

FOR A NEW CLASSIFICATION OF METAL TRANSFER IN MIG/MAG WELDING

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ABSTRACT

This paper is reviewing the metal transfer according with the progress made in the welding sources and techniques development. It critically analysis the actual classification of the metal transfer in GMA welding, describing the relevant phenomenon and proposing improvements, to easier the understanding and the work in the field of arc welding. Basic concepts are overviewed and defined or re-defined: fundamental transfer modes, natural vs. controlled transfer mode, variants vs. variances, mixed vs. combined modes, drop spray transfer. The new classification is simpler, without loosing the logic of numbering, both from fundamental point of view (the physics of the transfer) and the technological one (the increasing of the values of the welding parameters). It is extremely important for all the specialists involved in study, design or industrial applications of the arc welding technologies to have know-how about the metal transfer and its implications on the process and weld parameters.

KEYWORDS: arc welding, GMAW, MIG, MAG, metal transfer classification.

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