

## TANDEM WELDING METHODS IN SHIPBUILDING

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### ABSTRACT

*After presenting theoretical principle of Tandem process, the paper details the specific components of welding equipments. The paper presents also, high technology opportunities of the process alternating the phase difference and frequency of drop transfer in each of the two welding arcs. Also, it is presented some applications case studies in ships manufacture, both in Romania and worldwide.*

**KEYWORDS:** welding techniques, ship building, TANDEM process, multi arc, MIG, MAG.

### REFERENCES

- [1] **Bach, F.W.** : *Reparaturschweißen von Vergütungsstählen mittels MAG-Tandemverfahren* ; <http://www.uni-hannover.de/> Institut für Werkstoffkunde / Prof\_Dr\_-Ing\_Friedrich-Wilhelm Bach.htm, TU Hannover, Germania
- [2] \* \* \*, *Tandem MIG™ Process for Increased Production*, <http://www.lincolnelectric.com>, 2006
- [3] **Kulke, H.**, *Automatisiertes MAG-Hochleistungsschweißen rationalisiert Vorfertigung im Schiffbau*, Stahl 4/1997, pag.55-57, Verlag Stahleisen, Düsseldorf
- [4] **Joni, N., Trif, I.N.**, *Sudarea robotizată cu arc electric*, Editura LuxLibris, Braşov, 2005, 300 pagini
- [5] **Molnar, R** : Prezentare Univ."Dunărea de Jos" Galați, Comunicare personală, Galați, Iulie 2008
- [6] **Tanács, Z.; Joni, N.; Trif, I.N.**, *Corelația dintre parametrii de sudare și morfologia îmbinărilor sudate cu arc pulsat prin procedeul MIG/MAG, variantele standard și Tandem*, Revista "Sudura", 4/2002, Editura Sudura, Timișoara.