# PROPERTIES ANALYSIS OF THE X60 WELDED JOINT USING UNIDIRECTIONAL TEST SPECIMENS

Octavian Mircea, Daniel Visan, Dan Birsan

Dunarea de Jos University of Galati, Robotics and Welding Department, Romania
octavian.mircea@ugal.ro

## ABSTRACT

*This paper presents a method for analyzing mechanical properties of welded joints of X60 steel melting, only the results obtained by simulation test tubes. For this purpose simulation test-pieces were captured in the simulator and subjected to a thermal cycle similar to that of fusion welded HAZ site. Then specimens were taken for determination of fracture energy, and hardness test. The results were compared with those of the actual merge.*

**KEYWORDS:** thermal cycle, hardness, test-pieces, mechanical characteristics.

## REFERENCES

[1] **Mircea O., Banea D.M., Visan D., Birsan D.**, *Temperature field in butt welded joints: Numerical and experimental results.*. International Conference "Tehnologii moderne, Calitate, Restructurare" TMCR 2005 Chisinau, Republica Moldova, vol. IV, 19-21 Mai 2005, pg 417-420.
[2] **Mircea O., Banea D.M.,** *Analysis of Residual Stresses and Deformation in a Butt Weld.*, BRAMAT 2005: International Conference on Materials Science and Engineering: Brasov-Romania, 24-26 February 2005. ISBN 973-635-454-7, pg. 196;
[3] **H. J, Argyris**, *Computational aspects of welding stress analysis*, Comput. Meth. In Appl. Mech. A. Engn. 33(1982), p. 635-666.
[4] *** *Cosmos/M 2,5*, User' Manual,1999.