The 6th International Conference on Welding, Non Destructive Testing and Materials and Alloys Industry (IC-WNDT-MI'18)

2018

Characterization of local mechanical behavior of TA6V weld sheet

L. Rabahi, B. Mehdi, B. Alili, N. KHERROUBA, I. Hadji, R. Badji

Abstract : The present work aims to study the local mechanical behavior of TA6V weld sheet. To this purpose, X-ray Diffraction (XRD), optical microscopy and nano-indentation measurements have been employed. The results highlight strong relationship between the hardness (HIT), Young's modulus (EIT) values and the microstructure of each zone and phase present along the weld joint. The HIT of the molten zone (MZ) is greater than that of the Heat affected zone (HAZ) and the base metal (MB) in the ? phase, whereas it shows small values in the HAZ than that of MB in ? phase.

Keywords : TA6V, Nanoindentation, Microhardness, microstructure.