Caractérisations microstructurale et mécanique de soudures hétérogènes (2205/X52) réalisées par friction rotative : Effet de temps de friction

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Abstract: This work consists of joining two different materials grades, the dual phase SAF 2205 duplex stainless steel and an API X52 high strength low alloy (HSLA) steel using the solid state welding process (Rotary Friction). The aim of this experimental work is to study the friction time effect on microstructural evolution of the obtained heterogeneous joints and identify the different zones affected by this process. A mechanical characterization is also planned in this study, in order to highlight the consequences of friction time on some mechanical properties through hardness, microhardness and tensile tests.

Keywords : SAF 2205, duplex stainless steel, API X52, tensile tests