

Slant fracture surface in 7075 aluminum alloy tensile specimens

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Rectangular specimen of a 7075 aluminum alloys in three different thermal treatment conditions were tested in a tensile equipment. The samples tested exhibit slant fracture surfaces. Some of the samples presented Portevin-Le Chatelier (PLC) effect. In fact, for aluminum alloys, the PLC phenomenon may occurs even at room temperature. It leads to strain localization and deformation band formation. In this work, the occurrence of slant fracture is studied by scanning electron microscopy and an attempt is done to correlate their presence with the PLC bands.