

Mise en œuvre de l'essai de fatigue sur des alliages d'aluminium

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Abstract: The problem of fatigue of structures is commonly present in all sectors of the maritime, aeronautical, and mechanical and many other industries. In order to fully understand this harmful phenomenon, tests of different types of stresses are carried out at the laboratory level. This requires a good mastery of the test protocol. The analysis of the results obtained by these tests allows to study the behavior of the material. Our study consists in the implementation and the determination of the operating conditions of a uniaxial fatigue test with two types of specimens made of aluminum alloys of different thicknesses are tested. A tensile test is carried out to determine the mechanical behavior of the specimens and to have the necessary parameters to carry out a fatigue test, a metallographic study to characterize the specimens before carrying out the fatigue test. All the results obtained from the test are in the form of curves and a hysteresis loop.

Keywords : Fatigue test, fatigue of aluminum, aluminum's alloys