

## **THE EFFECTS OF DRY AND WET SHOT PEENING ON THE MECHANICAL AND FATIGUE PROPERTIES OF 7075-T6 AL-ALLOY**

**ALALKAWI H. J.<sup>a</sup>, TALAL A. A.<sup>b</sup>, SAFAA H. A.<sup>c</sup>,  
SELMAN B. A.<sup>d</sup> AND KHENGAB A. Y.<sup>e</sup>**

<sup>a</sup> Professor, <sup>b</sup> Asst. Professor, <sup>c</sup> Asst. Lecturer,

University of Technology, Electromechanical Engineering Dep., Iraq

<sup>d</sup> Asst. Lecturer, <sup>e</sup> Engineer, Ministry of Higher Education and Scientific Research, Iraq

### **Abstract**

The effects of dry and wet shot peening at 10 min. shooting time on mechanical properties and fatigue behaviour using tension-compression fatigue tests of 7075-T6 aluminum alloy were investigated. The mechanical properties (ultimate and yield stresses) were increased due to dry and wet peening by (2.42%, 4.1% and 3.23%, 5.66%) respectively. Dry surface peening increased fatigue strength at  $10^7$  cycles relative to unpeened strength by 18.24% while wet surface peening gave an increase of 18.8665% compared to unpeened condition. The oil film gave an improvement in fatigue strength by 0.52% relative to dry fatigue.

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**Keywords:** dry and wet shot peening, 7075-T6 Al-alloy, tension-compression fatigue tests, mechanical properties, fatigue strength.

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