

عنوان مقاله:

Effect of Deep Rolling Process on Surface Hardness of Al 7075-T6

محل انتشار:

کنفرانس دو سالانه بین المللی مکانیک جامدات تجربی (سال: 1394)

تعداد صفحات اصل مقاله: 2

نویسندگان:

Zare Jouneghani - MSc student, Department of Mechanical Engineering, Bu-Ali Sina University, Hamedan, Iran

G.H Majzoobi - Professor, Department of Mechanical Engineering, Bu-Ali Sina University, Hamedan, Iran

E Khademi - Assistant Professor, Department of Robotics Engineering, Hamedan University of Technology,
Hamedan, Iran

خلاصه مقاله:

Improving surface hardness is a method to increase the component resistance against fatigue and fretting fatigue. Deep rolling (DR) process can be utilized as a fast, effective and economical method to improve surface hardness of industrial components. The effects of deep rolling (DR) parameters on the surface hardness of 7075-T6 aluminum alloy have been investigated in this paper. Fractional factorial design of experiment (DOE) has been used to study the effect of DR Parameters such as ball diameter, feed rate, rotational speed of specimen, penetration (rolling depth) and rolling pass number on the surface hardness. For the experimental work, an innovative, simple and inexpensive rolling-setup was designed and fabricated. The set-up is mounted on lathe machine. The results indicate that feed rate, penetration and rolling pass number are the most influential factors than ball diameter and rotational speed.

کلمات کلیدی:

Deep rolling, surface hardness, design of experiment (DOE), Al 7075-T6

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/510108>

