

عنوان مقاله:

Effect of Carburizing Process on Fatigue Life

محل انتشار:

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خلاصه مقاله:

Carburizing is a heat treatment process which used widely for surface hardening. In this process the parts are placed in a concentrated atmosphere of Carbon particles. The carbon atoms diffuse in the samples from surface. In the present research, the effects of carburizing on fatigue life will be studied. The samples are prepared by implementing carburizing process at different temperatures (300, 400, 500 and 600 C). The holding time is 1 hour for 4 samples. The two-point bending fatigue tests had been carried out on constant loading stresses. The results of fatigue life test show that the fatigue life enhances by carburizing process. Holding at higher temperature leads to increase in fatigue life smoothly due to increase in diffusivity coefficient. Also, the fracture surface demonstrates that the crack initiation starts from outer surfaces very slowly and failure happens as brittle fracture in the center of the samples.

کلمات کلیدی:

Fatigue life, Carburizing, Carbon, Diffusion, Fracture Surface

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