

عنوان مقاله:

Study and Simulation of Shot peening Effect on Fatigue Life of a Powder Forged Connecting rod

محل انتشار:

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خلاصه مقاله:

Shot peening applies a residual compressive stress field (RCSF) on the surface of parts. It also shifts "crack nucleation sites" to sub-surface locations. A nondestructive method of measuring the stresses, $\text{Sin}^2\psi$ was utilized here and the stress values introduced to Ansys software. For this purpose, uniform stress in all directions was applied on the con rod. Loading on the rod in Ansys had three steps: RCSF caused by shot peening (measured by XRD), and tensile and compressive stresses caused by inertial and gas forces, respectively (calculated). Fatigue Macro of Ansys was resumed carrying out the cyclic loading and thereby, improvement of powder forged connecting rods' fatigue life, caused by shot peening was obtained.

کلمات کلیدی:

Fatigue Life, Shot peening, X-ray Diffraction, Ansys

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