

عنوان مقاله:

Finite Element Modeling of Vibratory Stress Relief Process

محل انتشار:

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خلاصه مقاله:

This paper is concerned with finite element modeling of stress vibratory relief process. Nowadays, the process is gaining more and more weight as a manufacturing process. This is mainly due to the fact that the vibratory stress relief has the advantages of low energy consumption and dramatic reduction of pollution to the environment in respect to the traditional thermal stress relief process. First, a short overview of the method and its applications in the industry are discussed. Next, a computer model was developed using the finite element modeling program ABAQUS. A cantilever beam was pre-stressed and then subjected to transverse cyclic force at the beams natural frequency and several random frequencies to see the effect on the residual stresses. It was shown that the amplitude and the .excitation frequency of the load on the beam had the greatest effect on the reduction of the residual stresses

کلمات کلیدی:

Stress vibratory relief, Finite element, Transient analysis

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