

Simulation the Effect of Temperature on the Residual Stress in Shot Peening Process Using FEM Method

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Abstract : Sandblasting is a generally used surface treatment technique to improve the residual stress and adhesion of coatings to substrate. The goal of this work is to study the effect of temperature on the residual stress in sandblasting AISI1045 substrate. For this purpose a two dimensional axisymmetric model of shot impacting on an AISI 1045 disc was generated using ABAQUS version 6.10. The result shows for sandblasting temperature there is an optimum condition. In addition there are other effective factors that influence the fatigue life of parts.

Keywords : modeling, shot peen, residual stress, temperature

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