

Study on the Forging of AISI 1015 Spiral Bevel Gear by Finite Element Analysis

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Abstract : This study applies the finite element method (FEM) to predict maximum forging load, effective stress distribution, effective strain distribution, workpiece temperature in spiral bevel gear forging of AISI 1015. Maximum forging load, effective stress, effective strain, workpiece temperature are determined for different process parameters, such as modules, number of teeth, helical angle and workpiece temperature of the spiral bevel gear hot forging, using the FEM. Finally, the prediction of the power requirement for the spiral bevel gear hot forging of AISI 1015 is determined.

Keywords : spiral bevel gear, hot forging, finite element method

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