

AN EXPERIMENTAL STUDY ON THE V- BENDING OF AA 6061 SHEET MATERIAL

S. RAJU, G. GANESAN & S. SUNDARI

Department of Manufacturing Engineering, Annamalai University, Annamalainagar, Tamil Nadu, India

ABSTRACT

Bending is the uniform straining of material, usually flat sheet or strip metal, around a straight axis, which lies in the neutral plane and normal to the lengthwise direction of the sheet or strip with little or no change in the surface area. Springback is an undesirable feature associated with bending particularly with materials of high strength to weight ratio. It is a function of material properties and process parameters. AA 6061 is a material that has wide acceptance in Automobile industries for body panels in which the sheet material undergoes extensive bending. Therefore in this investigation, an attempt has been made to determine the optimum combination of the selected process parameters that minimize the springback in the V bending process..

KEYWORDS: Bending, AA 6061 Sheet Material, Optimization, Response Surface Methodology