Contactless Thermal Bending of Steel Sheets

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The article deals with contactless thermal forming of metals. In the introduction the bending theory of components by using flame technology is described. On the basics of information obtained from the analysis of previous research a technological procedure was developed. This technology uses gained characteristics of material behavior in the process of heterogeneous circumferential heating. The principal of material concentrating in the process of local heating the area which is placed in a quasi prism leads to a bending moment. This bending moment evokes deformation of the material which was compacted this way. Application of subscribed technology pushes the limits of forming to a higher level because by using conventional forming processes the trajectory of the component is not straight but curved. Because of this phenomenon it would be necessary to apply forming tools which dynamically change and do not still exist.

Keywords: thermal bending, laser bending, mild steel

Acknowledgement

This contribution was made with the financal assistance of VEGA agency, project No. 1/055/14.

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Paper number: M201663