

Technology of Laser Forming

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The presented article describes the unconventional technology - bending and forming by laser. This technology is alters the tension in the material, which subsequently change the shape of formed parts. Article also describes four mechanisms of deformation after the impact of the laser beam on the material: The first mechanism - mechanism of temperature gradient, the second mechanism - buckling mechanism, the third mechanism - pressing mechanism (Borten) and the fourth mechanism - mechanism of phase transition. The experimental part focuses on the metallographic evaluation of samples from three different areas of the laser micro forming. Article describes in detail the technological parameters used during the development of the experiment and includes a summary of results. Article contains images of the structures detected in the heat affected zone.

Keywords: Laser forming, laser bending, CO₂ laser, carbon steel

Acknowledgement

This work was supported in part by the KEGA č. 054 ŽU – 4/2012 and VEGA č. 1/0836/13.

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Paper number: M201479

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