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DETERMINATION OF RESIDUAL STRESSES AND SPRINGBACK GENERATED BY TENSILE LOADINGS IN METAL SHEETS

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Abstract: The investigation of the residual stresses and springback effects in the case of drawn parts made from metal sheets is a difficult problem because of the complexity of forming operations and formed parts geometry. A solution of the problem can be than the simulation of the forming process and residual stresses distribution, but for a much more certitude of the results the simulation method must be experimental verified. An efficacious method consists in the experimental control of residual stresses and springback for a simple case by using the tensile test. The paper presents the results obtained from such simulation and experimental investigation of the residual stresses distribution and springback in the case of homogeneous sheets.

Key words: Residual stresses, springback, tensile test.