

MODELING OF THE PROCESS OF FORMING THE NECK IN CYLINDER SHAPE STRETCHED SAMPLE

Summary – A numerical simulation of a metal sample tensioning process until necking is described. A fracture process is not investigated, because of its complexity and it requires different numerical methods to be applied. During the necking process, strain and stress fields stop to be homogenous. In such situation, interpretation of experimental results for large strain start to be difficult and ambiguous. Most commonly, only average values that describe material properties are determined. In the paper inverse method was applied. List of materials, that has inhomogeneous properties, was assumed. Finally, a numerical description of necking process was obtained, that occur to be very similar to the experimental one.