Precision analysis in billet preparation for micro bulk metal forming - DTU Orbit (08/11/2017)

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The purpose of this research is to fabricate billets for an automated transfer press for micro forming. High performance transfer presses are wellknown in conventional metal forming and distinguished from their automation and mass production. The press used in this research is a vertical mechanical press. When using a vertical mechanical press, the material is fed as billets into the forming zone. Therefore, a large number of highly uniform billets are required to run mass production in such a setup. Shearing technique was used for manufacturing the billets. The efficiency of the shearing tool is examined in terms of volume control, circularity, dimension and sheared surface quality. The shearing tool is based on holders for both bar and cutoff. The tool is fixed in dimensions, since the dimensions of billets are fixed throughout experiments of this research. The paper presents the experimental analysis of the precision of the billets prepared by the tool.

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