

# Experimental Research of the View of the Metal Flow in the Pipes Side-Extrusion Process

Y Ig Kosmatskiy, M J ALJumaili<sup>1</sup> , A S ALKhuzaie

## Abstract.

The article demonstrated the results of an experimental study of pipe extrusion process with lateral flow using the method of coordinate grids. The calculation of the forming operation is made for extrusion process stages. The following features of the extrusion process are noted: axial asymmetry of deformations and increased unevenness of deformations due to this. It is shown that the front portion of the tube sample is not fully worked through the wall thickness. The distribution of the grid along the thickness of the wall of the sample pipe, due to the presence of a stagnant zone, preserves the heredity of this region and forms a corresponding uneven distribution of the longitudinal and transverse bands of the coordinate grid, directly, in the lower part of the plane under consideration. The results obtained make it possible to indirectly judge the presence of anisotropy of the properties of the sample tubes produced by the pressing method with lateral flow. It is noted that, in order to create favorable conditions for the deformation of metal during the extrusion process with lateral flow, rational use of the double-sided extrusion scheme, which in turn will eliminate the stagnant zone of metal in the bottom of the container and, accordingly, ensure homogeneity of the grid distribution along the pipe wall thickness sample.