

Fig. 1. Changes in hardness along welding joints produced by schedules 1 and 2:
 a) without heat treatment; b) after 3 hours of annealing at 400°C

METHOD FOR CALCULATING THE PIPE SWAGING BY DIAMETER ALONG THE DEFORMATION CONE OF CPR MILLS

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A method is described for calculating the amount of swaging by diameter along the deformation cone for a double stroke of the CPR mill stand (Fig. 1). The method makes it possible to take into account the influence of most parameters of the CPT process on this value. The calculation method is based on a number of dependencies derived by different authors to determine the geometric parameters of the working tool and calculate the deformation parameters of the CPR process [1-4]. It also uses its own, specially derived dependence [4-5].

The proposed method allows leveling the inaccuracy of the previously used formulas. Optimized distribution of the reduction value along the diameter along the deformation cone makes it possible to reduce the likelihood of such defect as scratches on the inner surface of the cold-rolled pipe.

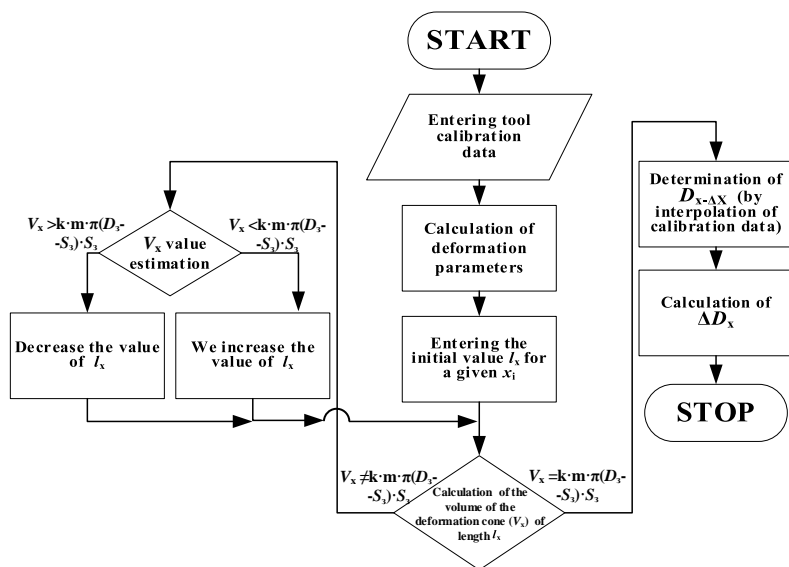


Fig. 1. Algorithm for determining the amount of reduction by diameter along the deformation cone of the cold rolling mill

References

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ANALYSIS OF THE EFFECT OF BEARING SECTION LENGTH ON FORMING RESIDUAL STRESSES IN ROUND WIRE FOR VARIOUS DIE SHAPES IN AN ISOTHERMAL PROCESS

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Now, development of an optimum draw plate shape is a relevant objective to produce wire of a higher quality.