

Title (en)
ROLLING ROD AS AN INNER TOOL IN THE PRODUCTION OF SEAMLESS METAL HOLLOW BODIES AND METHOD FOR PRODUCING A METAL HOLLOW BODY

Title (de)
WALZSTANGE ALS INNENWERKZEUG BEIM HERSTELLEN VON NAHTLOSEN METALLISCHEN HOHLKÖRPERN UND VERFAHREN ZUR HERSTELLUNG EINES METALLISCHEN HOHLKÖRPERS

Title (fr)
BARRE DE LAMINAGE SERVANT D'OUTIL INTÉRIEUR POUR FABRIQUER DES CORPS CREUX MÉTALLIQUES SANS SOUDURE ET PROCÉDÉ DE FABRICATION D'UN CORPS CREUX MÉTALLIQUE

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Abstract (en)
[origin: WO2015104244A1] The invention relates to a rolling rod as an inner tool in the production of seamless hollow bodies, in particular in the elongation of metal hollow blocks into seamless pipes by means of a multi-stand rolling mill, having a surface having a nitrided layer. In order to achieve an increase in the service life of the rolling rod, the rolling rod according to the invention is made of a steel resistant to high temperatures having a chromium equivalent Creq. of more than 6.5, calculated according to $C_{req} = \%Cr + \%Mo + 1.5 \times \%Si + 0.5 \times \%Nb + 2 \times \%Ti$ (1), having a minimum hardness of 200 HV 0.5, measured 0.5 mm below the surface of the rolling rod, having a yield strength of at least 450 MPa at 500 °C, and having a tensile strength of at least 600 MPa at 500 °C, and the nitrided layer has a depth of more than 0.15 mm from the surface and a nitriding hardness of more than 950 HV 0.5. The invention further relates to a method for producing a seamlessly hot-rolled metal hollow body, in particular a steel pipe, wherein a previously produced hollow block is subjected to an elongation process in a multi-stand rolling mill over a rolling rod inserted into the hollow block, which rolling rod is described above, and the rolling rod is provided with a liquid lubricant before the rolling use, i.e., before the start of the insertion into the hollow block, which liquid lubricant is subsequently dried, wherein the rolling rod is inserted with a play of at least 10 mm with respect to the inside diameter of the hollow block and the hollow block has an average temperature of at least 1000 °C immediately before the start of the insertion of the rod and the rod velocity VST during the rolling in a rod rolling mill satisfies the following conditions at most: $VST_{max} = 0.9 \times \text{rod length} / \text{rolling time of last stand}$ (3), $VST_{max} = 0.9 \times VM_{min}$ (4), wherein VMmin is the minimum velocity of the pipe material during the rolling in the rod rolling mill.

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