

Title (en)

METHOD FOR CONTINUOUS MANUFACTURE OF A STEEL BAND FOR DRAWING WITH IMPROVED SURFACE PROPERTIES

Title (de)

VERFAHREN ZUM KONTINUIERLICHEN HERSTELLEN VON STAHLBAND MIT VERBESSERTEN OBERFLÄCHENEIGENSCHAFTEN ZUM TIEFZIEHEN

Title (fr)

PROCEDE DE FABRICATION EN CONTINU D'UNE BANDE EN ACIER POUR EMBOUTISSAGE PRESENTANT DES PROPRIETES DE SURFACE AMELIOREES

Publication

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Application

**EP 98916676 A 19980428**

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- BE 9700459 A 19970527

Abstract (en)

[origin: WO9854371A1] The invention concerns a method for continuous manufacture of a steel band for drawing with improved surface properties, whereby a band, after being hot rolled and coiled at the end of the rolling process at a temperature ranging between 500 and 800 DEG C, and cold rolled with a reduction ratio of at least 30 % and preferably 75 %, is subjected to a heating step, then a thermal treatment hereafter called reactive annealing, for producing re-crystallisation, i.e. regeneration of the crystal lattice following deformation, and carburizing of the band at a temperature T, simultaneously or not depending on the final properties required for the band, and finally said band is cooled. The invention is characterised in that said reactive annealing is wholly or partially carried out under a gaseous atmosphere comprising at least CO and H<sub>2</sub> in concentrations by volume corresponding to the following relationship: [ % vol H<sub>2</sub> ] + 2 [ % vol CO ] - 80  $\geq$  0, at least H<sub>2</sub>O and CO<sub>2</sub> in concentrations not more than 3 % by volume, a remainder of a neutral gas such as N<sub>2</sub>, and the carburizing temperature T ranges between 650 and 950 DEG C, and the total duration t of said reactive annealing thermal treatment is between 0.1 and 300 seconds and the carburizing rate is not less than  $10 < (-10) > \cdot \exp(T/100) \text{ g.cm}(-2) \cdot \text{s}(-1)$ , in which T is the carburizing temperature expressed in Kelvin's.

IPC 1-7

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IPC 8 full level

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