Title (en)

METHOD FOR PRODUCING HOT STRIP WITH A MULTIPHASE STRUCTURE

Title (de)

VERFAHREN ZUR HERSTELLUNG VON WARMBAND MIT MEHRPHASENGEFÜGE

Title (fr)

PROCEDE DE FABRICATION D'UNE TOLE CHAUDE PRESENTANT UNE STRUCTURE MULTIPHASE

Publication

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Application

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Abstract (en)

[origin: WO2007048497A1] For the production of hot strip referred to as TRIP steel (transformation induced plasticity), with a multiphase structure and with outstandingly good deformation properties along with high strengths, from the hot-rolled state, the invention proposes a method which is carried out with a predetermined chemical composition of the steel grade used within the limits 0.12 - 0.25% C; 0.05 - 1.8% Si; 1.0 -2.0% Mn; the remainder Fe and customary accompanying elements and with a combined rolling and cooling strategy in such a way that a structure comprising 40 - 70% ferrite, 15 - 45% bainite and 5 - 20% residual austenite is obtained, wherein the finish rolling of the hot strip (7) is performed to set a very fine austenite grain (d < 8 µm) in the final forming operation (6') at temperatures between 770 and 830°C just above Ar3 in the region of the metastable austenite, and a controlled two-stage cooling (10, 11, 12) is carried out after the last rolling stand (6') of the hot strip (7) to a strip temperature in the range of bainite formation of 320 - 480°C, with a holding time of about 650 - 730°C, the beginning of which is determined by the entry of the cooling curve into the ferrite region and the duration of which is determined by the transformation of the austenite into at least 40% ferrite.

IPC 8 full level

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