

Title (en)

Process for producing a half-finished or finished product from single-phase martensitic high alloy chromium steel by hot and/or cold forming.

Title (de)

Verfahren zur Herstellung eines Halbzeugs oder Endproduktes aus einphasigem, hochlegiertem martensitischem Chromstahl durch Warm- und/oder Kaltverformung.

Title (fr)

Procédé pour la fabrication d'un produit semi-fini ou produit fini à partir d'un acier martensitique au chrome, fortement allié et en phase unique par déformation à froid et/ou à chaud.

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Application

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Priority

DE 3730379 A 19870910

Abstract (en)

[origin: EP0306609A2] In processing high-alloy martensitic steels, cracks frequently already form due to brittle fracture phenomena, and these put further processing in question or make it even completely impossible. In some cases, such damage in highly stressed plant components may manifest itself only when under stress and cause unforeseeable failures. An investigation has shown that the occurrence of this type of damage does not depend on the chemical composition of the steel but on the type of machining and that the structural component responsible for this damage is delta -ferrite which frequently forms during processing of the steel. It is the object of the invention to provide a process for producing semi-finished and finished products, which precludes the formation of delta -ferrite during the machining of the steel or by means of which the delta -ferrite which may have formed during machining of the steel is dissolved again. The object is achieved when a) after cold-forming with a degree of cold-forming of more than about 20 % b) after conclusion of the forming process by hot- and/or cold-forming, an additional heat treatment termed stabilisation annealing is carried out before the heat treatment for hardening and tempering, in order to obtain a structure free of delta -ferrite.

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C21D 8/00

IPC 8 full level

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Citation (examination)

- STAHL-EISEN-LISTE, 6. Auflage, Teil 2.1, Seiten 108, 109; 1977 Verlag Stahleisen, Düsseldorf, DE, Werkstoff-Nr. 1.4914
- The Making, Shaping and Treating of Steel, United States Steel, 9. Auflage, 1971, Seiten 1170-1171

Cited by

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