

Title (en)
MICROALLOYED STEEL WITH GOOD RESISTANCE TO HYDROGEN FOR THE COLD-FORMING OF MACHINE PARTS HAVING HIGH PROPERTIES

Title (de)
MIKROLEGIERTER STAHL MIT GUTER BESTÄNDIGKEIT GEGENÜBER WASSERSTOFF ZUR KALTUMFORMUNG VON MASCHINENTEILEN MIT HOHEN EIGENSCHAFTEN

Title (fr)
ACIER MICRO-ALLIÉ À BONNE TENUE À L'HYDROGÈNE POUR LE FORMAGE À FROID DE PIÈCES MÉCANIQUES À HAUTES CARACTÉRISTIQUES

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Application
EP 08787931 A 20080409

Priority
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Abstract (en)
[origin: WO2008142275A2] The steel according to the invention is characterized in that, in order to keep its molybdenum weight content below 0.45%, its chemical composition, besides iron and the inevitable residual impurities resulting from the smelting of the steel, corresponds to the following analysis, given in percentages by weight: 0.3 = C% = 0.5; 0.20 = Mo% < 0.45; 0.4 = Mn% = 1.0; 0.4 = Cr% = 2.0; 0.04 = Ni% = 0.8; 0.02 = Nb% = 0.045; 0.03 = V% = 0.30; 0.02 = Ti% = 0.05; with Ti > 3.5 N; 0.003 = B% = 0.005; S% = 0.015; P% = 0.015, and optionally 0.05 = Si% = 0.20; Al% = 0.05 and N% = 0.015; by cold-forming of a hot-rolled wire rod resulting from continuous casting, it is possible to obtain, after heat treatment, "ready-to-use" coined parts, such as cap screws, for example for the automotive industry, that offer a tensile strength of 1200 to more than 1500 MPa while having a good resistance to hydrogen embrittlement, with a specially controlled "raw material" production cost.

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Citation (search report)
See references of WO 2008142275A2

Cited by
WO2021009543A1; WO2021009705A1

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