

Title (en)

Niobium containing steel and process for making flat products from this steel

Title (de)

Niobium enthaltender Stahl und Verfahren zur Herstellung von Flachprodukten aus diesem Stahl

Title (fr)

Acier au niobium et procédé de fabrication de produits plats à partir de celui-ci

Publication

**EP 0870848 B1 20030910 (FR)**

Application

**EP 98200844 A 19980318**

Priority

BE 9700270 A 19970327

Abstract (en)

[origin: EP0870848A1] Extra mild niobium steel is free of titanium and comprises no more than following by weight: 0.100% carbon, 1.000% manganese, 0.100% phosphorous, 0.020% sulphur, 0.080% aluminium, 0.012% nitrogen and 0.500% silicon, plus an amount of niobium stoichiometrically less than the N content and enough boron or zirconium to fix all the N which is not fixed by the Nb. The rest is iron plus any impurities. Also claimed is casting the steel into a slab at least 1000 degrees C, then hot rolling to form a strip with a final rolling temperature above Ar3, winding into a reel between 500 and 750 degrees C, cold rolling to the desired thickness, annealing to recrystallise and finally shaping the finished article.

IPC 1-7

**C22C 38/12**; **C22C 38/14**; **C21D 8/04**

IPC 8 full level

**C21D 8/04** (2006.01); **C21D 9/48** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01)

CPC (source: EP)

**C21D 8/0426** (2013.01); **C21D 9/48** (2013.01); **C22C 38/12** (2013.01); **C22C 38/14** (2013.01); **C21D 8/041** (2013.01); **C21D 8/0436** (2013.01); **C21D 8/0473** (2013.01)

Citation (examination)

- EP 0816524 A1 19980107 - NIPPON KOKAN KK [JP]
- EP 0822266 A1 19980204 - NIPPON KOKAN KK [JP]

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FR2820150A1; KR100879084B1; FR2845694A1; CN100366760C; US7361237B2; US7365269B2; US7540928B2; WO2004035838A1; WO02059384A3

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