

Title (en)

PROCESS FOR MANUFACTURING AND TREATING HIGH-ALLOY STAINLESS FERRITIC CHROMIUM-MOLYBDENUM-NICKEL STEELS

Publication

EP 0097254 A3 19840704 (DE)

Application

EP 83105064 A 19830521

Priority

DE 3221087 A 19820604

Abstract (en)

[origin: EP0097254A2] Process for manufacturing and treating steel products of highly corrosion-resistant ferritic chromium-molybdenum-nickel steels of the superferrite type with 21 to 31 % of chromium 1.5 to 3.5 % of molybdenum 1.0 to 4.0 % of nickel 0.002 to 0.04 % of carbon 0.01 to 0.06 % of nitrogen 0.10 to 0.60 % of niobium 0.005 to 0.50 % of zirconium 0.005 to 0.20 % of aluminium up to 0.025 % of phosphorus up to 0.010 % of sulphur up to 0.25 % of titanium up to 2.0 % of silicon up to 1.0 % of manganese up to 3.0 % of copper up to 0.01 % each of calcium, magnesium, cerium or mixed cerium metal, boron, the remainder being iron and impurities resulting from smelting. The total of the content of chromium, 8 times that of molybdenum and 6 times that of silicon is limited to at least 40% and at most 50%. Moreover, the total contents of the elements niobium and zirconium, which especially bind carbon and nitrogen, and of 3.4 times the aluminium content and 1.9 times the titanium content is at least 10 times and at most 20 times the total of the carbon and nitrogen contents, but at most 12 times this content total in % (C+N) + 0.16 %. The steel melts produced by known converter steel processes can be cast on continuous casting units to give cast billets or cast slab formats and then be treated, with or without intermediate cooling as desired and, if necessary, reheating, to give semifinished or finished products.

IPC 1-7

C22C 38/44; **C22C 38/48**; **C22C 38/50**

IPC 8 full level

B22D 11/00 (2006.01); **C21D 8/00** (2006.01); **C22C 38/00** (2006.01); **C22C 38/44** (2006.01)

CPC (source: EP)

B22D 11/00 (2013.01); **C22C 38/001** (2013.01); **C22C 38/44** (2013.01)

Citation (search report)

- [AD] DE 2701329 B1 19771222 - THYSSEN EDELSTAHLWERKE AG
- [A] FR 2197996 A1 19740329 - SCHOELLER BLECKMANN STAHLWERKE [AT]
- [A] DE 2457089 A1 19750612 - SCHOELLER BLECKMANN STAHLWERKE
- [A] FR 2158943 A5 19730615 - DEUTSCHE EDELSTAHLWERKE AG
- [A] FR 2091642 A5 19720114 - NIPPON STEEL CORP
- [A] DE 2452327 A
- [A] FR 1422764 A 19651224 - SANDVIKENS JERNVERKS AB

Cited by

EP0368487A1

Designated contracting state (EPC)

AT DE FR GB IT NL SE

DOCDB simple family (publication)

DE 3221087 A1 19831208; EP 0097254 A2 19840104; EP 0097254 A3 19840704; JP S5925926 A 19840210

DOCDB simple family (application)

DE 3221087 A 19820604; EP 83105064 A 19830521; JP 9813083 A 19830603