Title (en)

METHOD FOR PRODUCING AUSTENITIC STAINLESS STEEL

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES AUSTENITISCHEN EDELSTAHLS

Title (fr)

PROCÉDÉ DE PRODUCTION D'ACIER INOXYDABLE AUSTÉNITIQUE

Publication

EP 2737961 A4 20150603 (EN)

Application

EP 12819669 A 20120726

Priority

- JP 2011166361 A 20110729
- JP 2012068905 W 20120726

Abstract (en)

[origin: EP2737961A1] It is possible to securely produce high Si-containing austenitic stainless steel having corrosion resistance usable in a highly-concentrated nitric acid environment at a high temperature without generating scabs by heating and hot-rolling a slab of stainless steel at a heating temperature during the hot rolling, and subsequently, carrying out heat treatment to heat the hot-rolled stainless steel at a temperature of 1100 to 1160°C, and thereafter, to cool this stainless steel at cooling rate of at least 100°C/min. , wherein the slab of stainless steel has a chemical composition containing: C: at most 0.04% ; Cr: 7 to 20%, Ni: 10 to 22%, Si: 2.5 to 7%, Mn: at most 10% , sol. Al: at most 0.03% , P: at most 0.03% , S: at most 0.03% ; N: at most 0.035% , a total amount of one or more types of elements selected from Nb, Ti, Ta, and Zr: 0.05 to 0.7%; and the remainder being Fe and impurities, and the heating temperature during the hot rolling is defined as T h in which #T of Formula (1): T h = 1135 - 90Si - 2.9Cr + 40Ni - #T is at least 30°C.

IPC 8 full level

B21B 3/02 (2006.01); **B21B 1/02** (2006.01); **C21D 9/46** (2006.01); **C22C 38/00** (2006.01); **C22C 38/34** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP US)

B21B 1/026 (2013.01 - US); **C21D 6/004** (2013.01 - EP US); **C21D 6/008** (2013.01 - EP US); **C21D 8/005** (2013.01 - EP US); **C21D 8/0226** (2013.01 - EP US); **C21D 9/46** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/26** (2013.01 - EP US); **C22C 38/28** (2013.01 - EP US); **C22C 38/34** (2013.01 - EP US); B21B 2001/028 (2013.01 - US); C21D 2211/001 (2013.01 - EP US); C21D 2211/004 (2013.01 - EP US)

Citation (search report)

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- [A] WO 2010110003 A1 20100930 - SUMITOMO METAL IND [JP], et al
- [A] JP H0693389 A 19940405 - NIPPON KOKAN KK, et al
- [A] SAITOH, KIICHI; YOSHIDA, TAKESHI; AOKI, MASAHIRO; OHKUBO, MASAO; MIKI, MASAYOSHI; NAGAYAMA, MASAAKI: "The development and the character of NAR-SN-3 resistant to hot and strong nitric acid The development and the character of NAR-SN-3 resistant to hot and strong nitric acid", NIPPON SUTENRESU GIHO, vol. 17, 1 January 1982 (1982-01-01), pages 1 - 22, XP009183856, ISSN: 0288-092X
- [A] MATSUDA, TAKAAKI: "Application of stainless steels in nitric acid environment", NIPPON SUTENRESU GIHO, vol. 23, 1 January 1988 (1988-01-01), pages 73 - 97, XP009183870, ISSN: 0288-092X
- See references of WO 2013018628A1

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DOCDB simple family (application)

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