

Title (en)
MARTENSITIC STAINLESS STEEL AND METHOD FOR PRODUCING SAME

Title (de)
MARTENSITISCHER EDELSTAHL UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)
ACIER INOXYDABLE MARTENSITIQUE, ET SON PROCÉDÉ DE FABRICATION

Publication
EP 3704280 B1 20220413 (FR)

Application
EP 17809010 A 20171103

Priority
IB 2017056865 W 20171103

Abstract (en)
[origin: WO2019086934A1] A martensitic stainless steel, characterized in that its composition is, in percentages by weight: $0.005\% \leq C \leq 0.30\%$; $0.20\% \leq Mn \leq 2.0\%$; traces % $\leq Si \leq 1.0\%$; $0.20\% \leq Mn + Si \leq 1.5\%$; traces $\leq S \leq 0.01\%$; $0 \leq 10,000 \times Mn \times S \leq 40$; traces $\leq P \leq 0.04\%$; $10.5\% \leq Cr \leq 17.0\%$, with $[Cr - 10.3 - 80 \times (C + N)2] \leq (Mn + Ni)$; traces $\leq Ni \leq 4.0\%$; traces $\leq Mo \leq 2.0\%$; traces $\leq Mo + 2W \leq 2.0\%$; traces $\leq Cu \leq 2.0\%$; traces $\leq Ti \leq 0.5\%$; traces $\leq V \leq 0.3\%$; traces $\leq Zr \leq 0.5\%$; traces $\leq Al \leq 0.2\%$; traces $\leq O \leq 400$ ppm; traces $\leq Ta \leq 0.3\%$; traces $\leq Nb \leq 0.3\%$; $0.25 \leq (Nb + Ta)/(C + N) \leq 8$; $Nb \geq [1.2 (C + N) - 0.1]\%$; $0.009\% \leq N \leq 0.2\%$; traces $\leq Co \leq 2.0\%$; traces $\leq Cu + Co \leq 2.0\%$; traces $\leq Cu + Co + Ni \leq 4.0\%$; traces $\leq B \leq 0.1\%$; traces \leq rare earth + Y $\leq 0.06\%$; traces $\leq Ca \leq 20$ ppm; the remainder being iron and impurities resulting from production; and in that its microstructure contains at least 75% martensite, at most 20% ferrite and at most 0.5% carbides, the size of the ferrite grains being between 4 and 80 μm , preferably between 5 and 40 μm . Method for producing said steel.

IPC 8 full level
C22C 38/00 (2006.01); **C21D 1/25** (2006.01); **C21D 6/00** (2006.01); **C21D 9/46** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/42** (2006.01); **C22C 38/44** (2006.01); **C22C 38/46** (2006.01); **C22C 38/48** (2006.01); **C22C 38/50** (2006.01); **C22C 38/52** (2006.01); **C22C 38/54** (2006.01); **C21D 8/02** (2006.01)

CPC (source: EP KR US)
C21D 1/25 (2013.01 - EP KR); **C21D 1/42** (2013.01 - US); **C21D 6/002** (2013.01 - EP KR); **C21D 6/004** (2013.01 - EP KR US); **C21D 6/005** (2013.01 - US); **C21D 6/008** (2013.01 - US); **C21D 8/0205** (2013.01 - KR US); **C21D 8/0226** (2013.01 - US); **C21D 8/0236** (2013.01 - US); **C21D 8/0263** (2013.01 - KR US); **C21D 8/0273** (2013.01 - KR); **C21D 9/46** (2013.01 - EP KR US); **C22C 38/00** (2013.01 - EP); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - EP KR US); **C22C 38/005** (2013.01 - EP); **C22C 38/02** (2013.01 - EP); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP); **C22C 38/42** (2013.01 - EP KR US); **C22C 38/44** (2013.01 - EP KR US); **C22C 38/46** (2013.01 - EP KR); **C22C 38/48** (2013.01 - EP US); **C22C 38/50** (2013.01 - EP KR); **C22C 38/52** (2013.01 - EP); **C22C 38/54** (2013.01 - EP US); **C21D 8/0205** (2013.01 - EP); **C21D 8/0263** (2013.01 - EP); **C21D 8/0273** (2013.01 - EP); **C21D 2211/004** (2013.01 - EP US); **C21D 2211/005** (2013.01 - EP KR US); **C21D 2211/008** (2013.01 - EP KR US)

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