Title (en)

CR-BASED STAINLESS STEEL HAVING EXCELLENT HYDROGEN EMBRITTLEMENT RESISTANCE

Title (de)

ROSTFREIER STAHL AUF CR-BASIS MIT AUSGEZEICHNETER WASSERSTOFFVERSPRÖDUNGSBESTÄNDIGKEIT

Title (fr)

ACIER INOXYDABLE À BASE DE CR PRÉSENTANT UNE EXCELLENTE RÉSISTANCE À LA FRAGILISATION PAR L'HYDROGÈNE

Publication

EP 3901292 A4 20221123 (EN)

Application

EP 19899311 A 20191218

Priority

- JP 2018239243 A 20181221
- JP 2019049717 W 20191218

Abstract (en)

[origin: EP3901292A1] A Cr-based stainless steel sheet with excellent hydrogen embrittlement resistance includes: 0.020 mass% or less of C; 1.00 mass% or less of Si; 1.00 mass% or less of Mn; 0.040 mass% or less of P; 0.0030 mass% or less of S; 10.0 to 18.0 mass% of Cr; 0.020 mass% or less of N; 0.10 mass% or less of Al; and one or both of 0.5 mass% or less of Nb and 0.5 mass% or less of Ti; in which a texture in a sheet surface of the Cr-based stainless steel sheet satisfies (i) and (ii) below. (i) In the sheet surface, an area ratio of crystal grains ({211}±10-degree-oriented grains) whose orientation difference between a normal direction of a surface of the steel sheet and a {211}-plane orientation is 10 degrees or less is less than 30%. (ii) For the {211}±10-degree-oriented grains, a length in a rolling direction and a length in a sheet width direction are each less than 0.15 mm on average.

IPC 8 full level

C22C 38/26 (2006.01); **C21D 1/26** (2006.01); **C21D 6/00** (2006.01); **C21D 8/02** (2006.01); **C21D 9/46** (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/20** (2006.01); **C22C 38/22** (2006.01); **C22C 38/24** (2006.01); **C22C 38/28** (2006.01); **C22C 38/30** (2006.01); **C22C 38/32** (2006.01); **C22C 38/40** (2006.01); **C22C 38/42** (2006.01); **C22C 38/44** (2006.01); **C22C 38/46** (2006.01); **C22C 38/54** (2006.01); **C22C 38/60** (2006.01)

CPC (source: EP KR US)

C21D 1/26 (2013.01 - EP); **C21D 6/002** (2013.01 - EP); **C21D 6/004** (2013.01 - US); **C21D 6/005** (2013.01 - US); **C21D 6/007** (2013.01 - US); **C21D 6/008** (2013.01 - US); **C21D 8/0205** (2013.01 - EP US); **C21D 8/0226** (2013.01 - EP); **C21D 8/0236** (2013.01 - EP US); **C21D 8/0247** (2013.01 - EP); **C21D 8/0263** (2013.01 - EP); **C21D 8/0273** (2013.01 - EP); **C21D 9/46** (2013.01 - EP KR US); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (2013.01 - EP US); **C22C 38/004** (2013.01 - EP); **C22C 38/005** (2013.01 - EP US); **C22C 38/008** (2013.01 - EP); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/18** (2013.01 - US); **C22C 38/20** (2013.01 - EP); **C22C 38/22** (2013.01 - EP); **C22C 38/24** (2013.01 - EP); **C22C 38/26** (2013.01 - EP); **C22C 38/28** (2013.01 - EP); **C22C 38/30** (2013.01 - EP US); **C22C 38/32** (2013.01 - EP); **C22C 38/40** (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 US); **C22C 38/48** (2013.01 - US); **C22C 38/50** (2013.01 - KR US); **C22C 38/52** (2013.01 - KR); **C22C 38/54** (2013.01 - EP US); **C22C 38/60** (2013.01 - EP); C21D 2201/05 (2013.01 - EP)

Citation (search report)

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