

Title (en)

NI-BASED HEAT-RESISTANT ALLOY AND METHOD FOR MANUFACTURING SAME

Title (de)

NI-BASIERTE WÄRMEBESTÄNDIGE LEGIERUNG UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)

ALLIAGE RÉSISTANT À LA CHALEUR À BASE DE Ni ET SON PROCÉDÉ DE FABRICATION

Publication

EP 3584335 A4 20200819 (EN)

Application

EP 18753655 A 20180215

Priority

- JP 2017026457 A 20170215
- JP 2018005298 W 20180215

Abstract (en)

[origin: EP3584335A1] A Ni-based heat resistant alloy of the present invention contains predetermined amounts of C, Si, Mn, P, S, N, O, Ni, Co, Cr, Mo, W, B, Al, Ti, Nb, REM, Mg, Ca, and the balance of Fe and impurities, wherein $0.1 \leq \text{Mo} + \text{W} \leq 12.0$, $1.0 \leq 4 \times \text{Al} + 2 \times \text{Ti} + \text{Nb} \leq 12.0$, and $[\text{P} + 0.2 \times \text{Cr} \times \text{B} < 0.035]$ are satisfied, a shortest distance from a center portion to an outer surface portion of a cross section of an alloy member is 40 mm or more, the cross section being perpendicular to a longitudinal direction of the alloy member, an austenite grain size number at the outer surface portion is -2.0 to 4.0, a total content of Al, Ti and Nb which are present as precipitates obtained by extraction residue analysis satisfies $[(\text{Al} + \text{Ti} + \text{Nb}) \times \text{PB}] / (\text{Al} + \text{Ti} + \text{Nb}) \times \text{PS} \leq 10.0$, and $[\text{YS}] / [\text{YS} \times \text{B}] \leq 1.5$ and $[\text{TS}] / [\text{TS} \times \text{B}] \leq 1.2$ are satisfied at a normal temperature.

IPC 8 full level

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CPC (source: EP KR US)

C22C 19/051 (2013.01 - US); **C22C 19/055** (2013.01 - EP KR); **C22C 30/00** (2013.01 - EP); **C22F 1/10** (2013.01 - EP KR US)

Citation (search report)

- [X] EP 2743362 A1 20140618 - NIPPON STEEL & SUMITOMO METAL CORP [JP]
- [A] EP 2479300 A1 20120725 - SUMITOMO METAL IND [JP]
- [A] JP 2004003000 A 20040108 - SUMITOMO METAL IND
- [A] JP 2013095949 A 20130520 - NIPPON STEEL & SUMITOMO METAL CORP
- See references of WO 2018151222A1

Cited by

US11814704B2; WO2022155345A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

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