

Title (en)

AUSTENITIC HEAT-RESISTANT ALLOY AND METHOD FOR PRODUCING SAME

Title (de)

AUSTENITISCHE WÄRMEBESTÄNDIGE LEGIERUNG UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)

ALLIAGE RÉSISTANT À LA CHALEUR À BASE D'AUSTÉNITE, ET PROCÉDÉ DE FABRICATION DE CELUI-CI

Publication

EP 3581669 A4 20200819 (EN)

Application

EP 17895819 A 20170209

Priority

JP 2017004824 W 20170209

Abstract (en)

[origin: EP3581669A1] Provided is an austenitic heat resistant alloy having a chemical composition consisting of, in mass %: C: 0.02 to 0.12%; Si: 2.0% or less; Mn: 3.0% or less; P: 0.030% or less; S: 0.015% or less; Cr: 20.0% or more and less than 28.0%; Ni: more than 35.0% and 55.0% or less; Co: 0 to 20.0%; W: 4.0 to 10.0%; Ti: 0.01 to 0.50%; Nb: 0.01 to 1.0%; Mo: less than 0.50%; Cu: less than 0.50%; Al: 0.30% or less; N: less than 0.10%; Mg: 0 to 0.05%; Ca: 0 to 0.05%; REM: 0 to 0.50%; V: 0 to 1.5%; B: 0 to 0.01%; Zr: 0 to 0.10%; Hf: 0 to 1.0%; Ta: 0 to 8.0%; Re: 0 to 8.0%; and the balance: Fe and impurities, wherein a shortest distance from a center portion to an outer surface portion of a cross section of the alloy is 40 mm or more, the cross section being perpendicular to a longitudinal direction of the alloy, an austenite grain size number at the outer surface portion is -2.0 to 4.0, an amount of Cr which is present as a precipitate satisfies $[Cr_{PB}/Cr_{PS} \leq 10.0]$, and $[YS_{S}/YS_{B} \leq 1.5]$ and $[TS_{S}/TS_{B} \leq 1.2]$ are satisfied at a room temperature.

IPC 8 full level

C21D 8/00 (2006.01); **C22C 19/05** (2006.01); **C22C 38/44** (2006.01); **C22C 38/48** (2006.01); **C22C 38/50** (2006.01); **C22C 38/58** (2006.01); **C22F 1/10** (2006.01)

CPC (source: EP KR US)

C21D 7/13 (2013.01 - KR); **C21D 8/005** (2013.01 - EP); **C21D 8/02** (2013.01 - KR); **C22C 19/05** (2013.01 - KR); **C22C 19/055** (2013.01 - EP); **C22C 30/02** (2013.01 - US); **C22C 38/44** (2013.01 - EP); **C22C 38/48** (2013.01 - EP); **C22C 38/50** (2013.01 - EP); **C22C 38/58** (2013.01 - EP KR); **C22F 1/10** (2013.01 - EP); **C22F 1/16** (2013.01 - US)

Citation (search report)

- [X] EP 1357198 A1 20031029 - SUMITOMO METAL IND [JP]
- [A] EP 2781612 A1 20140924 - NIPPON STEEL & SUMITOMO METAL CORP [JP]
- [A] JP 2014012877 A 20140123 - NIPPON STEEL & SUMITOMO METAL CORP
- [A] EP 2479300 A1 20120725 - SUMITOMO METAL IND [JP]
- See references of WO 2018146783A1

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

DOCDB simple family (publication)

EP 3581669 A1 20191218; **EP 3581669 A4 20200819**; CA 3052547 A1 20180816; CA 3052547 C 20200602; CN 110268079 A 20190920; JP 6816779 B2 20210120; JP WO2018146783 A1 20191107; KR 20190117598 A 20191016; US 2020232081 A1 20200723; WO 2018146783 A1 20180816

DOCDB simple family (application)

EP 17895819 A 20170209; CA 3052547 A 20170209; CN 201780086046 A 20170209; JP 2017004824 W 20170209; JP 2018566714 A 20170209; KR 20197026299 A 20170209; US 201716483049 A 20170209