

Title (en)
NiCrFe ALLOY

Title (de)
NICRFE-LEGIERUNG

Title (fr)
ALLIAGE À BASE DE NiCrFe

Publication
EP 3524705 A4 20200408 (EN)

Application
EP 17858416 A 20171004

Priority
• JP 2016197458 A 20161005
• JP 2017036059 W 20171004

Abstract (en)
[origin: EP3524705A1] A NiCrFe alloy having excellent creep strength and stress relaxation cracking resistance is provided. The NiCrFe alloy according to the present invention has a chemical composition consisting of, in mass%, C: 0.03 to 0.15%, Si: not more than 1.00%, Mn: not more than 2.00%, P: not more than 0.040%, S: not more than 0.0050%, Cr: 18.0 to 25.0%, Ni: 25.0 to 40.0%, Ti: 0.10 to 1.60%, Al: 0.05 to 1.00%, N: not more than 0.020%, O: not more than 0.008%, and rare earth metal (REM): 0.001 to 0.100%, with the balance being Fe and impurities, the chemical composition satisfying Formulae (1) to (3): where, each symbol of element in the formulae is substituted by the content (mass%) of the corresponding element, and A(REM) in Formula (3) is substituted by the atomic weight of each rare earth metal.

IPC 8 full level
C22C 30/00 (2006.01); **C22C 30/02** (2006.01); **C22C 38/00** (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); **C22C 38/58** (2006.01)

CPC (source: EP KR US)
C22C 19/05 (2013.01 - EP); **C22C 19/055** (2013.01 - EP); **C22C 19/058** (2013.01 - EP); **C22C 30/00** (2013.01 - EP); **C22C 30/02** (2013.01 - EP KR US); **C22C 38/00** (2013.01 - US); **C22C 38/001** (2013.01 - US); **C22C 38/002** (2013.01 - EP US); **C22C 38/005** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/42** (2013.01 - EP US); **C22C 38/44** (2013.01 - EP US); **C22C 38/46** (2013.01 - EP US); **C22C 38/48** (2013.01 - EP US); **C22C 38/50** (2013.01 - EP KR US); **C22C 38/52** (2013.01 - EP US); **C22C 38/54** (2013.01 - EP US); **C22C 38/58** (2013.01 - EP KR US)

Citation (search report)
• [A] JP 2002256398 A 20020911 - SUMITOMO METAL IND
• [A] US 2010034690 A1 20100211 - NISHIYAMA YOSHITAKA [JP], et al
• [A] WO 2012176586 A1 20121227 - NIPPON STEEL & SUMITOMO METAL CORP [JP], et al
• [A] EP 0381121 A1 19900808 - SUMITOMO METAL IND [JP]
• [A] WO 2016123715 A1 20160811 - ATOMIC ENERGY OF CANADA LTD ÉNERGIE ATOMIQUE DU CANADA LIMITÉE [CA]
• See references of WO 2018066579A1

Cited by
CN116497256A

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 3524705 A1 20190814; **EP 3524705 A4 20200408**; **EP 3524705 B1 20201125**; CA 3039043 A1 20180412; CN 109790610 A 20190521; ES 2843268 T3 20210716; JP 6705508 B2 20200603; JP WO2018066579 A1 20190711; KR 20190065352 A 20190611; US 2019284666 A1 20190919; WO 2018066579 A1 20180412

DOCDB simple family (application)
EP 17858416 A 20171004; CA 3039043 A 20171004; CN 201780061633 A 20171004; ES 17858416 T 20171004; JP 2017036059 W 20171004; JP 2018543927 A 20171004; KR 20197012721 A 20171004; US 201716339073 A 20171004