

Title (en)
COPPER ALLOY MATERIAL

Title (de)
KUPFERLEGIERUNGSWERKSTOFF

Title (fr)
MATÉRIAU D'ALLIAGE DE CUIVRE

Publication
EP 2256219 A4 20120627 (EN)

Application
EP 09712614 A 20090217

Priority
• JP 2009052718 W 20090217
• JP 2008036694 A 20080218

Abstract (en)
[origin: EP2256219A1] A copper alloy material, containing Ni 1.8 to 5.0 mass% and Si 0.3 to 1.7 mass%, at a ratio of contents of Ni and Si, Ni/Si, of 3.0 to 6.0, and having a content of S of less than 0.005 mass%, with the balance of being Cu and inevitable impurities, wherein the copper alloy material satisfies formulae (1) to (4): $130 \times C + 300 \leq TS \leq 130 \times C + 650$ $0.001 \leq d \leq 0.020$ $W \leq 150$ $10 \leq L \leq 800$ wherein TS represents a tensile strength (MPa) of the copper alloy material in a direction parallel to rolling; C represents the content (mass%) of Ni in the copper alloy material; d represents an average grain diameter (mm) of the copper alloy material; W represents a width (nm) of a precipitate free zone; and L represents a particle diameter (nm) of a compound on a grain boundary.

IPC 8 full level
C22C 9/06 (2006.01); **C22F 1/08** (2006.01); **H01B 1/02** (2006.01)

CPC (source: EP US)
C22C 9/06 (2013.01 - EP US); **C22F 1/08** (2013.01 - EP US); **H01B 1/026** (2013.01 - EP US)

Citation (search report)
• [X] US 2005263218 A1 20051201 - TANAKA NOBUYUKI [JP], et al
• [X] EP 1873266 A1 20080102 - FURUKAWA ELECTRIC CO LTD [JP]
• [A] JP 2008024999 A 20080207 - DOWA HOLDINGS CO LTD
• [A] JP 2004307905 A 20041104 - SUMITOMO METAL IND
• [AD] US 2002127133 A1 20020912 - USAMI TAKAYUKI [JP], et al
• [A] JP 2004353069 A 20041216 - NIKKO METAL MFG CO LTD
• See references of WO 2009104615A1

Cited by
TWI708854B

Designated contracting state (EPC)
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 SE SI SK TR

DOCDB simple family (publication)
EP 2256219 A1 20101201; **EP 2256219 A4 20120627**; CN 101946014 A 20110112; JP WO2009104615 A1 20110623;
US 2010310413 A1 20101209; US 2011259480 A1 20111027; WO 2009104615 A1 20090827

DOCDB simple family (application)
EP 09712614 A 20090217; CN 200980105393 A 20090217; JP 2009052718 W 20090217; JP 2009554332 A 20090217;
US 201113175068 A 20110701; US 85821710 A 20100817