

Title (en)  
COPPER ALLOY MATERIAL AND MANUFACTURING METHOD THEREOF

Title (de)  
MATERIAL AUS KUPFERLEGIERUNG UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)  
MATÉRIAU EN ALLIAGE DE CUIVRE ET SON PROCÉDÉ DE FABRICATION

Publication  
**EP 2752498 A4 20150408 (EN)**

Application  
**EP 12828596 A 20120829**

Priority  
• JP 2011186253 A 20110829  
• JP 2012071857 W 20120829

Abstract (en)  
[origin: EP2752498A1] {Problems} To provide a copper alloy material that is excellent in bending property, 0.2% yield stress, electrical conductivity, and stress relaxation resistance, and that is suitable in lead frames, connectors, terminal materials, and the like of, for example, parts to be mounted on vehicles and surrounding infrastructures primarily for EVs and HEVs, and solar photovoltaic power generation systems. {Means to solve} A copper alloy material, containing 0.1 to 0.8 mass% of Cr, and 0.01 to 0.5 mass% in total of at least one selected from the group consisting of an additional alloying element group 1 and an additional alloying element group 2 described below, with the balance being copper and unavoidable impurities, wherein in a crystal orientation analysis of a rolled face in an electron backscatter diffraction analysis, the area ratio of grains having an orientation in which a deviation from the Cube orientation {001} <100> is within 15° is 3% or more, and wherein the ratio of coincidence grain boundary £3 in grain boundaries is 20% or more: an additional alloying element group 1: at least one selected from the group consisting of Mg, Ti and Zr in an amount of 0.01 to 0.5 mass% in total; and an additional alloying element group 2: at least one selected from the group consisting of Zn, Fe, Sn, Ag, Si and P in an amount of 0.005 to 0.5 mass% in total.

IPC 8 full level  
**C22C 9/00** (2006.01); **C22C 1/10** (2006.01); **C22C 9/02** (2006.01); **C22C 9/04** (2006.01); **C22C 9/06** (2006.01); **C22C 9/10** (2006.01); **C22F 1/00** (2006.01); **C22F 1/08** (2006.01); **H01B 1/02** (2006.01); **H01B 5/02** (2006.01); **H01B 13/00** (2006.01)

CPC (source: EP KR)  
**C22C 1/10** (2013.01 - KR); **C22C 9/00** (2013.01 - EP KR); **C22C 9/02** (2013.01 - EP); **C22C 9/04** (2013.01 - EP); **C22C 9/10** (2013.01 - EP); **C22F 1/00** (2013.01 - EP); **C22F 1/08** (2013.01 - EP KR); **H01B 1/026** (2013.01 - EP)

Citation (search report)  
• [E] EP 2610359 A1 20130703 - FURUKAWA ELECTRIC CO LTD [JP]  
• [XA] EP 2343388 A1 20110713 - MITSUBISHI SHINDO KK [JP]  
• [XA] EP 1179606 A2 20020213 - OLIN CORP [US], et al  
• [XA] JP 2005029857 A 20050203 - NIKKO METAL MFG CO LTD  
• See references of WO 2013031841A1

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EP3242299A1; ITUA20163211A1; US10619232B2; US10392680B2; US10522268B2; WO2016124322A1

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 2752498 A1 20140709**; **EP 2752498 A4 20150408**; CN 103534370 A 20140122; CN 103534370 B 20151125; JP 5307305 B1 20131002; JP WO2013031841 A1 20150323; KR 101914322 B1 20181101; KR 20140052997 A 20140507; TW 201311913 A 20130316; TW I571518 B 20170221; WO 2013031841 A1 20130307

DOCDB simple family (application)  
**EP 12828596 A 20120829**; CN 201280023476 A 20120829; JP 2012071857 W 20120829; JP 2013500698 A 20120829; KR 20137030001 A 20120829; TW 101131290 A 20120829