

Title (en)  
COPPER-ALLOY WIRE ROD AND MANUFACTURING METHOD THEREFOR

Title (de)  
KUPFERLEGIERUNGSWALZDRAHT UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)  
FIL EN ALLIAGE DE CUIVRE, ET PROCÉDÉ DE FABRICATION DE CELUI-CI

Publication  
**EP 2868758 B1 20180418 (EN)**

Application  
**EP 13813342 A 20130702**

Priority  
• JP 2012148920 A 20120702  
• JP 2013068160 W 20130702

Abstract (en)  
[origin: EP2868758A1] {Problem to solve} To provide, at low cost, a copper alloy wire that is excellent in elongation, and resistance to bending fatigue, and that can be suitable for the use in, for example, magnet wires. {Means to solve} A copper alloy wire, having an alloy composition containing 0.5 to 4 mass% of Ag, and at least one selected from the group consisting of Sn, Mg, Zn, In, Ni, Co, Zr, and Cr each at a content of 0.05 to 0.3 mass%, with the balance being Cu and unavoidable impurities, wherein the copper alloy wire has a wire diameter or a wire thickness of 0.1 mm or less, and wherein the nanoindentation hardness in a depth region extending from the outermost surface of the wire toward at least 5% inner side in the wire diameter or the wire thickness is 1.45 GPa or more, the nanoindentation hardness at the center of the wire is less than 1.45 GPa, the tensile strength of the wire is 350 MPa or more, and the elongation of the wire is 7% or more; and a method of producing the copper alloy wire.

IPC 8 full level  
**C22C 9/00** (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)  
**B22D 21/00** (2013.01 - KR); **C22C 9/00** (2013.01 - EP KR); **C22F 1/08** (2013.01 - EP KR); **H01B 1/026** (2013.01 - EP KR)

Cited by  
US10626483B2

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 2868758 A1 20150506; EP 2868758 A4 20160525; EP 2868758 B1 20180418**; CN 104169447 A 20141126; CN 104169447 B 20170301; JP 5840235 B2 20160106; JP WO2014007259 A1 20160602; KR 101719889 B1 20170324; KR 20150034678 A 20150403; WO 2014007259 A1 20140109

DOCDB simple family (application)  
**EP 13813342 A 20130702**; CN 201380015337 A 20130702; JP 2013068160 W 20130702; JP 2013554707 A 20130702; KR 20147026828 A 20130702