

Title (en)  
COPPER ALLOY MATERIAL

Title (de)  
KUPFERLEGIERUNGSMATERIAL

Title (fr)  
MATÉRIAU D'ALLIAGE DE CUIVRE

Publication  
**EP 3375898 A4 20190403 (EN)**

Application  
**EP 16863936 A 20161011**

Priority  
• JP 2015219852 A 20151109  
• JP 2016080125 W 20161011

Abstract (en)  
[origin: EP3375898A1] A copper alloy material has a composition including: 0.3 mass% or more and less than 0.5 mass% of Cr; 0.01 mass% or more and 0.15 mass% or less of Zr; and a Cu balance including inevitable impurities, wherein an average of crystal grain sizes is in a range of 0.1 mm or more and 2.0 mm or less, and a standard deviation of the crystal grain sizes is 0.6 or less.

IPC 8 full level  
**C22C 9/00** (2006.01); **B22C 9/06** (2006.01); **C22C 9/01** (2006.01); **C22F 1/08** (2006.01)

CPC (source: EP KR US)  
**B22C 9/061** (2013.01 - US); **C22C 9/00** (2013.01 - EP KR US); **C22C 9/01** (2013.01 - EP KR US); **C22F 1/08** (2013.01 - EP KR US)

Citation (search report)  
• [XDAYI] JP H05339688 A 19931221 - FURUKAWA ELECTRIC CO LTD  
• [YA] JP S58212839 A 19831210 - MITSUBISHI METAL CORP  
• [A] JP S55128350 A 19801004 - HITACHI SHIPBUILDING ENG CO  
• [A] EP 2610359 A1 20130703 - FURUKAWA ELECTRIC CO LTD [JP]  
• [XI] ZHI XIAOHUI ET AL: "Effect of zirconium and heat treatment on the microstructure and properties of cast chromium bronze for conductive parts", ZEITSCHRIFT FUR METALLKUNDE, CARL HANSER, MUNICH, DE, no. 2, 10 February 2015 (2015-02-10), pages 192 - 194, XP009510788, ISSN: 0044-3093, DOI: 10.3139/146.111164  
• See references of WO 2017081972A1

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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 3375898 A1 20180919; EP 3375898 A4 20190403; EP 3375898 B1 20220511**; CN 108350530 A 20180731; JP 2017088949 A 20170525; JP 6693092 B2 20200513; KR 20180078245 A 20180709; US 2019062874 A1 20190228; WO 2017081972 A1 20170518

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**EP 16863936 A 20161011**; CN 201680065499 A 20161011; JP 2015219852 A 20151109; JP 2016080125 W 20161011; KR 20187012111 A 20161011; US 201615771847 A 20161011