

Title (en)  
COPPER ALLOY AND METHOD FOR PRODUCTION THEREOF

Title (de)  
KUPFERLEGIERUNG UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)  
ALLIAGE DE CUIVRE ET M THODE DE PRODUCTION DE CELUI-CI

Publication  
**EP 1731624 A4 20070613 (EN)**

Application  
**EP 05719817 A 20050302**

Priority

- JP 2005003502 W 20050302
- JP 2004071571 A 20040312
- JP 2004093661 A 20040326
- JP 2004234868 A 20040811
- JP 2004234891 A 20040811

Abstract (en)  
[origin: EP1731624A1] A copper alloy that has a specific chemical composition, the balance being Cu and impurities, in which the relationship between the total number N and the diameter X satisfies the following formula (1). This copper alloy is obtained by cooling a bloom, a slab, a billet or an ingot in at least a temperature range from the temperature of the bloom, the slab, the billet or the ingot just after casting to 450°C, at a cooling rate of 0.5°C/s or more. After the cooling, working in a temperature range of 600°C or lower and further heat treatment of holding for 30 seconds or more in a temperature range of 150 to 750°C are desirably performed. The working and the heat treatment are most desirably performed for a plurality of times.  $\log N \leq 0.4742 + 17.629 \times \exp - 0.1133 \times X$  wherein N means the total number of precipitates and inclusions, having a diameter of not smaller than 1 μm which are found in 1 mm<sup>2</sup> of the alloy; and X means the diameter in μm of the precipitates and the inclusions having a diameter of not smaller than 1 μm.

IPC 8 full level  
**C22C 9/00** (2006.01); **C22C 9/06** (2006.01); **C22C 9/10** (2006.01); **C22F 1/00** (2006.01); **C22F 1/08** (2006.01); **H01L 23/50** (2006.01); **H01R 13/03** (2006.01)

CPC (source: EP KR US)  
**C22C 9/00** (2013.01 - EP KR US); **C22C 9/06** (2013.01 - EP US); **C22C 9/10** (2013.01 - EP US); **C22F 1/00** (2013.01 - KR); **H01R 13/03** (2013.01 - EP US); **H01L 2924/0002** (2013.01 - EP US)

Citation (search report)

- [X] JP 2002285261 A 20021003 - KOBE STEEL LTD
- [X] EP 1264905 A2 20021211 - MILLER CO [US]
- [X] EP 0485627 A1 19920520 - TOSHIBA KK [JP]
- [A] JP H0978162 A 19970325 - FURUKAWA ELECTRIC CO LTD
- [A] US 4243437 A 19810106 - CHILL JAMES L, et al
- [A] GB 2182054 A 19870507 - FURUKAWA ELECTRIC CO LTD
- [A] GB 1353430 A 19740515 - GNI I PI SPLAVOV I OBRABOTKI T
- [A] EP 0769563 A1 19970423 - OLIN CORP [US]
- [A] US 4594221 A 19860610 - CARON RONALD N [US], et al
- See references of WO 2005087957A1

Cited by  
CN103397222A; CN103397221A; CN103397223A; DE102015013201A1; DE102015013201B4; US10041149B2; WO2014098635A3

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**EP 1731624 A1 20061213**; **EP 1731624 A4 20070613**; CA 2559103 A1 20050922; KR 20060120276 A 20061124; TW 200538562 A 20051201; US 2007062619 A1 20070322; WO 2005087957 A1 20050922

DOCDB simple family (application)  
**EP 05719817 A 20050302**; CA 2559103 A 20050302; JP 2005003502 W 20050302; KR 20067018569 A 20060911; TW 94107552 A 20050311; US 51819406 A 20060911