Title (en)

COPPER-NIOBIUM ALLOY AND METHOD FOR THE PRODUCTION THEREOF

Title (de)

KUPFER-NIOB-LEGIERUNG UND VERFAHREN ZU IHRER HERSTELLUNG

Title (fr)

ALLIAGE CUIVRE-NIOBIUM ET PROCEDE DE PRODUCTION DUDIT ALLIAGE

Publication

EP 1483420 B1 20070808 (DE)

Application

EP 03724828 A 20030303

Priority

- DE 0300764 W 20030303
- DE 10210423 A 20020304

Abstract (en)

[origin: DE10210423C1] Copper-niobium alloy has niobium deposits having a particle diameter of 5-100 nm in a copper matrix as well as copper-niobium mixed crystals. An Independent claim is also included for a process for producing the copper-niobium alloy comprising grinding copper powder as the matrix material with 0.1-50 at.% niobium powder, mechanically alloying and heat treating. Preferred Features: The niobium is partially dissolved in a copper lattice. The niobium deposits are in the form of fine particles or fibers. The fibers have an aspect ratio of more than 4: 1, preferably more than 10: 1. The alloy has a strength of 1200-2000 MPa.

IPC 8 full level

C22C 1/04 (2006.01); **B22F 1/00** (2006.01); **B22F 9/04** (2006.01); **C22C 9/00** (2006.01); **C22C 27/02** (2006.01); **C22C 30/02** (2006.01); H01H 1/025 (2006.01)

CPC (source: EP KR)

B22F 1/07 (2022.01 - EP); **B22F 9/04** (2013.01 - EP KR); **C22C 1/04** (2013.01 - KR); **C22C 1/0425** (2013.01 - EP); **C22C 9/00** (2013.01 - EP); **C22C 27/02** (2013.01 - EP); **C22C 30/02** (2013.01 - EP); B22F 2003/248 (2013.01 - EP); B22F 2009/041 (2013.01 - EP); B22F 2998/10 (2013.01 - EP); B22F 2999/00 (2013.01 - EP); H01H 1/025 (2013.01 - EP)

C-Set (source: EP)

1. B22F 2998/10 + B22F 3/14 + B22F 3/24 + B22F 3/16
2. B22F 2999/00 + B22F 9/04 + B22F 2202/03
3. B22F 1/0003 + B22F 2998/10 + B22F 1/142 + B22F 9/04

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

DE 10210423 C1 20030612; AT 369444 T 20070815; AU 2003229267 A1 20030916; CN 1639363 A 20050713; DE 50307879 D1 20070920; EP 1483420 A1 20041208; EP 1483420 B1 20070808; JP 2005519196 A 20050630; KR 20040101262 A 20041202; RU 2004126615 A 20050527; WO 03074746 A1 20030912

DOCDB simple family (application)

DE 10210423 A 20020304; AT 03724828 T 20030303; AU 2003229267 A 20030303; CN 03805193 A 20030303; DE 0300764 W 20030303; DE 50307879 T 20030303; EP 03724828 A 20030303; JP 2003573190 A 20030303; KR 20047013675 A 20030303; RU 2004126615 A 20030303