

Title (en)

COPPER ALLOY CONTAINING TIN, METHOD FOR PRODUCING SAME, AND USE OF SAME

Title (de)

ZINNHALTIGE KUPFERLEGIERUNG, VERFAHREN ZU DEREN HERSTELLUNG SOWIE DEREN VERWENDUNG

Title (fr)

ALLIAGE DE CUIVRE CONTENANT DE L'ÉTAIN, PROCÉDÉ POUR SA PRÉPARATION AINSI QUE SON UTILISATION

Publication

EP 3423605 B1 20210630 (DE)

Application

EP 17708428 A 20170210

Priority

- DE 102016002618 A 20160303
- EP 2017000190 W 20170210

Abstract (en)

[origin: WO2017148569A1] The invention relates to a high-strength as-cast copper alloy containing tin, with excellent hot-workability and cold-workability properties, high resistance to abrasive wear, adhesive wear and fretting wear, and improved corrosion resistance and stress relaxation resistance, consisting (in wt.%) of: 4.0 to 23.0 % Sn, 0.05 to 2.0 % Si, 0.005 to 0.6 % B, 0.001 to 0.08 % P, optionally up to a maximum of 2.0 % Zn, optionally up to a maximum of 0.6 % Fe, optionally up to a maximum of 0.5 % Mg, optionally up to a maximum of 0.25 % Pb, with the remainder being copper and inevitable impurities, characterised in that the ratio of Si/B of the element content of the elements silicon and boron lies between 0.3 and 10. The invention also relates to a casting variant and a further-processed variant of the tin-containing copper alloy, a production method, and the use of the alloy.

IPC 8 full level

C22C 9/02 (2006.01); **B22D 21/02** (2006.01); **C22F 1/08** (2006.01)

CPC (source: EP KR US)

B22D 21/025 (2013.01 - EP KR US); **C22C 9/02** (2013.01 - EP KR US); **C22F 1/08** (2013.01 - EP KR US)

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)

DE 102016002618 A1 20170907; CN 108713063 A 20181026; CN 108713063 B 20200519; EP 3423605 A1 20190109; EP 3423605 B1 20210630; JP 2019511631 A 20190425; JP 6679741 B2 20200415; KR 20180121890 A 20181109; MX 2018010584 A 20181109; US 11028463 B2 20210608; US 2019062875 A1 20190228; US 2020181738 A9 20200611; WO 2017148569 A1 20170908

DOCDB simple family (application)

DE 102016002618 A 20160303; CN 201780014919 A 20170210; EP 17708428 A 20170210; EP 2017000190 W 20170210; JP 2018544454 A 20170210; KR 20187024297 A 20170210; MX 2018010584 A 20170210; US 201716078950 A 20170210