

Title (en)

LIGHTWEIGHT HIGH-ENTROPY ALLOY HAVING HIGH STRENGTH AND HIGH PLASTICITY AND PREPARATION METHOD THEREFOR

Title (de)

LEICHTE HOCHENTROPE LEGIERUNG MIT HOHER FESTIGKEIT UND HOHER PLASTIZITÄT UND VERFAHREN ZU IHRER HERSTELLUNG

Title (fr)

ALLIAGE LÉGER À FORTE ENTROPIE DE CUIVRE PRÉSENTANT UNE GRANDE RÉSISTANCE ET UNE GRANDE PLASTICITÉ ET SON PROCÉDÉ DE PRÉPARATION

Publication

**EP 3896183 A4 20220810 (EN)**

Application

**EP 19895264 A 20191119**

Priority

- CN 201811500843 A 20181210
- CN 2019000222 W 20191119

Abstract (en)

[origin: EP3896183A1] The invention relates to a lightweight high-entropy alloy with high strength and high plasticity and a preparation method thereof, belonging to the fields of metal materials and preparation thereof. The high-entropy alloy is mainly composed of Ti, Zr, V, Nb and M, wherein M is one or more of Al, Hf, Cr, Fe, Mg, Be, Li, Mo, Co, Ni, Si, B, O and N. By regulating contents of all the elements, the high-entropy alloy has low density, high strength and high plasticity so as to have a huge application potential in the field of engineering. Moreover, the preparation method of the high-entropy alloy is easy to operate as well as safe and reliable, the adopted raw materials are nontoxic and harmless, and the high-entropy alloy is economical and practical.

IPC 8 full level

**C22C 30/00** (2006.01); **C22C 1/02** (2006.01); **C22C 14/00** (2006.01); **C22C 16/00** (2006.01); **C22F 1/00** (2006.01); **C22F 1/18** (2006.01)

CPC (source: CN EP)

**C22C 1/02** (2013.01 - CN EP); **C22C 14/00** (2013.01 - EP); **C22C 16/00** (2013.01 - EP); **C22C 30/00** (2013.01 - CN EP); **C22F 1/00** (2013.01 - CN); **C22F 1/183** (2013.01 - EP); **C22F 1/186** (2013.01 - EP)

Citation (search report)

- [XII] CN 107419154 A 20171201 - UNIV BEIJING SCIENCE & TECH
- [XII] CN 103602872 B 20150923
- [XAI] US 2018051361 A1 20180222 - PARRISH CATHERINE J [BR], et al
- See references of WO 2020118802A1

Cited by

CN114058922A; CN114150205A; CN117789875A; CN114275735A; CN114622121A

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 3896183 A1 20211020**; **EP 3896183 A4 20220810**; CN 109402482 A 20190301; CN 109402482 B 20220705; WO 2020118802 A1 20200618

DOCDB simple family (application)

**EP 19895264 A 20191119**; CN 201811500843 A 20181210; CN 2019000222 W 20191119