

Title (en)
MAGNESIUM-CONTAINING METAL MATERIAL PROVIDED WITH COATING

Title (de)
MAGNESIUMHALTIGES METALLMATERIAL MIT BESCHICHTUNG

Title (fr)
MATÉRIAU MÉTALLIQUE À TENEUR EN MAGNÉSIUM AVEC FILM DE REVÊTEMENT

Publication
EP 3643811 A4 20210331 (EN)

Application
EP 18820043 A 20180620

Priority
• JP 2017122643 A 20170622
• JP 2018023448 W 20180620

Abstract (en)
[origin: EP3643811A1] Provided is a magnesium-containing metal material that includes coatings having excellent corrosion resistance on a surface. Specifically, provided is a magnesium-containing metal material with coating, which is characterized by including: a magnesium hydroxide-containing first coating on a surface of a magnesium-containing metal material composed of magnesium or a magnesium alloy; a hydroxyapatite and/or hydroxyapatite carbonate-containing third coating over the first coating; and a dibasic calcium phosphate-containing second coating between the first coating and the third coating.

IPC 8 full level
C23C 28/04 (2006.01); **B32B 9/00** (2006.01); **B32B 15/04** (2006.01); **C23C 8/00** (2006.01); **C23C 8/28** (2006.01); **C23C 22/22** (2006.01)

CPC (source: CN EP KR US)
C22C 23/00 (2013.01 - US); **C23C 8/10** (2013.01 - EP); **C23C 8/28** (2013.01 - CN KR); **C23C 22/08** (2013.01 - KR);
C23C 22/22 (2013.01 - CN EP KR US); **C23C 22/57** (2013.01 - US); **C23C 22/73** (2013.01 - EP); **C23C 22/78** (2013.01 - EP KR US);
C23C 22/83 (2013.01 - CN EP KR); **C23C 28/04** (2013.01 - EP KR US); **C23C 28/046** (2013.01 - EP); **C23C 28/048** (2013.01 - CN)

Citation (search report)
• [I] EP 2392693 A1 20111207 - NAT INST FOR MATERIALS SCIENCE [JP]
• [I] JP 2010057590 A 20100318 - OLYMPUS CORP
• [A] US 2017072103 A1 20170316 - BHADURI SARIT B [US], et al
• [A] JP 2002121681 A 20020426 - KIWA KAGAKU YAKUHIIN KK
• [A] CN 104888271 A 20150909 - UNIV TONGJI
• [A] LIPING XU ET AL: "Phosphating treatment and corrosion properties of Mg-Mn-Zn alloy for biomedical application", JOURNAL OF MATERIALS SCIENCE: MATERIALS IN MEDICINE, KLUWER ACADEMIC PUBLISHERS, BO, vol. 20, no. 4, 26 November 2008 (2008-11-26), pages 859 - 867, XP019680191, ISSN: 1573-4838
• See also references of WO 2018235863A1

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 3643811 A1 20200429; EP 3643811 A4 20210331; CN 110770368 A 20200207; CN 114807937 A 20220729; JP 2019007044 A 20190117; JP 6872987 B2 20210519; KR 102354534 B1 20220121; KR 20200010399 A 20200130; US 2020109474 A1 20200409; US 2021172067 A1 20210610; WO 2018235863 A1 20181227

DOCDB simple family (application)
EP 18820043 A 20180620; CN 201880040560 A 20180620; CN 202210265896 A 20180620; JP 2017122643 A 20170622; JP 2018023448 W 20180620; KR 20197037583 A 20180620; US 201816623803 A 20180620; US 202117178490 A 20210218