

Title (en)

MATERIALS AND PARTS THAT CAN WITHSTAND HIGH TEMPERATURES IN AN OXIDISING MEDIUM, AND METHOD FOR MANUFACTURING SAME

Title (de)

MATERIALIEN UND TEILE MIT BESTÄNDIGKEIT GEGENÜBER HOHEN TEMPERATUREN IN EINEM OXIDIERENDEN MEDIUM UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

MATERIAUX ET PIECES RESISTANTS A HAUTE TEMPERATURE EN MILIEU OXYDANT ET LEUR PROCEDE DE FABRICATION

Publication

EP 2649024 A1 20131016 (FR)

Application

EP 11805094 A 20111205

Priority

- FR 1060361 A 20101210
- FR 2011052867 W 20111205

Abstract (en)

[origin: WO2012076797A1] The invention relates to a refractory material that can withstand high temperatures in an oxidising medium, which contains at least: a first component which is hafnium or a non-oxide compound of hafnium, or a mix of at least two metals and/or compounds selected from hafnium or a non-oxide compound of hafnium; a second component which is boron or a non-oxide compound of boron, or a mix of boron and a non-oxide compound of boron; a third component which is a rare earth element (RE) or a non-oxide compound of the rare earth element (RE), or a mix of the rare earth element (RE) and a non-oxide compound of the rare earth element (RE), wherein RE is selected from among scandium, yttrium, and the lanthanides. The material does not contain any silicon or silicon compounds.

IPC 8 full level

C04B 35/56 (2006.01); **C04B 35/515** (2006.01); **C04B 35/58** (2006.01); **C04B 35/66** (2006.01); **C04B 41/50** (2006.01); **C04B 41/51** (2006.01); **F02K 9/32** (2006.01); **F02K 9/97** (2006.01)

CPC (source: EP KR US)

C04B 35/505 (2013.01 - US); **C04B 35/515** (2013.01 - EP KR US); **C04B 35/5156** (2013.01 - EP US); **C04B 35/56** (2013.01 - KR); **C04B 35/5622** (2013.01 - EP US); **C04B 35/58** (2013.01 - KR); **C04B 35/58078** (2013.01 - EP US); **C04B 35/66** (2013.01 - EP US); **C04B 41/009** (2013.01 - EP US); **C04B 41/50** (2013.01 - KR); **C04B 41/5057** (2013.01 - EP US); **C04B 41/5133** (2013.01 - EP US); **C04B 41/87** (2013.01 - EP US); **C04B 41/88** (2013.01 - EP US); **F02K 9/32** (2013.01 - KR); **C04B 2235/3804** (2013.01 - EP US); **C04B 2235/3813** (2013.01 - EP US); **C04B 2235/3839** (2013.01 - EP US); **C04B 2235/3852** (2013.01 - EP US); **C04B 2235/666** (2013.01 - EP US); **C04B 2235/728** (2013.01 - EP US); **C04B 2235/9684** (2013.01 - EP US); **F05D 2300/123** (2013.01 - EP US); **F05D 2300/134** (2013.01 - EP US); **F05D 2300/135** (2013.01 - EP US); **F05D 2300/15** (2013.01 - EP US); **Y10T 428/30** (2015.01 - EP US)

Citation (search report)

See references of WO 2012076797A1

Citation (examination)

US 4259119 A 19810331 - WATANABE TADAHIKO, et al

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)

WO 2012076797 A1 20120614; BR 112013014353 A2 20171031; CA 2820795 A1 20120614; CA 2820795 C 20190430; CN 103402948 A 20131120; CN 103402948 B 20160106; EP 2649024 A1 20131016; FR 2968652 A1 20120615; FR 2968652 B1 20150626; JP 2014505648 A 20140306; JP 5969998 B2 20160817; KR 20140011307 A 20140128; RU 2013130211 A 20150120; RU 2579054 C2 20160327; US 2014072805 A1 20140313; US 9382164 B2 20160705; ZA 201304216 B 20140226

DOCDB simple family (application)

FR 2011052867 W 20111205; BR 112013014353 A 20111205; CA 2820795 A 20111205; CN 201180059547 A 20111205; EP 11805094 A 20111205; FR 1060361 A 20101210; JP 2013542585 A 20111205; KR 20137016667 A 20111205; RU 2013130211 A 20111205; US 201113992880 A 20111205; ZA 201304216 A 20130607