

Title (en)
METHOD FOR PROTECTION AGAINST CORROSION

Title (de)
VERFAHREN ZUM SCHUTZ GEGEN KORROSION

Title (fr)
PROCÉDÉ DE PROTECTION CONTRE LA CORROSION

Publication
EP 3976847 A1 20220406 (FR)

Application
EP 20739755 A 20200526

Priority
• FR 1905569 A 20190527
• FR 2020050874 W 20200526

Abstract (en)
[origin: WO2020240130A1] The present invention relates to a method for the protection of a hafnium-free, nickel-based monocrystalline superalloy part against corrosion and oxidation. The method comprises at least the following steps of: - manufacturing a hafnium-free, nickel-based monocrystalline superalloy part (1), - depositing on the part a first hafnium-free sublayer (2), - depositing, on the first sublayer (2), a second hafnium-doped sublayer (3), - depositing, on the second sublayer (3), a third hafnium-free sublayer (4), - sandblasting the third sublayer (4) to at least partially separate the third sublayer (4) and increase the surface roughness of an upper sublayer formed by the second sublayer (3) and at least partially by the third sublayer (4), - performing oxidation treatment so as to obtain at the surface a layer of hafnium-doped oxidised material (5), - depositing a thermal barrier layer (6) on the layer of oxidised material (5).

IPC 8 full level
C23C 4/02 (2006.01); **C23C 4/11** (2016.01); **C23C 4/134** (2016.01); **C23C 8/02** (2006.01); **C23C 8/12** (2006.01); **C23C 8/80** (2006.01); **C23C 14/02** (2006.01); **C23C 14/14** (2006.01); **C23C 14/16** (2006.01); **C23C 14/58** (2006.01); **C23C 28/00** (2006.01)

CPC (source: EP US)
C23C 4/02 (2013.01 - EP); **C23C 4/11** (2016.01 - EP US); **C23C 4/134** (2016.01 - EP US); **C23C 8/02** (2013.01 - EP); **C23C 8/12** (2013.01 - EP); **C23C 8/80** (2013.01 - EP); **C23C 14/024** (2013.01 - US); **C23C 14/028** (2013.01 - US); **C23C 14/34** (2013.01 - US); **C23C 28/3215** (2013.01 - EP US); **C23C 28/345** (2013.01 - EP); **C23C 28/3455** (2013.01 - EP US)

Citation (search report)
See references of WO 2020240130A1

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
WO 2020240130 A1 20201203; CN 113891953 A 20220104; CN 113891953 B 20230926; EP 3976847 A1 20220406; FR 3096690 A1 20201204; FR 3096690 B1 20210723; US 12006577 B2 20240611; US 2022251713 A1 20220811

DOCDB simple family (application)
FR 2020050874 W 20200526; CN 202080039924 A 20200526; EP 20739755 A 20200526; FR 1905569 A 20190527; US 202017614145 A 20200526