

Title (en)

Duplex phase CrAl coating for improved corrosion/oxidation protection

Title (de)

Duplex Phasen CrAl-Beschichtung für verbesserten Korrosions-/Oxidations-Schutz

Title (fr)

Revêtement CrAl à phases duplex pour une meilleure protection contre la corrosion/l'oxydation

Publication

**EP 2695965 A3 20170329 (DE)**

Application

**EP 13178306 A 20130729**

Priority

DE 102012015586 A 20120808

Abstract (en)

[origin: EP2695965A2] The coating comprises an outer zone that comprises alpha -chromium phases in a matrix of a mixture of mixed crystals comprising metallic main constituents of aluminum and chromium, and an inner zone that comprises a mixed crystal zone comprising metallic main constituents of aluminum and chromium, where proportion of chromium in a total coating is greater than 30-90 wt.% and the aluminum content in the total coating is 10-40 wt.%. The component is formed by an alloy having a metallic main constituents. The coating comprises an outer zone that comprises alpha -chromium phases in a matrix of a mixture of mixed crystals comprising metallic main constituent of aluminum and chromium, and an inner zone that comprises a mixed crystal zone comprising metallic main constituent of aluminum and chromium, where proportion of chromium in a total coating is greater than 30-90 wt.% and the aluminum content in the total coating is 10-40 wt.%. The component is formed by an alloy having the metallic main constituent. The amount of chromium present in the outer zone is 10-40 wt.% and in the inner zone is  $\geq 70$  wt.%. The proportion of the main constituent in the inner zone is  $\geq 30$  wt.%. The coating further comprises 1-15 wt.% of oxides, and a base material of the component to be coated. An independent claim is included for a process for producing a coating for protecting a component against high temperatures and aggressive media.

IPC 8 full level

**C23C 10/20** (2006.01); **C23C 10/60** (2006.01); **F01D 5/28** (2006.01)

CPC (source: EP US)

**C23C 10/20** (2013.01 - EP US); **C23C 10/60** (2013.01 - EP US); **F01D 5/288** (2013.01 - US); **Y10T 428/12639** (2015.01 - EP US)

Citation (search report)

- [X] US 2010136240 A1 20100603 - O'CONNELL MATTHEW JAMES [US], et al
- [X] EP 2060653 A2 20090520 - GEN ELECTRIC [US]
- [X] WO 2010138096 A1 20101202 - SIEMENS AG [DE], et al
- [X] WO 2005106064 A1 20051110 - DIFFUSION ALLOYS LTD [GB], et al
- [X] EP 0587341 B1 19960320 - ROLLS ROYCE PLC [GB]

Cited by

US10914181B2; EP3438414A1

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)

**EP 2695965 A2 20140212**; **EP 2695965 A3 20170329**; DE 102012015586 A1 20140515; US 2014044986 A1 20140213; US 9689270 B2 20170627

DOCDB simple family (application)

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