Title (en)

Method for high-speed flame spraying

Title (de)

Verfahren zum Hochgeschwindigkeits-Flammenspritzen

Title (fr)

Procédé destiné à l'injection de flammes à vitesse élevée

Publication

EP 2128300 A1 20091202 (DE)

Application

EP 08009774 A 20080529

Priority

EP 08009774 A 20080529

Abstract (en)

The method comprises partially melting particles of coating materials and then applying as particle stream (6) with high speed on surface of a turbine shovel (2). The particle stream is led over the turbine shovel surface in order to apply the coating on the turbine shovel surface. The coating is applied on the turbine shovel surface in layers lying above one another. The particle stream is guided in order to include different angles of 90[deg] with the turbine shovel surface during applying a layer. An adherent surface coating made of alloy of chromium, aluminum and yttrium is applied. The method comprises partially melting particles of coating materials and then applying as particle stream (6) with high speed on surface of a turbine shovel (2). The particle stream is led over the turbine shovel surface in order to apply the coating on the turbine shovel surface. The coating is applied on the turbine shovel surface in layers lying above one another. The particle stream is guided in order to include different angles of 90[deg] with the turbine shovel surface during applying a layer. An adherent surface coating made of alloy of chromium, aluminum and yttrium is applied on the turbine shovel surface. A lower layer (3) is applied before applying the coating on the turbine shovel surface. For the lower layer, particles of the coating material are used that have small average diameter as the particles that are used for the coating. An atmospheric plasma spraying heat insulating layer is applied on the coating.

Abstract (de)

Die Erfindung betrifft ein Verfahren zur Auftragung einer Beschichtung (1) auf eine Bauteiloberfläche durch Hochgeschwindigkeits-Flammenspritzen, bei dem Partikel eines Beschichtungsmaterials zumindest teilweise aufgeschmolzen und als Partikelstrom (6) mit hoher Geschwindigkeit auf die Bauteiloberfläche abgegeben werden, wobei der Partikelstrom (6) ausgerichtet wird, um während der Auftragung der Beschichtung mit der Bauteiloberfläche Winkel (b, c) ungleich 90° einzuschließen. Weiterhin betrifft die Erfindung eine nach dem Verfahren herstellbare Beschichtung (1) und eine Turbinenschaufel (2) mit dieser Beschichtung (1).

IPC 8 full level

C23C 4/12 (2006.01)

CPC (source: EP)

C23C 4/129 (2016.01)

Citation (applicant)

DE 69828732 T2 20051222 - GEN ELECTRIC [US]

Citation (search report)

- [XY] WO 2008040678 A1 20080410 - TURBOCOATING S P A [IT], et al
- [X] WO 2008049460 A1 20080502 - SIEMENS AG [DE], et al
- [X] EP 1275747 A1 20030115 - ALSTOM SWITZERLAND LTD [CH]
- [X] EP 1816229 A1 20070808 - SIEMENS AG [DE]
- [X] US 2007092659 A1 20070426 - KLUGE TAMARA J [US], et al
- [X] EP 1275749 A1 20030115 - GEN ELECTRIC [US]
- [DY] DE 69828732 T2 20051222 - GEN ELECTRIC [US]

Cited by

EP2592174A1; EP2353725A1; CN102725071A; US10371004B2; EP2366730A1; WO2013072092A1; WO2011091866A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA MK RS

DOCDB simple family (publication)

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