Title (en)

Regulated thermal coating

Title (de)

Geregelte thermische Beschichtung

Title (fr)

Revêtement thermique réglé

Publication

EP 2757173 A1 20140723 (DE)

Application

EP 13152230 A 20130122

Priority

EP 13152230 A 20130122

Abstract (en)

The process comprises heating, fusing and/or melting a material of stream using a plasma or a flame, measuring, determining and controlling velocity of the material stream, flow rate of gas, brightness distribution or temperature distribution of the material stream and voltage between an electrode and a nozzle and/or a power of the nozzle, changing the current between the nozzle and the electrode and flow rate of the stream as controlled variables, and increasing or decreasing the current. The process comprises heating, fusing and/or melting a material of stream using a plasma or a flame, measuring, determining and controlling velocity of the material stream, flow rate of gas, brightness distribution or temperature distribution of the material flow and voltage between an electrode and a nozzle and/or a power of the nozzle, changing the current between the nozzle and the electrode and flow rate of the stream as controlled variables, and increasing or decreasing the current. The brightness distribution, temperature distribution of the material flow, voltage between the electrode and nozzle and/or the power of the nozzle is maintained as constant. The flow rate of primary and secondary gases is increased or decreased. The method further comprises maintaining controlled variables at desired target values, adjusting parameter sets for different situations including higher, lower or constant the control variables, and determining changes of the target values before coating the material. The coating is carried out by a high velocity oxygen fuel spraying method and a plasma spraying method.

Abstract (de)

Durch die kombinierte Messung der Partikelgeschwindigkeit, -temperatur, -intensität, Brennerspannung und deren Regelung in einem Toleranzbereich ist es möglich, die Schichtstruktur, die Schichtdicke und das Schichtgewicht trotz verschleißbedingter Schwankungen im Beschichtungsprozess konstant zu halten.

IPC 8 full level

C23C 4/12 (2006.01)

CPC (source: EP US)

C23C 4/129 (2016.01 - EP US); **C23C 4/134** (2016.01 - EP US)

Citation (applicant)

- EP 1204776 B1 20040602 - SIEMENS AG [DE], et al
- EP 1306454 A1 20030502 - SIEMENS AG [DE]
- EP 1319729 A1 20030618 - SIEMENS AG [DE]
- WO 9967435 A1 19991229 - SIEMENS AG [DE], et al
- WO 0044949 A1 20000803 - SIEMENS AG [DE], et al
- US 6024792 A 20000215 - KURZ WILFRIED [CH], et al
- EP 0892090 A1 19990120 - SULZER INNOTEC AG [CH]
- EP 0486489 B1 19941102 - SIEMENS AG [DE]
- EP 0786017 B1 19990324 - SIEMENS AG [DE]
- EP 0412397 B1 19980325 - SIEMENS AG [DE]

Citation (search report)

- [XI] US 2004245354 A1 20041209 - SRINIVASAN VASUDEVAN [US]
- [XI] WO 2005085489 A1 20050915 - MTU AERO ENGINES GMBH [DE], et al
- [XI] US 3949266 A 19760406 - VOGTS WILLIAM A, et al
- [XI] US 2004031776 A1 20040219 - GEVELBER MICHAEL ALAN [US], 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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2757173 A1 20140723; CN 104937128 A 20150923; CN 104937128 B 20170822; EP 2920336 A1 20150923; US 2015361541 A1 20151217; WO 2014114597 A1 20140731

DOCDB simple family (application)

EP 13152230 A 20130122; CN 201480005547 A 20140120; EP 14702472 A 20140120; EP 2014051038 W 20140120; US 201414762517 A 20140120