

Title (en)

Cold spray apparatus and method with modulated gasstream

Title (de)

Kaltspritzanlage und Kaltspritzverfahren mit moduliertem Gasstrom

Title (fr)

Appareil et procédé de pulvérisation à froid avec écoulement gazeux modulé

Publication

EP 1806429 A1 20070711 (DE)

Application

EP 06000403 A 20060110

Priority

EP 06000403 A 20060110

Abstract (en)

The cold gas spray apparatus (1) has a high pressure gas generator (22) for the production of a high pressure gases and a nozzle (8) from which a cold gas particle stream (7) is emitted. An influencing medium (25,26,29,32,35,36) is provided. The cold gas particle stream is guided for variable modification of the characteristics temperature, pressure, particle density, particle material and velocity. A property of the cold gas particle stream is periodically modifiable by influencing medium. An independent claim is also included for a cold gas spraying method by the cold gas spray apparatus.

Abstract (de)

Das Kaltgasspritzverfahren liefert unter Umständen nicht optimale Beschichtungsergebnisse. Das erfindungsgemäße Kaltgasspritzverfahren verwendet Kaltgasströme, die in ihren Eigenschaften (Temperatur (T), Partikeldichte (\bar{A}), Druck (p), Partikelgeschwindigkeit (v)) wechselhaft verändert werden und so den gewünschten Eigenschaften der Beschichtungen angepasst werden können.

IPC 8 full level

C23C 24/04 (2006.01); **B05B 7/22** (2006.01)

CPC (source: EP US)

B05B 1/083 (2013.01 - EP US); **B05B 7/1486** (2013.01 - EP US); **B05B 7/1626** (2013.01 - EP US); **C23C 24/04** (2013.01 - EP US)

Citation (applicant)

- EP 0924315 B1 20040310 - LINDE AG [DE]
- US 5302414 A 19940412 - ALKHIMOV ANATOLY P [SU], et al
- US 2004037954 A1 20040226 - HEINRICH PETER [DE], et al
- EP 1132497 A1 20010912 - DIKUN JURY VENIAMINOVICH [RU]
- US 6502767 B2 20030107 - KAY ALBERT [US], et al
- US 6124563 A 20000926 - WITHERSPOON F DOUGLAS [US], et al
- US 6630207 B1 20031007 - EIDELMAN SHMUEL [US]
- DE 10319481 A1 20041118 - LINDE AG [DE]
- WO 03041868 A2 20030522 - LINDE AG [DE], et al
- 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 INNOTECH AG [CH]
- EP 0486489 B1 19941102 - SIEMENS AG [DE]
- EP 0786017 B1 19990324 - SIEMENS AG [DE]
- EP 0412397 B1 19980325 - SIEMENS AG [DE]
- EP 1306454 A1 20030502 - SIEMENS AG [DE]

Citation (search report)

- [A] WO 2005061116 A1 20050707 - RES INST IND SCIENCE & TECH [KR], et al
- [A] US 4142089 A 19790227 - LAU JOHN H W, et al

Cited by

EP2564980A3; EP2206804A1; DE102008058142A1; CN103521404A; DE102008058141A1; EP3789516A1; CN114375350A; US11898986B2; WO2011057612A1; WO2010003396A1; WO2011036045A1; DE102008057162A1; WO2010054643A1; US11935662B2; US8268237B2; US9040116B2; WO2019180190A1; WO2021047855A1; EP2298962B1; DE102008057159A1; US8544769B2; US11662300B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK YU

DOCDB simple family (publication)

EP 1806429 A1 20070711; EP 1806429 B1 20080709; AT E400674 T1 20080715; DE 502006001063 D1 20080821;
RU 2007100423 A 20080810; RU 2426602 C2 20110820; US 2007187525 A1 20070816; US 7631816 B2 20091215

DOCDB simple family (application)

EP 06000403 A 20060110; AT 06000403 T 20060110; DE 502006001063 T 20060110; RU 2007100423 A 20070109; US 65173007 A 20070110