

Title (en)

COLD GAS SPRAYING METHOD USING A CARRIER GAS

Title (de)

VERFAHREN ZUM KALTGASSPRITZEN MIT EINEM TRÄGERGAS

Title (fr)

PROCÉDÉ DE PROJECTION PAR GAZ FROID AVEC UN GAZ PORTEUR

Publication

EP 2859133 A1 20150415 (DE)

Application

EP 13735004 A 20130704

Priority

- DE 102012212682 A 20120719
- EP 2013064156 W 20130704

Abstract (en)

[origin: WO2014012797A1] The invention relates to a cold gas spraying method. In said method, particles are accelerated onto a substrate (18) using a cold gas stream (17) and remain adhered to said substrate. According to the invention, forming gas 95/5 with a nitrogen content of 95 mol. % and a hydrogen content of 5 mol.% is used as the carrier gas for the cold gas stream (17). Using said carrier gas, a high gas speed can be advantageously achieved in the cold gas stream (17), at any rate a higher speed than with air or nitrogen, the conventional gases for the carrier gas. The use of helium can also be advantageously omitted for reasons of cost. In addition, the mixture ratio of the forming gas advantageously allows the forming gas to be used without separate safety precautions which would be necessary if hydrogen were selected as the carrier gas without the addition of other gases. According to the invention, gas speeds of over 1400 m/s can be advantageously achieved in the cold gas stream (17) using the forming gas, thus exceeding the achievable speeds using air or nitrogen.

IPC 8 full level

C23C 24/08 (2006.01); **C23C 24/10** (2006.01)

CPC (source: EP)

C23C 24/04 (2013.01)

Citation (search report)

See references of WO 2014012797A1

Cited by

US11898986B2; US11935662B2; US11662300B2

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 2014012797 A1 20140123; DE 102012212682 A1 20140123; EP 2859133 A1 20150415; EP 2859133 B1 20180103

DOCDB simple family (application)

EP 2013064156 W 20130704; DE 102012212682 A 20120719; EP 13735004 A 20130704