

Title (en)

METHOD FOR COATING AN OBJECT WITH A FILM AND EQUIPMENT THEREFOR

Title (de)

VERFAHREN ZUM BEDECKEN EINES OBJEKTES MIT EINEM FILM UND VORRICHTUNG ZUR DURCHFÜHRUNG DES VERFAHRENS

Title (fr)

PROCEDE DE RECOUVREMENT D UN OBJET PAR UN FILM ET APPAREILLAGE POUR LA MISE EN OEUVRE DE CE PROCEDE

Publication

EP 1448315 A2 20040825 (FR)

Application

EP 02801081 A 20021129

Priority

- FR 0204109 W 20021129
- FR 0115439 A 20011129
- FR 0205554 A 20020503

Abstract (en)

[origin: FR2832653A1] The invention concerns a method for coating an object with a film derived from melting a thin powder layer which consists in: (a) providing an electrically charged fluidized powder bed in a vessel, said powder being charged with a forced circulation tribocharging device; (b) wetting in the vessel the object connected to a zero potential or sufficient to coat it with powder; (c) placing the powder-coated object in an oven at an adequate temperature until the coating film is obtained by melting the powder. In accordance with an advantageous embodiment of the invention the oven comprises electrodes brought to a high electrical potential so as to produce a corona effect which compensates relaxation of the charge of powder particles when heated. Thus, the charge of the particles is maintained and hence remain on the object and can thus form the film by melting. The invention also concerns the equipment for implementing the method.

[origin: FR2832653A1] The procedure consists of creating a fluidized bed of the powder inside a chamber (4), with the powder particles charged by a tribocharger (2) with forced circulation, produced by a pump (1) or a gas ejector. The object, connected to a potential of zero or sufficient to coat it with the powder, is put into the chamber and coated with a layer of powder, after which it is transferred a kiln at a temperature high enough to melt the powder and convert it into a film. The procedure consists of creating a fluidized bed of the powder inside a chamber (4), with the powder particles charged by a tribocharger (2) with forced circulation, produced by a pump (1) or a gas ejector. The dimensions of the fluidized bed are unimportant, so long as they are sufficient immerse the object in it. The object, connected to a potential of zero or sufficient to coat it with the powder, is put into the chamber and coated with a layer of powder preferably between 0.1 and 0.6 mm thick, after which it is transferred a kiln at a temperature high enough to melt the powder and convert it into a film. The kiln contains electrodes with a raised electrical potential to create a corona effect and compensate for the powder particles' loss of charge as they are heated. This maintains the particles' charge, so that the powder stays on the object as it is melted.

IPC 1-7

B05D 1/24; **B05C 19/02**

IPC 8 full level

B05B 5/08 (2006.01); **B05C 9/14** (2006.01); **B05C 19/02** (2006.01); **B05D 1/24** (2006.01); **B05D 3/02** (2006.01); **B05D 3/14** (2006.01); **B05D 7/24** (2006.01); **B05B 5/047** (2006.01); **B05D 1/06** (2006.01)

CPC (source: EP KR US)

B05B 5/087 (2013.01 - EP US); **B05C 9/14** (2013.01 - EP US); **B05C 19/02** (2013.01 - KR); **B05C 19/025** (2013.01 - EP US); **B05D 1/24** (2013.01 - EP KR US); **B05D 3/0272** (2013.01 - EP US); **B05D 3/145** (2013.01 - EP US); **B05B 5/047** (2013.01 - EP US); **B05D 1/06** (2013.01 - EP US)

Citation (search report)

See references of WO 03045581A2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)

FR 2832653 A1 20030530; AU 2002364800 A1 20030610; CA 2468758 A1 20030605; CN 1617770 A 20050518; EP 1448315 A2 20040825; JP 2005510351 A 20050421; KR 20040068565 A 20040731; US 2005069652 A1 20050331; WO 03045581 A2 20030605; WO 03045581 A3 20031224

DOCDB simple family (application)

FR 0205554 A 20020503; AU 2002364800 A 20021129; CA 2468758 A 20021129; CN 02827559 A 20021129; EP 02801081 A 20021129; FR 0204109 W 20021129; JP 2003547073 A 20021129; KR 20047008295 A 20021129; US 49681604 A 20041122