Title (en)

Photocatalytic coatings made of titanium dioxide

Title (de)

Photokatalytisch aktive Beschichtungen aus Titandioxid

Title (fr)

Revêtements photocatalytiques actifs à partir d'oxyde de titane

Publication

EP 2302099 A1 20110330 (DE)

Application

EP 10178166 A 20100922

Priority

DE 102009043319 A 20090928

Abstract (en)

The method for coating sanitary-, kitchens- and/or medical technology object, handles, light switches, doorknobs, handrails, push-buttons, foodstuff bands, beverage filling system, foodstuff manufacturing plants, control elements and keyboards and/or bedsteads that consist of metal or glass or have metallic surfaces, comprises applying a photocatalytic active titanium dioxide on the surface through cold gas spraying technique in glass above the glass temperature, where a metallic component is available in quantities of 1 wt.% on the basis of the total weight of the composition. The method for coating sanitary-, kitchens- and/or medical technology object, handles, light switches, doorknobs, handrails, push-buttons, foodstuff bands, beverage filling system, foodstuff manufacturing plants, control elements and keyboards and/or bedsteads that consist of metal or glass or have metallic surfaces, comprises applying a photocatalytic active titanium dioxide on the surface through cold gas spraying technique in glass above the glass temperature, where a metallic component is available in quantities of 1 wt.% on the basis of the total weight of the composition. The metal is stainless steel or titanium. A spray material has a particle size of 5-50 mu m, where cross-section of a statistically significant amount of particles is determined by image analysis of images that are received with a high resolution camera. Titanium dioxide is used in the form of anatase for cold gas spraying, which is carried out on a pressure of 30-40 bar and a temperature of 600-800[deg] C. The metal surface is covered with a surface portion of 30-80% with the photo catalytic particles determined by raster electron microscopy. The object to be coated is sink, toilet pan, toilet seats, toilet lid, door handles, operating table, hospital beds, light switch, fittings, kitchen worktops and extractor hoods. A pre-treatment of the coated surface takes place by polishing and/or grinding.

Abstract (de)

Die vorliegende Erfindung betrifft ein Verfahren zur Beschichtung von Metalloberflächen, insbesondere von Sanitär- und Küchengegenständen, die aus Metall bestehen oder metallische Oberflächen aufweisen, sowie die mit diesem Verfahren herstellbaren Gegenstände mit einer photokatalytischen Oberfläche aus Titandioxid durch Kaltgasspritzen.

IPC 8 full level

C23C 24/04 (2006.01); **C23C 24/08** (2006.01)

CPC (source: EP)

C23C 24/04 (2013.01)

Citation (applicant)

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Citation (search report)

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Designated contracting state (EPC)

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