

Title (en)
Non-stick coating

Title (de)
Antihafbeschichtung

Title (fr)
Revêtement antiadhésif

Publication
EP 2492022 A1 20120829 (DE)

Application
EP 11155715 A 20110223

Priority
EP 11155715 A 20110223

Abstract (en)

Non-stick coating comprises at least three layers comprising: a cover layer (6) with a dry film thickness of 10-50 μm , preferably 20-30 μm , containing organic fluoropolymers or copolymers of tetrafluoroethylene, and poly(oxy-1,4-phenylenecarbonyl-1,4-phenylene); an intermediate layer (4) with a dry film thickness of 10-100 μm , preferably 20-30 μm , containing organic thermoplastic fluoropolymers, copolymers of tetrafluoroethylene, poly(oxy-1,4-phenylenecarbonyl-1,4-phenylene), and inorganic fillers (8); and a base layer (2) with a dry film thickness of 10-50 μm , preferably 20-30 μm . Non-stick coating comprises at least three layers comprising: a cover layer (6) with a dry film thickness of 10-50 μm , preferably 20-30 μm , containing (in %) organic fluoropolymers (40-90) including polytetrafluoroethylene (20-50, based on the cover layer) and copolymers of tetrafluoroethylene having perfluoroalkyl-vinyl ether with 1-3C in the alkyl group (20-70, based on the cover layer), preferably tetrafluoroethylene-perfluoromethyl vinyl ether copolymer (MFA) or tetrafluoroethylene-perfluoroalkyl vinyl ether copolymer (PFA), or copolymers of tetrafluoroethylene having hexafluoropropylene or its mixtures, and poly(oxy-1,4-phenylenecarbonyl-1,4-phenylene) (10-60); an intermediate layer (4) with a dry film thickness of 10-100 μm , preferably 20-30 μm , containing (in %) organic thermoplastic fluoropolymers (20-30) including copolymers of tetrafluoroethylene having perfluoroalkyl-vinyl ether with 1-3C in the alkyl group, preferably MFA or PFA, copolymers of tetrafluoroethylene having hexafluoropropylene or its mixtures, poly(oxy-1,4-phenylenecarbonyl-1,4-phenylene), and inorganic fillers (8) having particles exhibiting a size of 40-100 μm , preferably 45-70 μm ; and a base layer (2) with a dry film thickness of 10-50 μm , preferably 20-30 μm . The particle size of the inorganic fillers is selected such that at least some of the particles partially protrude into the cover layer, but do not penetrate the cover layer. An independent claim is also included for applying the non-stick coating, comprising applying the layers in the form of aqueous dispersions by wet application without intermediate drying, and then drying and melting.

Abstract (de)

Um eine Antihafschicht zu verbessern, wird vorgeschlagen, dass sie zumindest drei Schichten aufweist, mit einer Deckschicht (6), einer Zwischenschicht (4) und einer Basisschicht (2). Die Deckschicht (6) enthält 40% bis 90% organische Fluorpolymere, wobei 20% bis 50%, bezogen auf die Deckschicht (6), Polytetrafluorethylen (PTFE) und 20% bis 70%, bezogen auf die Deckschicht, Copolymeren des Tetrafluorethylens mit Perfluoralkyl-vinylether mit 1-3 C-Atomen in der Alkylgruppe, oder Copolymeren des Tetrafluorethylens mit Hexafluorpropylen (FEP) oder Mischungen sind. Weiterhin enthält Deckschicht (6) 10% bis 60% Poly(oxy-1,4-phenylencarbonyl-1,4-phenylen) (PEK). Die Zwischenschicht (4) enthält 20-30% organische thermoplastische Fluorpolymere ausgewählt aus Copolymeren des Tetrafluorethylens mit Perfluoralkyl-vinylether mit 1-3 C-Atomen in der Alkylgruppe, nämlich MFA oder PFA, Copolymeren des Tetrafluorethylens mit Hexafluorpropylen (FEP) oder Mischungen davon, und Poly(oxy-1,4-phenylencarbonyl-1,4-phenylen) (PEK), sowie anorganische Füllstoffe (8). Die Partikelgrösse ist so ausgewählt, dass zumindest einige der Partikel teilweise in die Deckschicht (6) hineinragen, diese Deckschicht (6) aber nicht durchdringen.

IPC 8 full level
B05D 5/08 (2006.01); **B05D 7/00** (2006.01)

CPC (source: EP)
B05D 5/086 (2013.01); **B05D 7/582** (2013.01); **B05D 5/083** (2013.01); **B05D 2601/00** (2013.01); **B05D 2601/08** (2013.01); **B05D 2601/26** (2013.01)

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EP2599843B1

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 2492022 A1 20120829; EP 2492022 B1 20130313; EP 2492022 B8 20130424; WO 2012113627 A1 20120830

DOCDB simple family (application)
EP 11155715 A 20110223; EP 2012051712 W 20120201