CLAIMS

1. Redispersible dry composition of polymer finish comprising:

a) a powdery organic binder included a polymer obtained by spray-drying or lyophilisation of a dispersion containing said polymer and a protective colloid;

b) a deprotection agent chosen among those which are effective without increasing the pH of the dispersion obtained by mixing said composition with water, to a value greater than or equal to 10 and preferably greater than or equal to 9; so that the water-resistance of a finish obtained from a slurry made by mixing of the dry composition with water to the correct consistency, with respect to the whole mix water/dry composition, said water-resistance of the finish being measured according to the test ASTM D2486-06, is greater than, in an increased order of preference, 3000; 4000 ; 5000 ; 6000 ; 10 000 cycles;

c) a specific adsorbent filler whose oil absorption (OA), according to ISO 787/5 and in g / 100 g, is greater than or equal to, in an increased order of preference: 1; 5; 10; 20;

d) optionally a load;

e) optionally water retentive agent;

f) optionally a rheological agent;

g) optionally a defoamer;

h) optionally a biocide;

i) optionally a pigment;

j) optionally fibers;

k) optionally a mineral binder; and

l) optionally a flame retardant (or flame proof agent).

2. Redispersible dry composition according to claim 1wherein the dry % mass ratio *specific filler c) *100 / polymer a)* that is greater or equal to, in an increasing preference order, 10, 20, 30, preferably greater or equal to 50, more preferably greater or equal to150, and lower or equal to, in a decreasing preference order, 1200, 1000, 950, preferably lower or equal to 910, more preferably lower or equal to 850.

3. Redispersible dry composition of polymer finish according to claim 1 comprising:

a) a powdery organic binder included a polymer obtained by spray-drying or lyophilisation of a dispersion containing said polymer and a protective colloid;

b) a deprotection agent;

c) a specific adsorbent filler;

d) a load;
e) a water retentive agent;
f) optionally a rheological agent;
g) optionally a defoamer;
h) optionally a biocide;
i) optionally a pigment.

4. A composition according to claim 1 which is cement-free and/or lime-free.

5. A composition according to claim 1 or 2, wherein the binder a) is a homopolymer or copolymer chosen from the group comprising, preferably consisting of: acrylics, styrene/acrylic, styrene/butadiene, vinyl-acetate/ethylene, vinyl-acetate/versatate and vinyl-acetate/versatate/ethylene polymer, acrylic /acrylic copolymer being preferred.

6. A composition according to claim 1, wherein the deprotection agent b) is chosen in the group of products consisting of glycol ethers, sodium triphosphate; the glycol ethers being more preferably in the group consisting of ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, Ethylene glycol monopropyl ether, ethylene glycol monoisopropyl ether, (2-isopropoxy)ethanol, ethylene glycol monobutyl ether , ethylene glycol monophenyl ether, ethylene glycol monobenzyl ether, diethylene glycol monomethyl ether 2-(2-methoxyethoxy)ethanol, glycol ether with the following physical characteristics:

Molecular weight (g/mol)		120.1
Boiling point @ 760 mmHg, 1.01 bar	381°F	194°C
Flash point	205°F	96°C
Freezing point	-92°F	-69°C
Vapor pressure@ 20°C — extrapolated		0.19 mmHg 0.25 mbar
Specific gravity (25/25°C)		1.020
Density @ 20°C @ 25°C	8.53 lb/gal 8.49 lb/gal	1.022 g/cm³ 1.017 g/cm³
Viscosity (cP or mPa•s @ 25°C)		3.5
Surface tension (dynes/cm @ 25°C)		24.6
Specific heat (J/g/°C @ 25°C)	-	2.30
Heat of vaporization (J/g) at normal boiling point		369
Net heat of combustion (kJ/g) — predicted @ 25°C		23.6
Autoignition temperature	464°F	240°C
Evaporation rate	(n-butyl acetate = 1.0) (diethyl ether = 1.0)	0.019 628
Solubility, g/100 g @ 25°C Solvent in water Water in solvent	-	- -
Hansen solubility parameters $(J/cm^3)^{1/2}$ d (Dispersion) p (Polar) h (Hydrogen bonding)		16.2 7.8 12.6
Flammable limits (vol.% in air) Lower Upper	-	1.38 22.70

diethylene glycol monoethyl ether 2-(2-ethoxyethoxy)ethanol, diethylene glycol mono-n-butyl ether, ethylene glycol dimethyl ether, ethylene glycol diethyl ether, ethylene glycol dibutyl ether, Ethylene glycol methyl ether acetate, ethylene glycol monethylether acetate, ethylene glycol monobutyl ether acetate tripropylene glycol n-butyl ether, dipropylene glycol n-butyl ether, triethylene glycol monobutyl etherpropylene glycol.

7. A composition according to any of the preceding claims, wherein the specific adsorbent filler c)

is selected in the aluminosilicates, calcareous or marble fillers

and mixes thereof.

8. A composition according to any of the preceding claims, wherein the dry % mass ratio *deprotection agent b)*100 /polymer a)* is greater or equal to, in an increasing preference order, 1, 8, 10, 15, 20, 30, preferably comprised between 15 and 25.

9. A composition according to any of the preceding claims, wherein the load d) is chosen from the group of calcareous and/or siliceous sands and/or vermiculite and/or perlite.

10. A wet formulation obtained by mixing water with the redispersible dry composition of polymer finish according to any of the preceding claims, said formulation having a pH below 10, preferably below 9.

11. Application of the wet formulation according to claim 10, onto the surface of buildings or civil engineering works to produce coatings.

12. Buildings or civil engineering works or coatings applied thereon or finishes, obtained from the wet formulation according to claim 10.

13. Finishes obtained from the wet formulation according to claim 10, the water resistance of said finish being measured according to the test ASTM D2486-06, being greater than, in an increased order of preference, 3000 ; 4000 ; 5000 ; 6000 ; 10 000 cycles; said finish being obtained from a slurry made by mixing of the dry composition with water to the correct consistency with respect to the whole mixed water / dry composition.

CLAIMS

1. Redispersible dry composition of polymer finish comprising:

a) a powdery organic binder included a polymer obtained by spray-drying or lyophilisation of a dispersion containing said polymer and a protective colloid;

b) a deprotection agent chosen from the group consisting of glycol ethers, sodium triphosphate and mixes thereof; so that the water-resistance of a finish obtained from a slurry made by mixing of the dry composition with water to the correct consistency, with respect to the whole mix water/dry composition, said water-resistance of the finish being measured according to the test ASTM D2486-06, is greater than, in an increased order of preference, 3000; 4000 ; 5000 ; 6000 ; 10 000 cycles;

c) a specific adsorbent filler whose oil absorption (OA), according to ISO 787/5 and in g / 100 g, is greater than or equal to, in an increased order of preference: 1; 5; 10; 20;

d) optionally a load;

e) optionally a water retentive agent;

f) optionally a rheological agent;

g) optionally a defoamer;

h) optionally a biocide;

i) optionally a pigment;

j) optionally fibers;

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l) optionally a flame retardant (or flame proof agent).

2. Redispersible dry composition according to claim 1wherein the dry % mass ratio *specific filler c) *100 / polymer a)* that is greater or equal to, in an increasing preference order, 10, 20, 30, preferably greater or equal to 50, more preferably greater or equal to150, and lower or equal to, in a decreasing preference order, 1200, 1000, 950, preferably lower or equal to 910, more preferably lower or equal to 850.

3. Redispersible dry composition of polymer finish according to claim 1 comprising:
   a) the powdery organic binder including a polymer obtained by spray-drying or lyophilisation of a dispersion containing said polymer and a protective colloid;
   b) the deprotection agent;
   c) the specific adsorbent filler;
   d) the load;
   e) the water retentive agent;
   f) optionally the rheological agent;
   g) optionally the defoamer;
   h) optionally the biocide; and
   i) optionally the pigment.

4. A composition according to claim 1 which is cement-free and/or lime-free.

5. A composition according to claim 1 or 2, wherein the binder a) is a homopolymer or copolymer chosen from the group comprising, preferably consisting of: acrylics, styrene/acrylic, styrene/butadiene, vinyl-acetate/ethylene, vinyl-acetate/versatate and vinyl-acetate/versatate/ethylene polymer, acrylic /acrylic copolymer being preferred.

6. A composition according to claim 1, wherein the deprotection agent b) is chosen in the group consisting of ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, ethylene glycol monopropyl ether, ethylene glycol monoisopropyl ether, (2-isopropoxy)ethanol, ethylene glycol monobutyl ether, ethylene glycol monophenyl ether, ethylene glycol monobenzyl ether, diethylene glycol monomethyl ether 2-(2-methoxyethoxy)ethanol, glycol ether with the following physical characteristics:

Molecular weight (g/mol)		120.1
Boiling point @ 760 mmHg, 1.01 bar	381°F	194°C
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Specific gravity (25/25°C)		1.020
Density @ 20°C	8.53 lb/gal	1.022 g/cm³
@ 25°C	8.49 lb/gal	1.017 g/cm³
Viscosity (cP or mPa•s @ 25°C)		3.5
Surface tension (dynes/cm @ 25°C)		24.6
Specific heat (J/g/°C @ 25°C)	-	2.30
Heat of vaporization (J/g) at normal boiling point		369
Net heat of combustion (kJ/g) — predicted @ 25°C		23.6
Autoignition temperature	464°F	240°C
Evaporation rate	(n-butyl acetate = 1.0)	0.019
	(diethyl ether = 1.0)	628
Solubility, g/100 g @ 25°C	-	-
Solvent in water		-
Water in solvent		
Hansen solubility parameters (J/cm³)$^{1/2}$		16.2
d (Dispersion)		7.8
p (Polar)		12.6
h (Hydrogen bonding)		
Flammable limits (vol.% in air)	-	1.38
Lower		22.70
Upper		

diethylene glycol monoethyl ether 2-(2-ethoxyethoxy)ethanol, diethylene glycol mono-n-butyl ether, ethylene glycol dimethyl ether, ethylene glycol diethyl ether, ethylene glycol dibutyl ether, ethylene glycol methyl ether acetate, ethylene glycol monethylether acetate, ethylene glycol monobutyl ether acetate tripropylene glycol n-butyl ether, dipropylene glycol n-butyl ether, and triethylene glycol monobutyl etherpropylene glycol.

7. A composition according to any of the preceding claims, wherein the specific adsorbent filler c) is selected from aluminosilicates, calcareous or marble fillers and mixes thereof.

8. A composition according to any of the preceding claims, wherein the dry % mass ratio *deprotection agent b)*100 /polymer a)* is greater or equal to, in an increasing preference order, 1, 8, 10, 15, 20, 30, preferably comprised between 15 and 25.

9. A composition according to any of the preceding claims, wherein the load d) is chosen from the group of calcareous and/or siliceous sands and/or vermiculite and/or perlite.

10. A wet formulation obtained by mixing water with the redispersible dry composition of polymer finish according to any of the preceding claims, said formulation having a pH below 10, preferably below 9.

11. Application of the wet formulation according to claim 10, onto the surface of buildings or civil engineering works to produce coatings.

12. Buildings or civil engineering works or coatings applied thereon or finishes, obtained from the wet formulation according to claim 10.

13. Finishes obtained from the wet formulation according to claim 10, the water resistance of said finish being measured according to the test ASTM D2486-06, being greater than, in an increased order of preference, 3000 ; 4000 ; 5000 ; 6000 ; 10 000 cycles; said finish being obtained from a slurry made by mixing of the dry composition with water to the correct consistency with respect to the whole mixed water / dry composition.

14. A composition according to claim 1, wherein the deprotection agent b) is chosen in the group consisting of ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, ethylene glycol monopropyl ether, ethylene glycol monoisopropyl ether, (2-isopropoxy)ethanol, ethylene glycol monobutyl ether, ethylene glycol monophenyl ether, ethylene glycol monobenzyl ether, diethylene glycol monomethyl ether 2-(2-methoxyethoxy)ethanol, diethylene glycol monoethyl ether 2-(2-ethoxyethoxy)ethanol, diethylene glycol mono-n-butyl ether, ethylene glycol dimethyl ether, ethylene glycol diethyl ether, ethylene glycol dibutyl ether, ethylene glycol methyl ether acetate, ethylene glycol monethylether acetate, ethylene glycol monobutyl ether acetate tripropylene glycol n-butyl ether, dipropylene glycol n-butyl ether, and triethylene glycol monobutyl etherpropylene glycol.