

COATINGS - acrylic

ORIPLAST REFLEX

Ultra reflective protective coating

Liquid coating for outside, formulated with special water based synthetic resin and enriched with ceramic-glass nanosphere. It guarantees UV rays reflection, lowering the temperature of the support over which it is applied, favoring a high energy saving for air conditioning. To use as ultra-reflective protecting coating for liquid waterproofing systems or as protection for bituminous and slated membranes, both new and old. Ready to use and suitable to be applied to horizontal, vertical and sloped surface.

ADVANTAGES

- Easy and quick application.
- High capability to reflect sun rays.
- It contributes to reduce the energetic need for air conditioning during summer, thus favoring energy saving and lowering cities pollution level.
- It improves internal living comfort in non conditioned buildings.
- The reduction of the superficial temperature of roofs and the diffused light improve the efficiency of photovoltaic panels.
- It reduces Heat Island Effect.
- Excellent elasticity both at high and low temperature.
- Excellent re-waterproofing features
- High resistance to weathering, UV rays and salty air.
- Ponding water resistant.
- Applicable to bituminous and slated membranes in good condition without primer.
- It prolonges the durability of waterproofing coatings, thus reducing roofs maintenance costs.
- It resists to ageing and it does not need maintenance.
- Solvent free

APPLICATION FIELD

The product is suitable for the protective coating of:

- Pitched or flat roof;
 - Horizontal, vertical or slope surfaces.
- It can be used to these kind of surface:
- bituminous or slated membranes in good conditions;
 - concrete surfaces;
 - smooth concrete surfaces in combination with D20;
 - galvanized sheet;
 - waterproofing system based on synthetic resins.
 - polyurethane panels.

Product for outdoor.

YIELD

1,0 kg/m²

COLOUR

White

PACKAGING

20 kg or 5 kg plastic bucket.

Pallet:

- 5 kg plastic bucket – 20 boxes (4 pieces each) – 400 kg;
- 20 kg plastic bucket – 36 buckets (720 kg).

STORAGE

Store the product in original containers perfectly closed, in well ventilated areas, away from sunlight and ice, at temperatures between +5°C and +35°C. Storage time: 24 months.



For application videos, product page, safety data sheet and other information.

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Technical Data

Features		Unit
Yield	1,0	kg/m ²
Aspect	liquid	-
Colour	white	-
Dilution	do not dilute	-
Waiting time between 1st and 2nd coat (T=20°C; R.H. 40%)	5	hours
Application temperature	+5 /+35	°C
Max humidity	70%	-
Drying time (T=20°C; R.H. 40%)	5	hours
Storage	24 months in original containers and in dry place	months
Packaging	5 kg or 20 kg plastic bucket	kg

LEED® Credits

Standard GBC HOME

Thematic area	Credit	Point
Sustainability of site	SSc8 - Heat Island Effect – External surface	2
	SSc9 - Heat Island Effect – Roof	1
Energy & Atmosphere	EAp1 - Mimimum energy performance	compulsory
	EAp2 - Minimum performance of the wall	compulsory
	EAc1 – Optimize Energy Performance	from 1 to 27
	EAc2 - Enhanced performance of the wall	2
Materials & Resources	MRp2 - Construction Waste Management	compulsory
	MRc2- Construction Waste Management	from 1 to 2
	MRc3 - Materiali a bassa emissione	from 1 to 3
	MRc4 – Recycled Content	from 1 to 2
	MRc5 – Materials extracted, processed and produced in short distance (regional materials)	from 1 to 2

Standard LEED for New Construction & Major Renovation, LEED for Schools, LEED for Core & Shell v. 2009

Thematic area	Credit	Point
Sustainability of site	SSc7.1 - Heat Island Effect - Non-roof	1
	SSc7.2 - Heat Island Effect – Roof	1
Energy & Atmosphere	EAp2 - Mimimum energy performance	compulsory
	EAc1 – Optimize Energy Performance	from 1 to 19
Materials & Resources	MRc2- Construction Waste Management	from 1 to 2
	MRc4 – Recycled Content	from 1 to 2
	MRc5 – Regional Materials	from 1 to 2

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Crediti LEED®		
Standard LEED Italy for New Construction & Major Renovation, v. 2009		
Thematic area	Credit	Point
Sustainability of site	SSc7.1 - Heat Island Effect – External surface	1
	SSc7.2 - Heat Island Effect – Roof	1
Energy & Atmosphere	EAp2 - Minimum energy performance EAc1 - Optimize Energy Performance	compulsory from 1 to 19
Materials & Resources	MRC2 - Construction Waste Management	from 1 to 2
	MRC4 - Recycled Content	from 1 to 2
	MRC5 – Materials extracted, processed and produced in short distance (regional materials)	from 1 to 2

Final performances		Units	Regulations	Result
Reflection	> 90%	-	-	-
Thermal emission (E)	91%	-	ASTM C1371	-
Solar Reflex Index (SRI)	102%	-	ASTM E1980	-
Surface temperature difference between bituminous membrane – Oriplast Reflex surface	~ 48	°C	UNI EN ISO 13786	-
Temperature difference external-internal	34	°C	UNI 10375 UNI EN ISO 13791 UNI EN ISO 13792	-
Adhesion to bituminous membrane slightly worn Adhesion Test pull – off	> 7,0	Mpa	ISO 4624 ASTM D4541	excellent
Adhesion to slated membrane Adhesion Test pull – off	4,3	Mpa	ISO 4624 ASTM D4541	excellent
Adhesion to galvanized sheet Adhesion Test pull – off	1,7	Mpa	ISO 4624 ASTM D4541	good
Adhesion to slate Adhesion Test pull – off	2,5	Mpa	ISO 4624 ASTM D4541	good
Adhesion to polyurethane panel (PU) - Adhesion Test pull – off	1,5	Mpa	ISO 4624 ASTM D4541	good
Waterproofing (positive pressure)	7,0	atm	UNI EN 8202/21	-
Weathering Test	2000 (>10 years*)	hours	UNI EN ISO 11507	-
Resistance to 50 freeze-thaw cycles (-15°C/+15°C)	-	-	UNI EN 202	unchanged
Break Elongation	327%	-	ISO EN 527-3	-
Break elongation after 2000 hours of weathering test	166%	-	-	-

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Final performances		Units	Regulations	Result
Traction resistance after 2000 hours of weathering test	1,12	N/mm ²	-	-
Ponding water resistance (9 months)	-	-	-	very good
Bend Test	12	mm	ISO 1519	good
Brookfield viscometer DV-E s04, 6 rpm, T= 20°C, U.R. 75%)	50000 – 65000	mPa·s	-	-

* The above data, even if carried out according to regulated tests are indicative and they may be change when specific site conditions vary.



fig. 1a

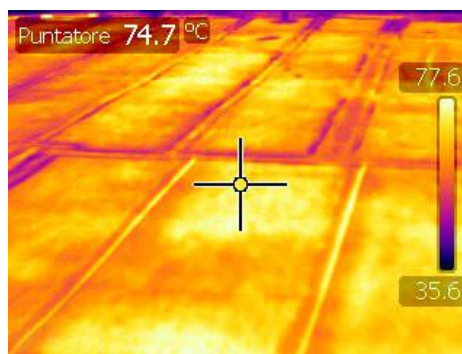


fig. 1b

Before intervention. Pictures and temperatures taken with a thermal camera (fig. 1b)



fig. 2a

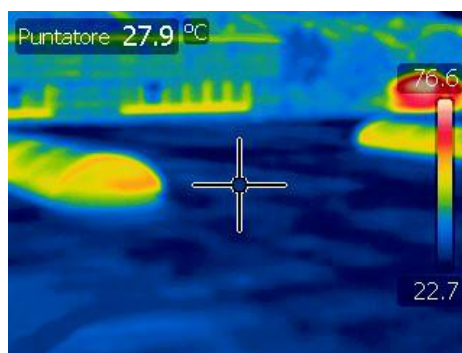


fig. 2b

After the application of Oriplast Reflex. Pictures and temperatures taken with a thermal camera (fig.2b)– $\Delta T = 46,8^{\circ}\text{C}$

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PREPARATION OF SUPPORT

- The support must be completely hardened, dry and resistant enough and with the adequate sloping to let the water flow.
- In presence of new realised cement substrate, this must be sufficiently dry and cured.
- Substrate temperature must be between +5°C and +35°C.
- The surface must be thoroughly clean, well consolidated, without debris or detaching parts.
- Remove dust, greases and oils washing the surface with water and let dry.
- In case of very dirty or crumbly surface, it is advisable to mechanically clean it.
- For applications with new bituminous presence of fats or oils, perform a test to ensure perfect adhesion of the product.
- On cementitious surfaces smooth to apply the primer *D20* (see data sheet).
- In case of application on metal surfaces, completely remove the rust with *Rust Converter*.

MIXING

The product is one component, ready to use. Do not dilute. Before application, mix the product for 3-5 minutes with drill mixer at high speed. Do not add other components.

APPLICATION

1. Apply a first coat of *Oriplast Reflex* by brush, roll or air less to completely cover the entire surface. In case of rain on a non perfect dry product, carefully check the suitability of the next covering.
2. When the first coat is dry (after about 5 hours), apply a second coat with the same system, taking care to cross the two coats to uniformly cover the surface.

DRYING TIME

At 20°C and 40% of relative humidity level, the product drying time is 5 hours.

- Drying time is influenced by relative humidity level and by temperature and may change significantly.

SUGGESTIONS

- Do not apply at temperatures lower than +5°C or higher than +35°C.
- During summer season apply the product in the cooler hours of the day.
- Do not apply with imminent threat of rainwater or ice, in case of strong fog or relative humidity level higher than 70%.
- It does not create a walkable surface, it can be walk over only for periodic maintenance.

CLEANING

Wash tools with water before product hardening.

SAFETY

For the handling, see product safety sheet. Wear means of protection.

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