

WATERPROOFING - Liquid

ORIPLAST REFLEX

Waterproofing and ultra-reflective coating, resistant to water stagnation and flexible to cold

One-component waterproofing and ultra-reflective coating for outdoor, water-based, formulated with structured elastomeric resins and enriched with high solar reflective index nanoparticles. Ready to use, resistant to water stagnation and flexible at low temperature. It guarantees UV rays reflection, lowering the temperature of the support over which it is applied, favoring a high energy saving for air conditioning. It also increases the efficiency of solar panels.

BENEFITS

- Special formulation which combines high solar reflection ability, resistance to water stagnation and flexibility to cold.
- It contributes to the reduction of energy demand for summer conditioning, thus favoring energy saving and lowering cities pollution level.
- It improves internal living comfort in non-conditioned buildings.
- The reduction of roof superficial temperature and the diffused light improve the efficiency of photovoltaic panels.
- It reduces Heat Island Effect.
- High resistance to weathering, UV rays and salty air.
- It can be applied on bituminous and slated membranes in good condition without primer.
- Easy and quick to apply.
- Solvent free.

APPLICATION FIELDS

Product designed for the waterproofing and the protective coating of flat or pitched roofs; horizontal, vertical or sloped surfaces. *Oriplast Reflex* can be used over many different substrates such as bituminous or slated membranes in good conditions, concrete surfaces, galvanized sheets, expanded polyurethane panels.

Product suitable for outdoor.

YIELD

Total coverage:

2.0 kg/m² if used as waterproofing.

1.0 kg/m² if used as protective coating.

COLOUR

White.

PACKAGING

5 kg or 20kg plastic bucket.

Pallet:

- 5 kg plastic bucket – 20 boxes (4 pieces each) – 400 kg;

- 20 kg plastic bucket – 48 buckets (960 kg).



Diasen srl

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14

UNI EN 1504-2

**Products and systems for the protection and restoration
of concrete structures – Part 2 : Systems to protect
concrete surfaces**

Adhesion test – direct traction:

0.780 N/mm²,
break type A/B
class B – s2, d0

Fire reaction:



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

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Technical Data

Features		Unit
Yield	2.0 kg/m ² as waterproofing; 1.0 kg/m ² as protective coating.	kg/m ²
Aspect	liquid	-
Colour	white	-
Dilution	max 10% of water, on for airless application	-
Waiting time between 1 st and 2 nd coat (T=20°C/68°F; R.H. 40%)	5	hours
Application temperature	+5 /+35 41/95	°C °F
Maximum humidity	70%	-
Drying time (T=20°C/68°F; R.H. 40%)	5 - 7	hours
Storage	24 months in original packaging and dry place	months
Packaging	5 or 20 kg plastic bag	kg

Crediti LEED®

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 - Minimum energy performance	mandatory
	EAp2 - Minimum performance of the wall	mandatory
	EAc1 – Optimize Energy Performance	from 1 to 27
	EAc2 - Enhanced performance of the wall	2
Materials & Resources	MRp2 - Construction Waste Management	mandatory
	MRC2- Construction Waste Management	from 1 to 2
	MRC3 – Low – emission materials	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 - Minimum energy performance	mandatory
	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 Italia per le Nuove Costruzioni e Ristrutturazioni, 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	mandatory 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 Reflectance Index (SRI)	102%	-	ASTM E1980	-
Superficial temperature difference between bituminous membrane– <i>Oriplast Reflex</i>	~ 48	°C	-	-
External – internal temperature difference	12	°C	UNI 10375 EN ISO 13791 EN ISO 13792	-
Adhesion on slightly worn bituminous membrane - Adhesion Test pull – off	> 7.0	MPa = N/mm ²	ISO 4624 ASTM D4541	excellent
Adhesion on slated membrane - Adhesion Test pull – off	4.3	MPa = N/mm ²	ISO 4624 ASTM D4541	excellent
Adhesion on galvanized sheet - Adhesion Test pull – off	1.7	MPa = N/mm ²	ISO 4624 ASTM D4541	good
Adhesion on slate - Adhesion Test pull – off	2.5	MPa = N/mm ²	ISO 4624 ASTM D4541	good
Adhesion on polyurethane panel (PU) - Adhesion Test pull – off	1.5	MPa = N/mm ²	ISO 4624 ASTM D4541	good
Adhesion on plexiglass - Adhesion Test pull – off	2.0	MPa = N/mm ²	ISO 4624 ASTM D4541	good
Waterproofing (positive pressure)	7.0	atm	EN 8202/21	-
Weathering Test	3000 (> 17 years*)	hours	EN ISO 11507	-
Resistance to 50 freeze-thaw cycles (-15°C/+15°C)	-	-	EN 202	unchanged
Break Elongation Test	327%	-	ISO EN 527-3	-

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Final performance		Unit	Regulation	Result
Break elongation after 3000 hours of weathering test	166%	-	-	-
Tensile strength after 3000 hours of weathering test	1.12	N/mm ²	-	-
Adhesion test – direct traction on concrete	0.780	N/mm ²	EN 1542	Break type A/B
Fire reaction	class B – s2, d0	-	EN 13501-1	-
Stagnant water resistance (9 months)	-	-	-	Very good
Bend Test	12	mm	ISO 1519	-
Viscosity (Brookfield viscometer DV-E s04, 6 rpm, T= 20°C/68°F, R.H. 75%)	50000 – 65000	mPa·s	-	-

* 3000 hours of Weathering Test correspond to about 17 years. This equivalency is merely indicative and may vary according to weather conditions of the place where the product will be used.

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



fig. 1a

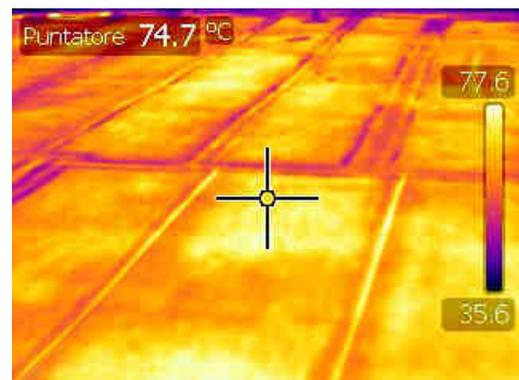


fig. 1b

Situation before the work. Pictures and temperatures taken with a thermal camera (fig. 1 b).



fig. 2a

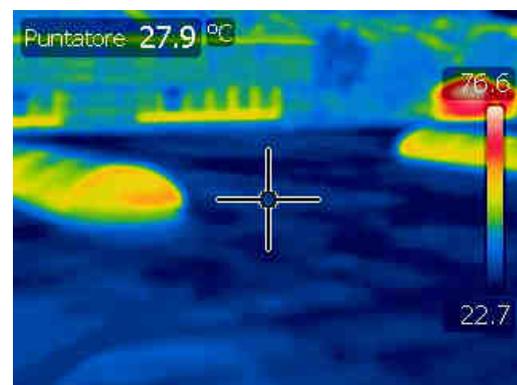


fig. 2b

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

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STORAGE

Store the product in original containers perfectly closed, in well ventilated areas, away from sunlight and ice, at temperatures between +5°C (41°F) and +35°C (95°F). Storage time: 12 months.

PREPARATION OF SUPPORT

The substrate must be completely hardened, dry and resistant enough. The surface must be thoroughly clean, well consolidated, without debris or detaching parts, and it must have the adequate slope to allow the water down flow.

In case of very dirty or crumbly surface, it is recommended a mechanical cleaning. Eventual lesions or damaged parts of the support must be restored before the product application.

Before the product application, it is recommended to cover any doorsteps, fixtures and each element that will not be coated.

Oriplast Reflex sticks to different kind of support without the need of a primer, it is anyway recommended to perform a test to verify the adhesion and the need to use a primer.

Concrete

In case of new realised cement substrate, this must be cured enough.

Restore damaged and crumbly concrete with *Rebuild CLS* (see technical data sheet).

In case of smooth concrete, on not moist support, use the primer *Grip Primer* (see technical data sheet).

If the support is moist, treat the surface with *WATstop* (see technical data sheet).

Metal

Before the application of *Oriplast Reflex*, completely remove rust with *Rust Converter* (see technical data sheet).

If the metal surface is painted, perform a test for the product adhesion. In case of insufficient adhesion, use *Grip Primer* (see technical data sheet).

Slated or bituminous membrane

Make sure that the membrane has been applied for at least 25 – 30 days, to avoid detachments caused by oil release and treat the surface with *Eposint* (see technical data sheet).

On oxidised bituminous membranes or slated membranes, *Oriplast Reflex* (see technical data sheet) can directly be applied without primer.

Consider anyway the installation of suitable ventilation shafts on the membrane, placed according to substrate moisture. This measure is necessary in case of highly absorbent supports which hold moisture, like lightened screed with polystyrene, expanded clay or insulation.

For supports not mentioned in technical data sheet, please contact Diasen technical department.

MIXING

Oriplast Reflex is a one-component product and ready to use. In case of application by airless machine, dilute with at maximum 10% of clean water.

Before the application, mix the product at low speed to prevent air addition, until reaching a homogeneous mix, without clumps. Do not add other substances to the mixture.

APPLICATION

1. *Oriplast Reflex* can be applied in 2 or more coats.
2. Apply a first coat of product by short haired roll or airless, taking care to completely cover the surface. In case of rain over not completely dry product, carefully verify the suitability of next coating.
3. When the first layer is dry (after about 5 hours at 20°C/68°F and 40% relative humidity), apply the next coat in the same way, taking care to cross the 2 coats, in order to completely cover the surface.

Oriplast Reflex can be applied by Graco TexSpray Mark V **airless machine**. Dilute the product with 10% of clean water, set the pressure to 150 bar and use 427 or 527 nozzles.

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DRYING TIME

At a temperature of 20°C/68°F and 40% relative humidity, the product dries in 5 - 7 hours.

- Drying time is influenced by environmental relative humidity and by temperature and may significantly change.
 - Protect *Oriplast Reflex* from water and ice contact for at least 3 days after the application, at 20°C/68°F and 40% relative humidity.
 - If applied over metal, *Oriplast Reflex* dries slower.
- If applied with a higher yield than the expected one, drying time may significantly increase.

SUGGESTIONS

- Do not apply at environmental temperature and at support temperature lower than +5°C (41°F) and higher than +35°C (95°F).

- During summer season apply the product in the cooler hours of the day.
- Do not apply with imminent threat of rainwater or ice, in conditions of strong fog or with relative humidity higher than 70%.
- Apply the product over completely dry surfaces.
- The product creates a non-step area, it is walkable only for periodic maintenance.

CLEANING

Wash tools with water before product hardens.

SAFETY

While handling, always use personal protective equipment and respect the instructions described in product safety data sheet.

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