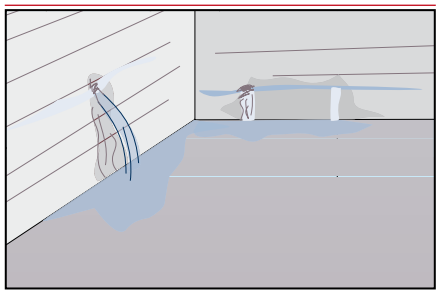
OSMOSEAL FOUNDATION

WATERPROOFING OSMOTIC CEMENT FOR EXTERNAL AND INTERNAL WATERPROOFING OF CONCRETE FOUNDATION STRUCTURES

CHARACTERISTICS		ENVIRONMENTAL		METHOD OF USE		PRECAUTIONS
WATERPROOFING	ALLOWS TO BREATHE	ECO GREEN	RECYCLABLE	MIX MECHANICALLY	APPLY BY ROLLER	STORAGE: IN A DRY PLACE

PROBLEM

WATERPROOFING UNDERGROUND SPACES



Water from infiltrations, unconfined aquifer or normal humidity formed in the land where the foundations lay is the main source of degradation and thus unaccessibly to underground or partially underground spaces. In addition to the high humidity rate that makes the spaces unusable, the salts dissolved in the water cause the plaster to detach. In the most serious cases, in the presence of unconfined aquifer, the water pushed by hydrostatic pressure tends to reach the same external level inside of the space, through cracks or empty capillaries.

SOLUTION

The lack of suitable waterproofing or defects in the same, in addition to causing significant damage, always makes subsequent curative treatments difficult and expensive. Therefore, it is fundamental to prevent and protect the structures from possible water penetration with a waterproof cement coating particularly resistant to aggressive agents, impacts and abrasions during backfilling.

OSMOSEAL FOUNDATION is a premix in powder form, based on high-strength hydraulic binders, water-repellent additives, powdered resins and selected aggregates. It comes as a powder for mixing with water at the time of use.

OSMOSEAL FOUNDATION is reactive with respect to calcium hydroxide, forming stable and insoluble compounds.

ACCORDING TO EUROPEAN NORMS EN 1504-2 CONCRETE SURFACES PROTECTION

C

PI-MC-IR PROTECTIVE COATING

APPLICATION FIELDS

It is used to externally waterproof with a positive thrust the concrete foundation structures, under aquifer subject to infiltrations. **OSMOSEAL FOUNDATION** is also used as waterproofing coating for the masonry in contact with the soil affected by penetrating damp.

ADVANTAGES

- **The ease of application makes the intervention inexpensive and quick.**
- **High penetration and adhesion to the support.**
- **It keeps the permeability to water vapour.**
- **High resistance to pressurised water.**

METHOD OF USE

• SURFACE PREPARATION

It is fundamental to suitably prepare the concrete surfaces to be waterproofed by removing any old plaster and damaged and crumbling parts via chipping.

The support is cleaned of oils, mortar, release agents, dust and efflorescence through water or sand washing treatments in order to obtain a clean and compact support.

Any seepage which occurs is blocked in advance with BETONRAPID quick-setting hydraulic cement. Transudation and percolation are previously blocked by adding **OSMOSEAL FOUNDATION** to BETONRAPID for quick-setting.

The concrete structure will be regularised with RESISTO shrinking-compensating mortar.

The spacers of the shuttering protruding from the wall must be cut and nipped inside a cavity (possibly dovetailed) and filled.

The angles between the floor and walls must be rounded via shelling with RESISTO mortar after uncasing to improve bonding.

Special care must be taken when wetting the concrete support in order to create the conditions for OSMOSEAL FOUNDATION to absorb all the water needed for the osmotic process and for the hardening chemical reactions.

Thus it is fundamental to wet the support carefully several times until saturation.

Excess water in the form of a surface layer must be removed with a sponge.

• MIX PREPARATION

To prepare the mix, gradually pour **OSMOSEAL FOUNDATION**, avoiding the formation of lumps, in a sufficient quantity of water (20%) to obtain a brushable mortar of the consistency of honey by using a drill at low speed.

The mixture ratio is 5 litres of water for each 25 kg package of **OSMOSEAL FOUNDATION**. The average consumption is 3 kg/m^2 applied in two coats.

For smooth or particularly difficult surfaces, in order to improve the bonding to the support, we advise preparing a 1.5 kg mix of LATICRYL adhesive latex +3.5 litres of water separately and then add, always while stirring, **OSMOSEAL FOUNDATION** in the quantity of a 25 kg bag.

• APPLICATION

Remix **OSMOSEAL** mortar to a honey-like consistency during use without adding water, and apply within an hour of preparation, working from top to bottom, starting with the walls and finishing with the floor.

OSMOSEAL FOUNDATION mortar should be applied with a Tampico fibre brush or sprayed with suitable equipment.

Spread a first coat on the substrate so as to achieve a uniform covering layer, then apply the second coat on top of the first as it hardens, following the same procedure.

• COVERAGE

About 3 kg/m^2 with two coats.

(See following)

TECHNICAL CHARACTERISTICS

	Standard	OSMOSEAL FOUNDATION
Appearance		Powder
Colour		Grey Red
Apparent density	**EN 1015-6**	1.30 ± 0.05 kg/L
Maximum granulometry		0.8 mm
Mixing water		20%
Storage in original packaging in a dry place		12 months
Mix properties and workability		
Density of mix		1.70 ± 0.05 kg/L
pH mix		12
Workable mix duration (*)		ca. 60 minutes
Application temperature		+5°C ÷ +35°C
Minimum application thickness		1 mm
Maximum application thickness		3 mm (in two coats)
Performance characteristics	**Standard**	**Product performance**
Class and type	**EN 1504-2**	**C PI-MC-IR**
Water vapour permeability	**EN 7783**	Sd <1 m - class I
Adhesion strength	**EN 1542**	≥2.0 MPa
Capillary absorption and water permeability	**EN 1062-3**	w < 0.1 kg/m²·h$^{0.5}$
CO_2 permeability	**EN 1062-6**	Sd >50 m
Impermeability to water	**EN 14891**	>500 KPa - impermeable
Resistance to compression	**EN 12190**	45.0 MPa
Resistance to bending	**EN 196/1**	7.0 MPa
Thermal resistance - Operating temperature		–30°C ÷ +90°C
Fire reaction	**EN 13501-1**	A1
Hazardous substances	**EN 1504-2**	in accordance to ZA.1 note

Test conditions: temperature 23±2°C, 50±5% R.H. and air velocity in test area <0.2 m/s. **The data shown may vary depending on the specific work site conditions: temperature, humidity, ventilation, absorbency of the base coat.**
(*) The stated times are longer or shorter as the temperature decreases or increases.
In accordance with the general principles defined in **EN 1504-9** - Principles for evaluation of the use of products and systems.

(See previous)

• PRECAUTIONS

- Use cold water in the summer and at 20°C in the winter.
- Application Temperature from +5°C to +35°C.
- During the summer and on windy days, it is necessary to pay particular attention to keeping the waterproofed surfaces suitably wet with nebulised water in order to avoid rapid dehydration.
- Do not apply on supports subject to structural or settling movements.
- A useful precaution is to wait 48 hours before loading the finished waterproofing.
- Store in a dry place closed in the original packaging.

REFERENCES

Subways - Verona

Subways - Verona

New Jersey - Val d'Ega

PACKAGING

25-kg-bucket

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