

# DIATHONITE REGULARIZATION

*Dehumidifying regularization with anti-salt barrier properties*

Pre-mixed mortar based on natural hydraulic lime and selected mineral aggregates in a suitable grain size curve (diameter 0.5÷1.0 mm). It constitutes an excellent base for preparing the substrate on which the dehumidifying plaster will be applied. It acts as an anti-saline barrier, assisting in the treatment of humidity-related problems, helping and enhancing the action of the macroporous plaster, especially in cases where there is a medium/high risk of deterioration in the wall material. Its composition and breathability characteristics guarantee excellent water vapour permeability, allowing the masonry to breathe properly and blocking the diffusion of salt crystals.

## ADVANTAGES

- Highly breathable.
- High workability.
- High mechanical resistance.
- Forms a salt barrier.
- Suitable for all cases of salinity.
- Ideal for historical and green building restoration.
- Respects the thermo-hygrometric balance of the substrate.
- Perfect compatibility with lime and silicate mineral finishes.
- Made with NHL 5 natural hydraulic lime.
- Environmentally friendly.

## YIELD

12 (±15%) kg/m<sup>2</sup> per cm of thickness.

## COLOUR

White.

## PACKAGING

25 kg paper bags.  
Pallet: n° 48 bags (1200 kg).

## FIELDS OF APPLICATION

The product is used as anti-saline barrier in the treatment of humidity related problems (rising damp, bad thermal protection,..), helping and enhancing the action of the dehumidifying plaster (*Diathonite Deumix\**). *Diathonite Regularization* avoids the passage of water-soluble salts in the plaster layer. Moreover, its

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use is useful to uniform the absorption of the existing substrate, to regularize the substrate and to provide a better adhesion surface to the plaster. *Diathonite Regularization* is suitable for load-bearing and curtain walls made of brick, tuff, stone and mixed internal and external masonry before the application of dehumidifying plaster. The product is designed for green building and restoration work where it is necessary to guarantee the breathability of the wall and the use of natural materials.

## STORAGE

Store the product in its original tightly closed packaging, adequately protected from the sun, water and frost and kept at temperatures above +5°C for a maximum period of 12 months.

## SUBSTRATE PREPARATION

The temperature of the sub-layer must be between +5°C and +30°C. The substrate must be completely hardened and sufficiently resistant. The surface must be thoroughly clean, free of mould and efflorescence, well consolidated, with no crumbling or loose parts. If necessary, carry out thorough cleaning with hydro-sandblasting and subsequent pressure washing. Remove old plaster and completely strip the wall down to the brick or stone with electric hammers, compressed air or chisel. Do not apply the product on old plaster, paint or smoother. Remove interstitial salt deposits from



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surfaces. It is advisable to protect thresholds, door and window frames and any elements that should not be covered by the rendering before starting application.

## MIXING

Mix *Diathonite Regularization* with 15 - 20% clean water, **4 - 5 L per bag** (25 kg).

Gradually add the powder to the water.

Mixing can be done in a concrete mixer, in a bucket (by hand or with a low-speed mechanical stirrer) or with a continuous mixer until a homogeneous, lump-free mixture is obtained. The water specified is indicative.

It is possible to obtain mixtures with a more or less fluid consistency depending on the application to be made.

Never add foreign compounds to the mix.

## APPLICATION

### Application by hand

1. Before applying the first layer, wet the substrate with water at low pressure until saturated, so as not to subtract water from the mix. Incomplete saturation could compromise the adhesion of the rendering and create cracks. This operation is **essential** during the summer period.
2. Apply with a trowel a 0.5 - **3.0 cm** layer of *Diathonite Regularization* to even out the water absorption of the masonry and improve adhesion.
3. Apply subsequent layers until reaching the required thickness. Each layer must have a minimum thickness of 0.5 cm and a maximum thickness of 3.0 cm. For greater thicknesses apply the product in several layers. Subsequent layers must be applied when the underlying layer has hardened.
4. After application, smooth the rendering to obtain as flat a surface as possible.
5. Trowel *Diathonite Regularization* with a sponge trowel. The rendering must be trowelled when placing a hand on the

surface, the fingers do not sink but leave a light impression. Correct trowelling avoids the formation of micro-cracks.

6. To improve the maturation of the rendering, where possible, lay a polyethylene sheet over it for about 1 day after application, so as to maintain a high level of humidity, or wet the rendering until it has completely set.

### Application with plastering machine

*Diathonite Regularization* can be applied with a pre-mixing spray machine. Use a plastering machine type **Pft G4 - G5** equipped with the following accessories: closed paddle mixer, D6 lung, 25x37 mm mortar tube length ml. 10/20, spray lance.

1. Before applying the rendering, wet the substrate with water at low pressure until saturated, so as not to subtract water from the mix. Incomplete saturation may compromise the adhesion of the rendering and create cracks. This operation is essential during the summer period.
2. Load the contents of the bags into the hopper and adjust the flow meter.
3. Apply a layer of *Diathonite Regularization* between 0.5 and **3.0 cm** thickness and let it dry. For greater thicknesses apply the product in several layers. Subsequent layers should be applied when the underlying layer has hardened.
4. Once the application is complete, smooth the rendering to obtain as flat a surface as possible.
5. Trowel *Diathonite Regularization* with a sponge trowel. The rendering should be float-finished when placing a hand on the surface, the fingers do not sink but leave a slight impression. Correct trowelling avoids the formation of micro-cracks.
6. To improve the maturation of the rendering, where possible, lay a polyethylene sheet over it for about 1 day after application to maintain high humidity or wet the rendering until it has completely set.

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## DIASEN DEHUMIDIFYING SYSTEM

### Dehumidification from the inside of a basement wall

1. Completely strip the deteriorated surface down to the brick or stone from floor level, removing the skirting boards.
2. If necessary, level the surface.
3. Apply *WATstop* (yield 1.0 kg/m<sup>2</sup>, see technical data sheet) up to the ground line to block counterthrust moisture.
4. Before the complete drying of *WATstop* (within 48 hours), spread on the surface up to 50 cm above the ground line *Diathonite Regularization* with trowel or spray with a minimum thickness of 0.5cm to create an anti-saline barrier. When the level of degradation of the masonry is very high, the rendering must be applied on the whole wall. In any case, the condition of the masonry must be assessed beforehand. Leave the surface of the rendering rough to improve plaster adhesion.
5. Wait for *Diathonite Regularization*, to dry, wet the rendering and apply the dehumidifying plaster *Diathonite Deumix*<sup>+</sup> by hand or by pump with a minimum thickness of 2 cm.

### Dehumidification from inside or outside in presence of salt efflorescence

1. Totally remove the deteriorated surface up to the brick or stone starting from the floor level, removing the skirting boards.
2. Wet the substrate thoroughly one hour before application. This operation is **FUNDAMENTAL** in summer.
3. Spread on the surface up to 50 cm above the part affected by mould or efflorescence *Diathonite Regularization* with trowel or spray with a minimum thickness of 0.5 cm to create an anti-saline barrier. When the level of deterioration of the masonry is very high, the rendering must be applied on the whole wall.
4. In any case, the condition of the masonry

must be assessed beforehand. Leave the surface of the rendering rough to improve plaster adhesion.

5. Wait for *Diathonite Regularization* to dry and apply *Diathonite Deumix* dehumidifying plaster by hand or by pump with a minimum thickness of 2 cm.

## DRYING TIMES

At a temperature of 23°C (73.4 °F) and 50% relative humidity, the product dries completely in 1 day.

- Drying times are influenced by the relative humidity of the environment and temperature and can vary significantly.
- Apply *Diathonite Regularization* within 45 minutes after mixing.
- If applied outdoors, protect *Diathonite Regularization* during curing from frost, direct sunlight and wind.
- When applied outdoors, in case of high temperatures, strong sunlight or strong ventilation, it is necessary, after the application, to wet the plaster within the first 24 hours.
- Before plastering, always check that the rendering has adhered.

## SUGGESTIONS

- Do not apply at temperatures below +5°C (+41 °F) and above +30°C (+86 °F).
- If used outdoors, during the summer season apply the product during the cooler hours of the day, out of the sun.
- Outdoors, do not apply when there is imminent danger of rain or frost, in heavy fog or when relative humidity exceeds 70%.

## CLEANING

The equipment used can be washed with water before the product hardens.

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## SAFETY

When handling, comply with the product's safety data sheet.

Always use protective gloves and a dust mask when handling.

\* The above data, although carried out according to standardised test methods, are indicative and may be subject to change as specific site conditions change.

## Technical Data \*

Features		Units
Yield	12 ± 15% per cm of thickness	kg/m <sup>2</sup>
Minimum thickness	0.5	cm
Aspect	powder	-
Colour	white	-
Granulometry	0.5 – 1.0	mm
Density	1230 (±10%)	kg/m <sup>3</sup>
Water needed	4 - 5 L per bag of 25 kg	L/kg
Mixture consistency	sprayable	-
Application temperature	+5 / +30	°C
	+41 / +86	°F
Drying time (T=23°C/+73.4°F; R.H. 50%)	1	day
Storage	12 months in original containers and dry places	months
Packaging	25 kg paper bag	kg

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Final performances		Units	Regulations	Results
Resistance to compression	4,30	N/mm <sup>2</sup>	UNI EN 1015	category CS III
Resistance to water steam diffusion ( $\mu$ )	< 8,0	-	UNI EN ISO 12572	-
Water absorption by capillarity	0,35	kg/m <sup>2</sup> h <sup>0,5</sup>	UNI EN 1015 - 18	category W2
Adhesion to support (brick)	0,258 – C type break	N/mm <sup>2</sup>	UNI EN 1015-12	-
Fire resistance (Euroclass)	A1	-	EN ISO 1716 EN 13823 EN 13501-1	-
Salt resistance	resistant	-	ASTM C 1012-95	excellent
Regularization consistency by hand	64,5	mm	EN 1015-3	-
Bulk density of wet mortar	1360	kg/m <sup>3</sup>	EN 1015-6	-
Freeze-thaw resistance	resistant	-	EN 998-1	excellent

\*\* credits valid only for LEED Standards for Schools, LEED for Core & Shell, s. 2009.

## LEED® Credits

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

Thematic area	Credits	Point
Materials & Resources	MRc2- Construction Waste Management	da 1 a 2
	MRc4 – Recycled Content	da 1 a 2
	MRc5 – Regional Materials	da 1 a 2
	MRc6 - Rapidly Renewable Materials	1
Indoor Environmental Quality	IEQc3.2 - Construction Indoor Air Quality Management Plan—Before Occupancy	1
	IEQc4.2 - Low Emitting Materials - Paints and Coatings	1
	IEQc11 - Mold Prevention*	1



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## Ecological Building Systems

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