

DIATHONITE DEUMIX⁺

Dehumidifying, anti – saline, eco friendly and thermal plaster

Lightweight macroporous plaster which combines in one product the properties of a dehumidifying plaster and an anti – saline regularization layer. Suitable for dehumidification works and for any kind of salinity. The product is composed by natural materials as cork (granulometry 0 – 3 mm / 0 – 0.12 in), clay, natural hydraulic lime NHL 5 and special additives which improve the adhesion and breathability of the product. Its macroporosity structure is able to receive the salts present in the masonry and allow water to evaporate.

BENEFITS

- High porosity
- Excellent breathability
- Good reaction to fire: class A1. It does not burn and does not smoke
- Applicable to any kind of wet masonry, by hand or plaster machine
- Excellent water repellent properties
- Thanks to its low thermal conductivity it limits superficial and interstitial condensation, contributing to the thermal insulation of the wall
- It respects the thermal-hygrometric equilibrium of the support
- Perfect compatibility with mineral lime and silicate finishing
- Eco-friendly

PACKAGING

20 kg (44.09 lb) paper bags.
Pallet: n° 60 paper bags.

STORAGE

Store the product in its original containers tightly closed, away from sun, water, and ice and kept at temperature higher than +5°C (41°F).
Storage time: 18 months.

APPLICATION FIELDS

Ready to use plaster for indoor and outdoor. Suitable for dehumidification works, even for walls in direct contact with the ground. The product is also used for the restoration of masonry characterized by capillary rising damp. *Diathonite Deumix⁺* also solves all those problems related to mould caused by humidity, guaranteeing a healthy location and a high living comfort. Moreover *Diathonite Deumix⁺* is a completely natural compound and it is suitable wherever eco-friendly materials are required.

YIELD

kg/m² 4.40 (±10%) per cm of thickness.
lb/ft² 2.29 (±10%) per inch of thickness.

COLOUR

Light grey.



Diasen srl

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UNI EN 998-1

Specification for mortar for masonry - Part 1: Mortar for internal and external plaster

Thermal conductivity: $\lambda=0.080$ W/mK (category T1)
Compression resistance: 3.11 N/mm² (category CS II)
Fire reaction: Class A1
Vapour permeability value: $\mu=4$
Adhesion: 0.258 N/mm² – FP: C
Density: 450 ± 45 kg/m³
Durability (freeze-thaw cycle): analysis based on current regulation of the place where the mortar is used.



Thermal – acoustic insulation - Plasters

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Technical Data

Features		Units
Yield	4.40 (±10%) kg/m ² per cm of thickness	kg/m ²
	2.29 (±10%) lb/ft ² per inch of thickness	lb/ft ²
Aspect	powder	-
Colour	light grey	-
Granulometry	0 – 3	mm
	0 – 0.12	in
Bulk density	450 (±10%)	kg/m ³
	28.09 (±10%)	lb/ft ³
w/c ratio	0.55 – 0.65 l/kg	l/kg
	11 – 13 l per bag (20 kg)	
	2.91 – 3.44 gal U.S per bag (44.09 lb)	gal U.S/lb
Mixture consistency	sprayable	-
Application temperature	+5 /+30	°C
	+41/+86	°F
Drying time (T=20°C T=68°F; R.H. 50%)	15	days
Storage	18 months in original containers and dry places	months
Packaging	20 kg paper bag	kg
	44.09 lb paper bag	lb

Final performances		Units	Regulations	Results
Thermal conductivity (λ)	0.080	W/mK	EN 12667	-
Thermal resistance (R) for 1 cm of thickness	0.125	m ² K/W	UNI 10355	-
Thermal resistance (R) for 1 inch of thickness	1.803	ft ² °F h/BTU	-	-
Compressive strength after 28 curing days	3.11	N/mm ²	EN 1015	category CS II
	451	lbf/in ²	-	-
Water vapour permeability coefficient (μ)	4	-	EN ISO 12572	-
Capillary water absorption (90 minutes)	-	-	UNI EN 1015-18	categoria W0
	-	-	-	-
Total porosity of hardened mortar	71,64%	-	-	-
Adhesion onto the support (brick)	0.258	N/mm ²	EN 1015-12	type C break
	37.41	lbf/in ²	-	-
Reaction to fire	class A1	-	EN ISO 1716 EN 13823 EN 13501-1	-

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

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PREPARATION OF SUPPORT

The substrate must be completely hardened, dry and resistant. The surface must be thoroughly clean, well consolidated, without debris or detaching parts.

Remove traces of oils, fats, waxes and any present saline efflorescence.

Old plaster

Remove the old plaster up to 1 meter above the band where moisture is visible.

In case of product application on painted plaster, since the massive amount of painting on the market, it is advisable to perform an adhesion test to verify the suitability of the application or the need to use the *Aquabond* primer (see technical data sheet).

In case of product application to smooth surfaces (concrete pillars, existing and not painted plasters, wood, metal) apply *Aquabond* primer (see technical data sheet) or, if necessary, pinch the support.

Concrete

In case of crumbling and crumbly concrete, provide for restoration with suitable cement mortar.

For the treatment of reinforcing rods apply *Anticorrosivo 2K* (see technical data sheet).

Smooth: foresee the application of the *Aquabond* primer (see technical data sheet).

Raw: no primer required, the application can be executed directly on the surface strata

For surface strata not on this technical sheet, contact the Diasen Technical Department.

MIXING

- If the product is mixed in a concrete mixer or with drill mixer, add 11 – 13 l / 2.91 – 3.44 gal U.S. of water per bag of *Diathonite Deumix⁺* (20 kg / 44.09 lb). **Do not mix in a cement mixer for more than 3 – 4 minutes.**
- The mixture must be foamy.
- Never add anti frost products, cement, aggregates or other additives.

Masonry

Eventually clean with a brush and successive pressure wash. Check masonry's condition, repair damaged bricks and stones or not well secured ones. On supports which require regularization, use a lime – filled mortar to keep breathability.

APPLICATION

Application by hand

1. Abundantly wet the substrate an hour before the application. This step is **fundamental** during summer season. In case of use of primer, no need of wet surface.
2. For low thick application (2 – 3 cm / 0.79 – 1.18 in) create reference bands to obtain the required thickness, apply *Diathonite Deumix⁺* in one coat and let it dry.
3. For bigger thickness, apply a first coat of *Diathonite Deumix⁺* and let it dry.
4. Over the first applied coat, create reference bands to obtain the required thicknesses. Points and reference bands must be realised with the same product or it is possible to use steel or wood sections as guide. In this case, these must be removed after the application of the last coat. Empty spaces must be filled with *Diathonite Deumix⁺*.
5. Corner sections can be placed together with reference bands, anyway before the application of the last coat.
6. Any successive layers must be applied when the previous one is superficially dry and visually lighter in color (after about 12/24 hours). Wet the plaster before the application of any layer.
7. Wet the plaster before apply each coat.
8. Increase the thickness according to the degree of salinity of the masonry.
9. Beyond 6.00 cm / 2.36 in of thickness it is recommended to use *Polites 140* plaster mesh (see technical data sheet). The net must be drowned into the plaster at about half of the total thickness. The mesh must always be used, regardless the thickness, even for application on panels, wood, plasterboard or unstable substrates.
10. During the smoothing, do not push *Diathonite Deumix⁺* that much against the wall. This way, the porosity of the plaster can be preserved. Use a metal straight edge a trowel to accurately smooth the surface.

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Application by pump

Diathonite Deumix can be applied using plastering machine for light weight pre-mixed products.

The set up of the machine varies according to the specific type pump used.

It is possible to use plastering pump such as three phase PFT, equipped with stator D6 – 3, closed or semi-closed paddle mixer and 45/55 mm hose.

Follow the instructions in the previous paragraph for application. Dough water is adjusted through the machine's flowmeter starting from high dosage and decreasing the flow of water until the consistency is suitable for perfect clinging of the material. Spray the product from the bottom up.

APPLICATION AS DIASEN DEHUMIDIFYING SYSTEM

Dehumidification from the inside of an underground wall

1. Completely remove the damaged surface until reaching brick or stone, starting from the flooring level, removing the baseboard.
2. Apply *WATstop* (see technical data sheet) to stop humidity in counterthrust.
3. Before the complete drying of *WATstop* (within 48 hours), apply *Diathonite Deumix* dehumidifying plaster, by hand or pump with a minimum thickness of 2.5 – 3.0 cm (0.98 – 1.18 in).

Dehumidification from the inside of a semi-underground wall

1. Completely remove the damaged surface until reaching brick or stone, starting from the flooring level, removing the baseboard.
2. Apply *WATstop* (see technical data sheet) until ground level to stop humidity in counterthrust.
3. Before the complete drying of *WATstop* (within 48 hours), apply *Diathonite Deumix*⁺ on the surface up to 50 cm / 19.7 in above ground level by American Spatula or spray, with a minimum thickness of 2.5 – 3.0 cm (0.98 – 1.18 in).

Dehumidification from the inside or outside of an underground wall

1. Completely remove the damaged surface until reaching brick or stone, starting from the flooring level, removing the baseboard.
2. Wet the support abundantly one hour before application.
3. Apply *Diathonite Deumix*⁺ by hand or pump with a minimum thickness of 2.5 – 3.0 cm (0.98 – 1.18 in).

DRYING TIME

At 23°C / 74°F and with relative humidity level of 50%, the product dries completely in 10 – 15 days.

- Drying time is influenced by humidity level and temperature and may significantly change.
- If the *Diathonite Deumix*⁺ plaster is applied in high thicknesses, the drying times extend considerably.
- If applied outside, protect *Diathonite Deumix*⁺ plaster from ice, direct sun light and wind while drying.
- In case of high temperature, direct sunlight or strong wind it is necessary to wet the plaster 2/3 times per day for the next 2/3 days after the application.
- In case of temperature above 28°C (82°F) wet the plaster every 2 hours to avoid cracking.
- If applied internally, ventilate as much as possible the environment during application and during drying of the product.

To finish *Diasen Dehumidifying System* it is possible to apply inside and outside *Argacem HP* (granulometry 0 – 0.6 mm / 0 – 0.02 in), *Argatherm* (to improve thermal insulation with granulometry 0 – 0.6 mm / 0 – 0.02 in) and *Argacem Ultrafine* for perfectly smooth surfaces. Refer to the technical data sheets for these types of smoothers.

For finishing, use externally *Diathonite Cork Render*, *Acrilid Protect Coaing* or water repellent and breathable finishes. Inside, use *C.W.C. Stop Condense*, *Limepaint*, *Decorck* or breathable finish.

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SUGGESTIONS

- Do not apply at temperature lower than +5°C / 41°F and higher than +30°C / 86°F.
- During summer season, apply the product during the cooler hours of the day, away from sun.
- Do not apply with imminent threat of rain or ice, in condition of strong fog or with relative humidity level higher than 70%.
- If applied internally, it is imperative that the outside surface does not absorb water. Otherwise, treat the surface with *BKK o BKK Eco*.
- Ventilate the rooms after application until full drying, avoiding severe heat shifts due to the heating up.
- In case of facade walls, apply a translucent, water – repellent silossanic like *BKK o BKK eco*.
- In case of a irregular application surface or affected by diffuse saline efflorescences, level it with *Diathonite Regularization* (see data sheet) before proceeding with the application of *Diathonite Deumix⁺*.
- Before applying the product, it is recommended to cover thresholds, fixtures and any element that should not be covered with plaster.
- *Diathonite Deumix⁺* performs its anti – saline function until full salt saturation of porosity. The saturation rate varies significantly and it is not possible to predict the duration of the plaster itself.
- *Diathonite Deumix⁺* is just a part of the rehabilitation project that must include all the necessary arrangements to avoid the continuous entry of water into masonry.

CLEANING

Wash tools with water before the product hardens.

SAFETY

For the handling, see product safety data sheet. While handling always use protective gloves and antidust mask.

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