

# WATstop (A+B+C)

Epoxy-cement waterproofing (water barrier).

Three component epoxy resin to waterproof in negative and positive pressure, to use as osmotic on underground wall, to encapsulate rising damp and to realize a vapour barrier over moist substrate. The product is formulated with a special epoxy resin (part A), a catalyst (part B) and special cement (part C).

## BENEFITS

- Resists to 9.5 atm (132.3 psi) of positive and negative pressure (counterthrust).
- No excavation or demolition, if applied inside.
- It is used as water barrier onto ground walls in *Diasen Dehumidifying System* (in combination with *Diathonite Rinzafo* and *Diathonite Deumix* – see technical data sheets).
- Excellent waterproofing, filling and consolidating properties.
- Multipurpose solution.
- Used as vapour barrier on concrete substrates.
- Thanks to its osmotic properties, it avoids removal and disposal of old plasters.
- Easy to plaster, to paint over and to tile.
- Applicable also at low temperatures (+5°C / +41 °F).
- Solvent free product.

## COLOR

Black, white.

## APPLICATION FIELDS

Product suitable as:

- waterproofing for positive and negative pressure (counterthrust), for damp problems, when it is not possible to act directly on the origin of infiltration (ground walls, underground rooms, elevator shaft, garages, basements, cellars and tunnels);
- encapsulates rising damp and saltpetre in *Diasen Dehumidifying System*;
- steam barrier of ground level floors;
- filler for joints tiles and cracks on substrate to restore.

Suitable inside and outside.

## YIELD

- 1.00 kg/m<sup>2</sup> (62.34 ft<sup>2</sup>/gal U.S.) as vapour barrier with a support's humidity content < 4%, in *Sport Flooring* or in *Diasen Dehumidifying System*.
- 2.00 kg/m<sup>2</sup> (31.17 ft<sup>2</sup>/gal U.S.) as waterproofing in counterthrust.

## PACKAGING

Each bucket contains 3 components (A+B+C) already ready to be mixed.

5 kg (0.86 gal U.S.) or 10 kg (1.73 gal U.S.) plastic buckets.

Pallet: - n° 84 buckets of 5 kg (tot 72.24 gal U.S.);  
- n° 48 buckets of 10 kg (83.04 gal U.S.).

## STORAGE

Store the product in its original containers tightly closed, in well ventilated areas, away from sunlight water and ice, and kept at temperature between +5°C (+41°F) and +35°C (+95°F).

Storage time: 12 months.

Diasen srl  
Zona Industriale Berbentina, 5 Sassoferrato ANCONA 14  
EN 1504-2  
Products and systems for the protection and restoration  
of concrete structures –  
Part 2: Systems to protect concrete surfaces

μ = 13361

## Waterproofing - Liquid

is stated to the best of our experience and could be confirmed by exhaustive practical testing, or the characteristics of the support. Please refer to the technical data sheet for further information. In case of uncertainties or doubts, please contact our technical assistance for the purpose in order to determine the more suitable solution on [www.diasen.com](http://www.diasen.com).



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

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Technical Data		
Features		Units
Yield	1.00 kg/m <sup>2</sup> (62.34 ft <sup>2</sup> /gal) as vapour barrier with a support's humidity content <4%, in <i>Sport Flooring</i> or in <i>Diasen Dehumidifying System</i> .	kg/m <sup>2</sup>
	2.00 kg/m <sup>2</sup> (31.17 ft <sup>2</sup> /gal) as waterproofing in counterthrust.	(ft <sup>2</sup> /gal)
Colour	black, white	-
Mixing water	30 - 40% of water if applied by roll or brush	-
	10 - 20% of water if applied by trowel	-
Pot life at +20°C / +68°F, R.H. 40%	2	hours
Waiting time between 1st and 2nd coat (T=+20°C / +68°F; R.H. 40%)	From 5 to 24	hours
Application temperature	+5 /+35	°C
	+41 /+ 95	°F
Drying time (T=+20°C / +68°F); R.H. 40%)	24	hours
Storage	12 months in original containers and in dry place	months
Packaging	5 kg (0.86 gal U.S.) or 10 (1.73 gal U.S.) plastic buckets	kg / gal U.S.

Final performances		Units	Regulations	Results
Waterproofing with positive pressure	9.50	atm	EN 12390-8	-
	139.61	psi	-	
Waterproofing with negative pressure (counterthrust)	9.50	atm	-	-
	139.61	psi	-	
Water vapour permeability	μ = 13361	-	EN ISO 7783	-
Adhesion on concrete surface Adhesion test – pull off	2.50	N/mm <sup>2</sup>	EN ISO 4624	good
	362.59	lbf/in <sup>2</sup>	ASTM D4541	
Adhesion on tuff Adhesion test – pull off	3.00	N/mm <sup>2</sup>	EN ISO 4624	good
	435.11	lbf/in <sup>2</sup>	ASTM D4541	
Adhesion on chipping floor Adhesion test – pull off	1.50	N/mm <sup>2</sup>	EN ISO 4624	good
	217.56	lbf/in <sup>2</sup>	ASTM D4541	
Adhesion on expanded polyurethane panel (PU) Adhesion test – pull off	1.25	N/mm <sup>2</sup>	EN ISO 4624	good
	181.30	(bf/in <sup>2</sup>	ASTM D4541	

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Final performances		Units	Regulations	Results
Adhesion on expanded polystyrene (EPS)	1.50	N/mm <sup>2</sup>	EN ISO 4624	good
Adhesion test – pull off	217.56	lbf/in <sup>2</sup>	ASTM D4541	
Adhesion on glazed ceramic tile	2.50	N/mm <sup>2</sup>	EN ISO 4624	good
Adhesion test – pull off	362.59	lbf/in <sup>2</sup>	ASTM D4541	
Adhesion of the system <i>WATstop + Acriflex Winter</i> on PVC	> 7.00	N/mm <sup>2</sup>	EN ISO 4624	excellent
Adhesion test – pull off	> 1015.26	lbf/in <sup>2</sup>	ASTM D4541	
Adhesion of the system <i>WATstop + Acriflex Winter</i> on expanded polyurethane panel (PU)	1.83	N/mm <sup>2</sup>	EN ISO 4624	good
Adhesion test – pull off	265.42	lbf/in <sup>2</sup>	ASTM D4541	
Solvent resistance	-	-	-	non resistant
Organic acids resistance	-	-	-	non resistant
Inorganic acids resistance (5% concentration)	-	-	-	not good
Resistance after 50 freeze-thaw cycles (-15°C/+15°C)	-	-	UNI EN 202 ASTM C666	unchanged
Weathering Test resistance	2000 hours (> 10 years*)	hours / years	EN ISO 11507 ASTM D4587	-

\* 1680 hours of Weathering Test are compared to 10 years. This equivalency is merely indicative and may vary according to weather conditions of the place of use of the product. The above data even if carried out according to regulated test methods are indicative and may change varying the specific site conditions.

## PREPARATION OF SUPPORT

The support must be completely hardened and resistant. Otherwise restore it with a suitable cementitious mortar. The surface must be thoroughly clean, well consolidated, without debris or detaching parts.

The support must be as regular and workable as possible.

Before the application, it is recommended to cover, window and door sills and any other element that must not be covered with the product.

### Irregular vertical substrates

Level the surface with cement or lime based mortar or plaster (such as *Diathonite Regularization* – see technical data sheet).

## Plasters

Make sure that the plaster is well bonded to the substrate. Otherwise remove or restore it.

With painted or skimmed plasters, make sure that the superficial layer is well bonded to the substrate.

## Concrete

In presence of new realised cement substrate, this must be sufficiently dry and cured.

The concrete support must have a relative humidity equal to or less than 4%.

## Tiles

Old ceramic pavements must be attached to the substrate (otherwise remove them and fill with cementitious mortar) and must not present any debris or detaching parts such as greases, waxes, oils, etc.

According to the wide range of tiles that can be found on the market, it is recommended to realize a test in order to verify the perfect adhesion of the product.

Joints can be filled with *WATstop*, applied by stainless steel or rubber trowel.

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## MIXING

1. Open the epoxy paste (part A) and pour it completely into the bigger bucket.
2. Open the cement (part C), pour it slowly into the bucket and mix.
3. Open the catalyst (part B), pour it completely into the bucket and perfectly mix the three components (A+B+C) until obtaining a homogeneous paste, without lumps. Use a professional drill mixer.
4. Add clean water in the following proportion  
-10 - 20% in weight if the product is applied by trowel;  
-30-40% in weight if the product is applied by short haired roll or by brush.
5. Do not close the bucket after mixing. *WATstop* creates an exothermal reaction.

Depending on the absorption degree of the substrate and on environmental conditions, it is recommended to measure the right amount of water to have the right consistency (max 40%).

Adding a higher percentage of water could compromise the effectiveness of the product. Never add anything else to the compound.

## APPLICATION

1. Apply *WATstop* by trowel in at least two coats or by short haired roll in more coats, taking care that the product penetrates well in the substrate and the surface is completely covered. In case of rain over not perfectly dry product carefully verify the suitability of the next layer.
2. Wait at max 24 hours between one coat and the next one.
3. Eventual successive coats (smoothers, regularization, plasters, paints, etc.) must be applied within 48 hours.

### Dehumidification from inside of a completely underground wall

1. Take off completely the damaged surface until brick or stone.
2. If the wall is very irregular, level it with a lime or cement based plaster like *Diathonite Regularization* (see technical data sheet).
3. Apply *WATstop* with a yield of 1.0 kg/m<sup>2</sup> - 62.34 ft<sup>2</sup>/gal U.S. on a completely dry wall as a consolidating product.
4. Before *WATstop* is completely dry (24 hours at +20°C - +68°F and R.H. of 40%), apply the

### Dehumidification from inside of a partly underground wall

1. Take off completely the damaged surface until brick or stone.
2. If the wall is very irregular, level it with a lime or cement based plaster, like *Diathonite Regularization* (see technical data sheet).
3. Apply *WATstop* with a yield of 1.0 kg/m<sup>2</sup> (62.34 ft<sup>2</sup>/gal U.S.) on a completely dry wall, up to 60 – 70 cm (23.62 – 27.56 in) above the level of the ground or until the maximum level of humidity (choose the higher level).
4. Before *WATstop* is completely dry (24 hours at +20°C - +68°F and R.H. of 40%), apply *Diathonite Regularization* (see technical data sheet) up to 60 – 70 cm (23.62 – 27.56 in) above the level of the ground or until the maximum level of humidity, with a minimum thickness of 0.5 cm (0.20 in) to create an anti-salt barrier.
5. Wait until *Diathonite Regularization* is dry (see technical data sheet), wet the surface and apply the dehumidifying plaster *Diathonite Deumix* (see technical data sheet) with a minimum thickness of 2.0 cm (0.79 in).

When it is not possible to apply *Diasen Dehumidifying System* (for technical or economical reason), remove the old plaster, restore the wall using 2 - 3 mm (0.08 – 0.12 in) of *WATstop*, and finish the wall with smoothers, paint or other type of coating within 48 hours from the application. Apply the product up to 60 – 70 cm (23.62 – 27.56 in) above the level of the ground or until the maximum level of humidity (choose the higher level).

## DRYING TIME

At 20°C (+68°F) and 40% of relative humidity, the product dries in 24 hours.

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

When *WATstop* is completely dry, it can be coated with plasters (like *Diathonite* plasters), smoothers (like *Argacem* smoothers), acrylic, polyurethane or epoxy *Diasen* resins, glues; walkable, trafficable and reflective *Diasen* coatings, tiles or paints, because it is also bonding agent.

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## SUGGESTIONS

- If there are structural problems in the support, restore with certified structural mortars (like *Buildfix* or *Calce Storica* mortars).
- *WATstop* can be used as primer on smooth surfaces with a yield equal to 0.3 kg/m<sup>2</sup>.
- Do not apply at environmental and support temperatures lower than +5°C (+41°F) or higher than +35°C (+95°F).
- During summer season apply the product in the cooler hours of the day, away from sunlight.
- Do not apply with imminent threat of rain or ice, in case of strong fog or relative humidity level higher than 70%.

## CLEANING

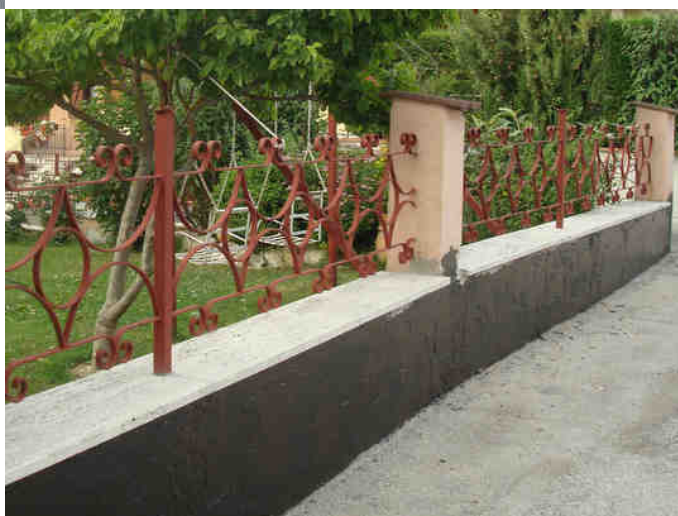
Wash tools with water before product hardening.

## SAFETY

For the handling always use personal protection tools and see product safety data sheet.



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## Ecological Building Systems

For stockist information and full technical support for your project, please contact Ecological Building Systems or visit [www.EcologicalBuildingSystems.com](http://www.EcologicalBuildingSystems.com)

