

ARGATHERM

Lightweight finishing skim coat with thermal mineral fillers and natural microfibres

Finishing skim coat formulated with very fine expanded mineral fillers having microporous internal structure that give the product an exceptional lightness and thermal insulating power. *Argatherm* is also composed of air binders, very pure mineral aggregates of calcareous origin (grain size 0-0,6 mm) and natural microfibres (200 µm); it is totally harmless for the environment and for human health. The combination of accurate grain size range, microfibre-reinforced matrix and the use of specific additives ensures high workability during application and excellent adhesion to substrates. Suitable for indoor and outdoor use, it guarantees excellent coverage of the substrate and “a civile” (rough) type finish using a sponge trowel or smoother with a plastic trowel.

BENEFITS

- Light and with thermal features: category T2 ≤ 0.2 W/mK.
- Natural raw materials, harmless to the environment and human health.
- Fibre-reinforced skimming plaster with non-toxic, ecological natural microfibres (200 µm).
- Thermal properties and high vapour permeability thanks to the microporous structure of the natural fillers and airborne binders.
- In combination with *Diathonite* plasters it guarantees an excellent thermo-hygrometric comfort and high insulating performances.
- It avoids mould formation thanks to the antibacterial function of lime.
- High workability and yield during application.
- Applicable in thicknesses from 2 mm up to 10 mm.
- *Argatherm* is CE certified (EN 998-1).

YIELD

1,2 ± 10% kg/m² per mm of thickness.
0.62 ± 10% lb/ft² per inch of thickness.

On *Diathonite* plasters:

3,6 ± 10% kg/m² per 3 mm of thickness.
1.86 ± 10% lb/ft² per 3 inches of thickness.

COLOUR

White.

SMOOTHERS – mortars

PACKAGING

25 kg (55.11 lb) paper bag.
Pallet: 56 bags (1400 kg = 3086.5 lb).

APPLICATION FIELDS

Indoor and outdoor skimming coat suitable for finishing walls and ceilings, *Diathonite* plasters (see related technical data sheets), new and old plasters, cementitious or lime and cement-based substrates. *Argatherm* can be used on all types of substrates whose nature does not allow the direct application of the finish. Its high lightness and breathability, together with the antibacterial properties of hydrated lime, contribute to a healthy environment and high living comfort. *Argatherm* is a natural product and is suitable where environmentally friendly materials are required.

STORAGE

The product must be stored in the original tightly closed containers, in a well-ventilated area, away from sunlight, water and frost, at temperatures between + 5 °C (+ 41 °F) and + 35 °C (+ 95 °F). Storage time 12 months.

PREPARATION OF THE SUPPORT

The substrate must be completely hardened (properly cured) and sufficiently strong.



ARGATHERM

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The surface must be thoroughly clean, well consolidated, without crumbling and inconsistent parts or other materials that may affect the adhesion of the product.

Diathonite or new plasters

No primer is required, application can be done directly on the previously wetted substrate.

If the substrate is uneven, subject to movement or characterised by joints or critical points, we recommend the use of *Polites 80* reinforcement mesh as described.

Old plaster

Make sure that the plaster is consistent and well adhered to the support; if not, foresee the partial or total removal and the rebuilding of the same.

In the case of painted plaster, given the wide variety of paints available on the market, it is advisable to carry out an adhesion test to check the suitability of the application or the need to use *Aquabond* primer (see technical data sheet). On rough plasters it is generally possible to proceed with the direct application of *Argatherm*.

If the substrate has an uneven surface, is subject to movement or is characterised by joints or critical points, we recommend the use of *Polites 80* reinforcement mesh as described.

Concrete

In presence of deteriorated and friable concrete, restore it with *Rebuild⁴⁰ R4* (see technical data sheet). To treat reinforcement rods, apply a suitable rust inhibitor.

Plasterboard

If there is a plasterboard substrate, foresee the need to use *Aquabond* primer (see technical data sheet), taking care to always foresee the application of the sandwich system (*Argatherm* + *Polites 80* + *Argatherm*).

SMOOTHERS – mortars

MIXING

Depending on the degree of water absorption of the substrate and environmental conditions, it is advisable to dose the right amount of water to obtain the correct adhesion. The specified amount of water is indicative. Add approx. 26 - 28% clean water, approx. 6.5 - 7 litres per bag of *Argatherm* (25 kg). Mix with drill mixer or automatic mixer until the product is homogeneous, lump-free and well hydrated. Let the mixture rest for 5 minutes, mix again and use. Never add foreign products to the mixture.

APPLICATION

Application by hand

1. It is fundamental to wet the substrate, especially in summer and on walls exposed to sunlight. If the surface has been primed, it is not necessary to wet the substrate.
2. Apply *Argatherm* with a stainless-steel trowel with rounded edges in two crossing layers until reaching an approximate thickness of 1,0 - 1,5 mm (0,034 - 0,06 inches) for each layer.
3. The first layer is to fill the porosity of the base.
4. To prevent the occurrence of:
 - a. diffused cracks with "spider's web" development caused by heterogeneity and/or discontinuity and/or different thermal expansion of the substrate, by plastic or hydraulic shrinkage of the mortar, by differences in applied thickness;
 - b. micro-cracks due to movements of the substrate;

and at the same time improve the resistance of the system, we recommend the use of *Polites 80* reinforcement mesh (see technical data sheet), with a sandwich system (*Argatherm* + *Polites 80* + *Argatherm*). When the first layer of *Argatherm* is still wet, proceed with the embedding of the mesh.

The second layer must be applied when the layer underneath is firm to the touch (

ARGATHERM

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after approximately 12/24 hours at 23°C and 50% relative humidity), until the required thickness is reached.

5. Wet the smoothers before applying the second layer.
6. When the applied skim coat is still wet, finish with a sponge or plastic trowel, depending on the type of finish you want to obtain.

Application with plastering machine

Argatherm can also be applied with plastering machines, whose setting can change according to the machine chosen.

1. It is **fundamental** to wet the substrate, especially in summer and on walls exposed to the sun. If the surface has been primed, it is not necessary to wet the substrate.
2. Load the contents of the bags into the hopper and adjust the flow meter of the machine.
3. Apply *Argatherm* in two crisscrossing layers until an approximate thickness of approximately 1,0 - 1,5 mm (0,034 - 0,06 inches) for each layer is achieved.
4. To prevent the occurrence of:
 - a. diffused cracks with "spider's web" development caused by heterogeneity and/or discontinuity and/or different thermal expansion of the substrate, by plastic or hydraulic shrinkage of the mortar, by differences in applied thickness;
 - b. micro-cracks due to movements of the substrate;and at the same time improve the resistance of the system, we recommend the use of *Polites 80* reinforcement mesh (see technical data sheet), with a sandwich system (*Argatherm* + *Polites 80* + *Argatherm*). When the first layer of *Argatherm* is still wet, proceed with the embedding of the mesh.
5. The second layer should be applied when the underlying layer feels firm to the touch (after approximately 12/24

hours at 23°C and 50% relative humidity), until the required thickness is reached.

6. Wet the skim coat before applying the second layer.
7. When the applied skim coat is still wet, finish with a sponge or plastic trowel, depending on the type of finish you want to obtain.

DRYING TIME

At a temperature of +23°C (+73.4°F) and relative humidity of 50%, the product dries in 5 - 7 days.

- Drying times are influenced by ambient temperature and relative humidity conditions and can vary significantly.
- If applied at a higher yield than expected, drying times may increase significantly.
- Temperatures below +5°C (+41°F) and above +30°C (+86°F) in the following 24 hours may modify the drying time and alter the mechanical performance of the smoother.

For outdoor application:

- Protect the product for 48 hours from rain, frost and excessive evaporation.
- In situations of high temperatures, beating sun or strong ventilation it is necessary to wet the skim coat 2/3 times a day for the first 2/3 days after application.
- *Argatherm* must be protected from atmospheric agents with breathable and water-repellent finishes (*Decork Façade*, *Acrilid Protect Coating*).

For indoor applications:

- Ventilate the room as much as possible during application and while the product is drying.
- *Argatherm* can be painted over with *Decork Façade*, *C.W.C. Stop Condense* or *Limepaint*.

SMOOTHERS – mortars

The indications and prescriptions reported, although representing our best experience and knowledge, are to be considered as indicative and must be confirmed by exhaustive practical applications. Diasen does not know the specifics of the work and even less the determinant characteristics of the application support. Therefore, before using the product, the applicator must in any case carry out preliminary tests, in order to verify the perfect suitability for the intended use and, in any case, assumes any responsibility that may arise from its use. In the event of uncertainties or doubts, contact the company's technical office before starting work, bearing in mind that this support is merely an aid for the applicator, who must in any case guarantee that he has adequate skills and experience for laying the product and identifying the most suitable solutions. Always refer to the latest version of the technical data sheet, available on the website www.diasen.com, which cancels and replaces all others.

ARGATHERM

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SUGGESTIONS

- Do not apply at ambient and substrate temperatures below +5°C (+41°F) and +35°C (+95°F).
- During the summer season apply the product during the cooler hours of the day, away from the sun.
- Do not apply in case of imminent danger of rain or frost, in case of strong fog or with relative humidity higher than 70%.
- If *Argatherm* is used as finishing coat for *Diathonite* plasters, apply it at least 15 days after the application of the last coat of plaster.
- The use of *Polites 80* reinforcing mesh is recommended to prevent cracking and diffuse web cracking, especially in the case of substrates composed of different materials.
- To obtain a smooth, mirror-like finish, apply *Argatherm Ultrafine*; it is always recommended to reinforce *Argatherm* skim coat with *Polites 80* mesh.
- Do not apply on substrates treated with waterproofing agents or painted, on

gypsum or scagliola substrates, on wood, metal or plastic elements.

- Before applying *Argatherm*, it is advisable to cover thresholds, window frames and any element that should not be covered.
- If applied internally, it is essential that the outer surface does not absorb water. If this is not the case, treat the surface with *BKK Eco*.
- If left exposed, apply a transparent, breathable and water-repellent siloxane product such as *BKK eco*.

CLEANING

The equipment used can be washed with water before the product is completely dry.

SAFETY

Always use personal protective equipment when handling and follow the product's safety data sheet.

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* These data, although carried out in accordance with standardised test methods, are indicative and may be subject to change as specific site conditions vary.

Technical Data*		
Features		Unit
Yield	1,2 ± 10% kg/m ² per mm of thickness. On <i>Diathonite</i> plasters: 3,6 ± 10% kg/m ² per 3 mm of thickness.	kg/m ²
	0.62 ± 10% lb/ft ² per inch of thickness. On <i>Diathonite</i> plasters: 1.86 ± 10% lb/ft ² per 3 inches of thickness.	lb/ft ²
Appearance	premixed powder	-
Colour	white	-
Density	1050 ± 10%	kg/m ³
Grain size	0 – 0,6	mm
	0 – 0,03	inches
Mixing water	0,26 - 0,28 L/kg 6,5 - 7 L per bag (25 kg)	L/kg
	0,031 - 0,034 gal/lb 1.17 – 1.82 gal per bag (55.1 lb)	gal/lb
Minimum thickness	2,0	mm
	0.08	inches
Maximum thickness per layer	1,5	mm
	0.06	inches
Maximum total thickness	10,0	mm
	0.4	inches
Application temperature	+5 /+35	°C
	+41/+95	°F
Resting time of the mixture	5	minutes
Total hardening time (T = 23°C / 73.4 °F; R.H. 50%)	5 – 7	days
Storage	12 months in original packaging and in a dry place	months
Packaging	25 kg paper bag	kg

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Final performances		Unit	Regulation	Result
Thermal conductivity (λ)	0.128	W/mK	EN 12667	T2 category
Vapour permeability coefficient	$\mu \leq 15$	-	EN 1015-19	-
Coefficient capillarity water absorption (C_m)	-	-	EN 1015-18	W0 category
Apparent mass density of fresh mortar	$1270 \pm 10\%$	kg/m ³	-	-
Apparent mass density of hardened mortar	$1150 \pm 10\%$	kg/m ³	-	-
Average compressive strength at 28 days	≥ 15	N/mm ²	EN 1015-11 EN 1504-3	class CS IV class R2
Fire reaction	Class A1	-	EN 13501-1	-



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For stockist information and full technical support for your project, please contact Ecological Building Systems or visit www.EcologicalBuildingSystems.com

