



Politerm Blu[®]

EPS: lightweight thermal insulation mortar





EPS beads which are treated with a chemical additive to enable the production of lightweight, thermal insulation mortars of various densities.

TECHNICAL DATA SHEET



ENERGY SAVING



UNIQUE LIGHTNESS



THERMAL COMFORT

DESCRIPTION

EPS beads which are treated with a chemical additive to enable the production of lightweight, thermal insulation mortars of various densities.

QUALITY MANAGEMENT SYSTEM

ISOVER products are manufactured according to ISO 9001:2015.

ENVIRONMENTAL SUSTAINABILITY

The Springs EPS facility is ISO 14001:2015 accredited.

Less material, less energy and less emissions

- Zero ozone depleting potential (ODP)
- Zero global warming potential (GWP).

FEATURES & BENEFITS

- Energy saving
- Easy to mix, place and finish
- Cost effective
- Homogenous bead distribution gives good workability and predictable performance
- Good workability enables mixed material to be pumped 100 m horizontally and 30 m vertically
- No loss of workability
- Mix design variable to produce densities from 200 to 350 kg/m³
- Compatible with most finishing products and adhesives.

THERMAL PROPERTIES

K-value of 0.065 W/m.K to 0.1 W/m.K depending on density.

FIRE PROPERTIES

Non-flammable - when tested to ASTM D 1692-68.

APPLICATIONS

- Thermal insulation mortar for concrete roof decks, underground floor slabs, basement walls, swimming pools, etc
- Lightweight void filler
- Adjustment of floor slab levels

- Cavity fill for steel frame construction.

DURABILITY

Building lifespan and maintenance free.

TOOLS NEEDED FOR INSTALLATION

Conventional concrete placing equipment.

MAIN TECHNICAL DATA

Lightweight thermal insulating screeds prepared with the products of the Poliderm Blu® range (no added sand).

Cement dosage kg/m ³	200	250	300	350
Thermal conductivity λ W/mk	0.065	0.067	0.080	0.103
Compressive strength N/mm ²	0.69	0.83	1.48	1.69
Flexural strength N/mm ²	0.37	0.46	0.60	0.59
Cohesion kPa	82.62	82.62	127.17	n.d.
Hot-sealed membrane rupture N/50 mm	57.00	n.d.	62.00	21.28
Cold-sealed membrane rupture N/50 mm	35.00	n.d.	47.00	13.00
Elasticity module N/mm ²	235.3	n.d.	489.5	n.d.
Permeability to water vapour μ	10.11	11.50	12.00	21.04
Shrinkage (NBN) mm/m	0.427	n.d.	0.352	0.270
Fire reactivity	M0 UBAtc - B2 DIN 4102 class			
Inflammability ASTM D 1692-68	Non-flammable			

DETERMINATION OF THE THERMAL RESISTANCE "R" AND THERMAL TRANSMITTANCE "U" COEFFICIENTS

Depending on the dosages of the cement in the mix and the application thickness.

Cement kg/m ³	Thermal conductivity λ W/mk	Coefficient	Screed thickness (mm)								
			40	50	60	70	80	90	100	150	200
200	0.065	R (m ² K/W)	0.61	0.77	0.92	1.08	1.23	1.38	1.54	2.31	3.08
250	0.067	=	0.60	0.75	0.90	1.04	1.19	1.34	1.49	2.24	2.99
300	0.080	(thickness/ λ)	0.50	0.63	0.75	0.88	1.00	1.13	1.25	1.88	2.50
350	0.103		0.39	0.49	0.58	0.68	0.78	0.87	0.97	1.46	1.94
200	0.065	U (W/m ² K)	1.64	1.30	1.09	0.93	0.81	0.72	0.65	0.43	0.32
250	0.067	=	1.67	1.33	1.11	0.96	0.84	0.75	0.67	0.45	0.33
300	0.080	(1/R)	2.00	1.59	1.33	1.14	1.00	0.88	0.80	0.53	0.40
350	0.103		2.56	2.04	1.72	1.47	1.28	1.15	1.03	0.68	0.52

INSTALLATION INSTRUCTIONS

- The material must be mechanically mixed in either a purpose made mixer/pump, conventional concrete mixer or truckmixer or specialised mortar mixer/pump.
- Placing and finishing equipment: as for normal concrete/ screed application.

HANDLING & STORAGE

Bags should be stored in a clean, dry place away from items which could split or damage the bags.

ARCHITECTURAL SPECIFICATION

Thermal insulation to concrete roof decks should be Politerm Blu®, laid to fall at an average thickness of 100 mm reducing to a minimum of 50 mm at rainwater outlets. Preparation, mixing and curing should be carried out in strict accordance with the manufacturer's instructions. Subsequent application of waterproofing should not commence until the Politerm screed is free of residual moisture.



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