POLITERM® BLU FEIN

PRE-ADDITIVATED THERMAL INSULATING ULTRA-LIGHTWEIGHT AGGREGATE. BEAD Ø ≤ 2 MM

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Pre-additivated thermal insulating ultra-lightweight aggregate. Ø ≤ 2 mm

COMPOSITION	Expanded virgin close-cell polystyrene beads with fine grain size (Ø ≤ 2 mm), perfectly spherical, controlled density, non-toxic, non-absorbent, rotproof, dimensionally stable over time, free of chlorofluorocarbon (CFC, HCFC and HFC) and nutritional values able to sustain growth of fungi and bacteria. In the production phase, the beads are mixed with the special E.I.A. additive which allows a perfect mixing with the water binder, eliminates the bead floating phenomenon and guarantees their homogeneous distribution in the mix.
PACKAGING AND STORAGE	· Bag of 420 L (n° 2 bags = 1 m^3 of finished mortar). · Bag of 170 L (n° 5 bags = 1 m^3 of finished mortar). · Keep the product away from water and humidity. Store the product in the original closed packaging, intact and properly sealed. Store the material in a dry, well-ventilated place, away from frost, heat sources and direct sunlight.
FIELDS OF APPLICATION	· Subfloors for basements and pilotis floors, space between floors, roofs and wooden floors. · Single-layer screeds for direct gluing of floor finishings, basements, pilotis floors, space between floors, roofs and wooden floors (consult the *"Politerm® Blu application manual"*). · Formation of gradients on terraces and flat roofs, also with following direct laying of waterproofing membrane (bituminous sheets: hot- or cold-applied, and synthetic or liquid types, provided they are solvent-free). · Insulation of unwalkable attics. · Insulation of pitched roofs, also with following direct laying of waterproofing membrane (bituminous sheets: hot- or cold-applied, and synthetic or liquid types, provided they are solvent-free). · Vault infill, even at very high thicknesses. · Encapsulation of asbestos cement fibre sheets roofs, also with following direct laying of waterproofing membrane (bituminous sheets: hot- or cold-applied, and synthetic or liquid types, provided they are solvent-free). · Filling beneath trafficable asphalt pavements. · Subfloors for industrial flooring.
CONSUMPTION / YIELD	To obtain 1 m^3 of finished mortar up to a density of 350 kg/m^3, the mix requires: · N° 2 bags of 420 L of Politerm® Blu Fein + water + cement *. · N° 5 bags of 170 L of Politerm® Blu Fein + water + cement *. * *see prescribed dosages.* For dosages up to 1800 kg/m^3, see the table below.
PREPARATION OF THE LAYING SURFACE	The laying surface must always be clean, free from dust and fragments of any kind. · **Absorbent laying surfaces in concrete or concrete and masonry:** abundantly wet the surface but do not leave puddles. Gradually wet the surface when laying the lightweight screed. · **Very absorbent surfaces (hollow clay bricks, hollow tile, etc.):** thoroughly clean and remove dust from the laying surface. Apply grout used as adhesive and absorbency reducer. It is based on concrete / Edilstik / clean water (ratio Edilstik / water 1:1). When dry, wet the surface and gradually proceed with the laying of lightweight screed. The dampening must be carried out gradually as the lightweight screed is being laid. · **Low absorbent surfaces (cement supports):** treat the base layer before applying Politerm® Blu Fein with the specific adhesion promoter (Edilstik type) and proceed wet on wet, or realize an adherence bridge with cement grout with water and Edilstik, or use an adhesive primer. · **Non-absorbent laying surfaces (sheaths, metal, ceramic, panels, etc.):** before pour the mortar prepared with Politerm® Blu Fein, lay a galvanized mesh Ø 2 - 3 mm, mesh 50x50 mm, at a due distance from the laying surface (positioned at least at a third of the final thickness of the casting to be carried out). · **Single-layer screeds for direct gluing of floor coverings:** it is recommended to lay some special PVC Piano Zero Guides beforehand.

EDILTECO® group | THERMAL Insulation & Chemicals Division

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MIXING AND APPLICATION

Use only CEM I or CEM II limestone cement, compliant with UNI standards, and in perfect conservation conditions. Different types of cement or poor-quality cement may affect the functionality of the E.I.A. additive with which Politerm® Blu Fein beads are treated, and could make mixing difficult, affecting the conformity of the final properties of the mortar.

Dosages to obtain 1 m³ (1000 L) of lightweight thermal insulating mortar:

FORMULA	WATER * L	CEMENT PORTLAND 32.5 CEM I or CEM II kg	POLITERM® BLU FEIN	SAND kg
110	50	110	840 L	-
150	68	150	840 L	-
200	90	200	840 L	-
250	110	250	840 L	-
300	140	300	840 L	-
350	160	350	840 L	-
500	140 **	300	800 L	160
800	140 **	300	680 L	475
1000	140 **	300	600 L	675
1200	140 **	300	510 L	875
1500	150 **	300	420 L	1175
1800	160 **	300	280 L	1475

Dosages to obtain 1/5 m³ (200 L) of lightweight thermal insulating mortar (e.g. mixing in cement mixer):

FORMULA	WATER * L	CEMENT PORTLAND 32.5 CEM I or CEM II with limestone kg	POLITERM® BLU FEIN	SAND kg
110	10	22	170 L	-
150	14	30	170 L	-
200	18	40	170 L	-
250	22	50	170 L	-
300	28	60	170 L	-
350	32	70	170 L	-
500	28 **	60	170 L	35
800	28 **	60	135 L ***	95
1000	28 **	60	120 L ***	135
1200	28 **	60	105 L ***	175
1500	30 **	60	85 L ***	235
1800	32 **	60	55 L ***	295

* The water dosage has to be adapted to the quality of the lot of cement to be used.
** Adjust according to the sand moisture content. Please contact us for further formulas.
*** For methods of use and application, consult the application manual (available on request) and/or the Edilteco Technical Department.

· **Mixing: the mortars prepared with Politerm® Blu Fein can be mixed with:**
· Cement mixer.
· Horizontal mixer.
· **Mixing and pumping: the mortars prepared with Politerm® Blu Fein can be mixed and pumped on site with:**
· Specific equipment type Politerm® Machine and/or Isolcap Machine *(consult the Edilteco general Catalogue).*
· "Turbosol" type pumps for sand and cement screeds *(contact the Edilteco Technical Department).*

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MIXING AND APPLICATION	· **Order of component infeed with Politerm® Machine:** 1. switch on the mixer; 2. add the needed water according to the formulation; 3. pour the content of 1 bag of Politerm® Blu Fein; 4. pour the necessary amount of cement; 5. pour the second bag of Politerm® Blu Fein; 6. mix for 10 minutes (loading time included) before pumping. · **Use of antifreeze:** at temperatures below +5 °C, the use of a liquid antifreeze admixture is recommended, at the manufacturer's prescribed dosage based on the cement content. Any use of antifreeze additives is compatible with the physicalchemical properties of Politerm® Blu Fein. · **Single-layer screeds for direct gluing of floor coverings:** consult the *"Politerm® Blu application manual"* or contact the *Edilteco Technical Department.*
WARNINGS	· Do not apply with temperatures inferior than +5 °C or under the direct sunlight or with temperatures higher than +35 °C. If the application is made under the direct sunlight, necessary precautions must be taken (e.g. mesh or similar that covers the scaffolding). · It is recommended to lay edge strips of acoustic insulation wider than the floor covering. · **Minimum thickness:** *a) Absorbent surface:* 5 cm. In case of sub-thickness consult the *"Politerm® Blu application manual"* or contact the *Edilteco Technical Department.* *b) Non-absorbent surface:* consult the *"Politerm® Blu application manual"* or contact the *Edilteco Technical Department.*

TECHNICAL CHARACTERISTICS	FORMULA											
	110	**150**	**200**	**250**	**300**	**350**	**500**	**800**	**1000**	**1200**	**1500**	**1800**
Density after 28 days kg/m^3:	~ 130 [a]	~ 165	~ 215	~ 265	~ 315	~ 365	~ 515	~ 815	1000 ±10%	1200 ±10%	1500 ±10%	1800 ±10%
Thermal conductivity λ_D W/mK:	0,042	0,0489	0,058	0,065	0,079	0,096	0,104	0,176	0,191	n.a.	n.a.	n.a.
Compressive strength N/mm^2 *(kPa)* [b]:	*0,528 (528)*	0,59 *(590)*	0,69 *(690)*	0,83 *(830)*	1,61 *(1.610)*	1,69 *(1.690)*	2,24 *(2.240)*	≥ 5,0 *(≥ 5.000)*	≥ 9,0 *(≥ 9.000)*	≥ 12,0 *(≥ 12.000)*	≥ 20,0 *(≥ 20.000)*	≥ 25,0 *(≥ 25.000)*
Flexural strength N/mm^2 [b]:	0,12	0,51	0,37	0,46	0,95	0,59	0,78	≥ 1,0	≥ 1,0	≥ 1,0	≥ 1,0	≥ 2,0
Cohesion kPa:	n.a.	n.a.	82,62	n.a.	127,17	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Hot-sealed membrane rupture N/50 mm:	n.a.	n.a.	57	n.a.	62	21,28	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cold-sealed membrane rupture N/50 mm:	n.a.	n.a.	35	n.a.	47	13,00	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Elasticity module N/mm^2:	n.a.	n.a.	235,3	n.a.	551,1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Permeability to water vapour μ:	5,1	5,9	5,9	6,9	7,2	9,2	10,2	14,0	n.a.	n.a.	n.a.	n.a.
Specific heat kJ/kgK:	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Shrinkage (NBN) mm/m:	n.a.	n.a.	0,427	n.a.	0,352	0,270	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Acoustic performance ΔL_w:	n.a.	n.a.	n.a.	14 dB *	26 dB **	n.a.	17 dB ***	19 dB ***	20 dB ***	21 dB ***	22 dB ***	22 dB ***
Impact noise insulation $L'_{nT,W}$:	n.a.	n.a.	n.a.	61 dB thick. 11 cm	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Fire reactivity class:	A2-s1,d0											

[a] Only with **Politerm® Blu Fein.** For methods of use, contact the Edilteco Technical Department.
[b] **IMPORTANT: for detailed methods of use and application, consult the "Politerm® Blu application manual".**
* Value obtained in the laboratory with 5 cm of Politerm® Blu Fein + 5 cm screed / ** Value obtained in the laboratory with 7 cm of Politerm® Blu Fein + Fonotech 5 /
*** Value calculated with 5 cm of Politerm® Blu Fein + Fonotech 5.

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	SECTIONS	CREDITS	TECHNICAL DESCRIPTIONS
LEED CRITERIA	Energy and Atmosphere (EA)	Prerequisite 2	Minimum energetic performances
		Credit 1	Optimization of the energy performances
	Materials and Resources (MR)	Credit 5	Extracted, processed and produced at a limited distance materials (regional materials)

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