POLITERM® BLU FEIN

SUPERLIGHT THERMAL INSULATING AGGREGATE, WITH FINE GRAIN, FOR THE PREPARATION OF LIGHTWEIGHT MORTARS FOR SCREEDS

POLITERM® BLU FEIN
Superlight thermal insulating aggregate, with fine grain, for the preparation of lightweight mortars for screeds

COMPOSITION	Closed-cell virgin expanded polystyrene beads with fine grain (∅ 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. During production the beads are mixed with the special E.I.A. additive which allows a perfect mixing with the water binders, 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. Store the material in a dry, well-ventilated place, away from frost, heat sources and direct sunlight.
APPLICATION	· Base screeds for basements and pilot floors, space between floors, roofs and wooden floors. · Single-layer screeds for direct gluing of floor coverings, basements and floating floors, space between floors, and roofs and wooden floors (consult *"Politerm® Blu Application Manual"*). · Formation of gradients on terraces and flat roofs, also with the following direct laying of the waterproofing membrane (prefabricated: hot or cold bituminous and synthetic-liquids: solvent-free). · Insulation of unwalkable attics. · Insulation of pitched roofs, also with the following direct laying of waterproofing membrane (prefabricated: hot or cold bituminous and synthetic-liquids: solvent-free). · Filling of vaults, also very thick. · Encapsulation of asbestos cement fibre sheets roofs, also with subsequent direct laying of the waterproofing membrane (prefabricated: hot or cold bituminous and synthetic-liquids: solvent-free). · Filling beneath trafficable asphalt pavements. · Beneath industrial flooring.
CONSUMPTION / YIELD	To obtain 1 m^3 of mortar are necessary: · N° 2 bags of Politerm® Blu Fein 420 L + water + cement *. · N° 5 bags of Politerm® Blu Fein 170 L + water + cement *. * *see the prescribed dosages.*
PREPARING THE LAYING SURFACE	The laying surface must always be clean and free of dust and fragments of any kind. · **Cement and brick-cement laying surfaces or absorbent surfaces:** abundantly wet the surface, without leaving puddles. · **Poorly absorbent laying surfaces (very dense cement surfaces, etc.):** treat the laying surface with adhesion promoter (type Edilstik) before casting the mortar prepared with Politerm® Blu Fein and work fresh on fresh, or make an adhesion bridge with cement grout hydrated with water and Edilstik, or use a suitable anchorage primer. · **Non-absorbent laying surfaces (sheaths, metal, ceramic, insulating sheets, etc.):** apply a galvanized net ∅ 2 - 3 mesh 50 x 50 cm (to a third of the final thickness of the casting to be realzized), before the laying of Politerm® Blu Fein. · **Single layer screeds for the direct gluing of final flooring:** it is recommended the application of Piano Zero Profiles in PVC.

Thermal Insulation & Chemicals Division

EDILTECO group

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MIXING AND APPLICATION

Use only good quality CEM I or CEM II Portland 32.5/42.5/52.5 cement for the mixes according to the law UNI and in perfect storage conditions. Different types of cement or poor quality cements may affect the E.I.A. additive property, coating Politerm® Blu Fein beads, making the mixing difficult and non-conforming to the final mortar characteristics.

Dosages to obtain 1 m³ of lightweight thermal insulating mortar:

FORMULA	BAGS POLITERM® BLU FEIN	WATER L	CEMENT kg	SAND *
110	420 L: n° 2 or 170 L: n° 5	50	110	not necessary
200		90	200	
250		110	250	
300		140	300	
350		160	350	

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

FORMULA	BAGS POLITERM® BLU FEIN	WATER L	CEMENT kg	SAND *
110	170 L: n° 1	10	22	not necessary
200		18	40	
250		22	50	
300		28	60	
350		32	70	

* Sand is not necessary thanks to the mixing properties of Politerm® Blu Fein.
Sand may however be used being aware of the fact that it reduces performance in terms of lightening, thermal insulation and water retention. The use of sand varies the dosage of water according to the quantity of sand and its residual humidity. The use of sand may be necessary for the pumping of sand-cement screeds with Turbosol pumps.

- **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 or Isolcap Machine *(see Edilteco equipment)*.
  - Pumps type "Turbosol" for sand and cement screeds *(contact the Edilteco Technical Department)*.
- **Order of insertion into Politerm® Machine:**
  1. Switch on the mixer;
  2. Insert the needed water according to the formulation;
  3. Insert the content of 1 bag of Politerm® Blu Fein;
  4. Insert the necessary amount of cement;
  5. Insert the second bag of Politerm® Blu Fein;
  6. Mix for 10 minutes (loading time included) before pumping.
- **Use of antifreeze:** with temperatures under +5 °C, it is recommended the addition of antifreeze liquid in the dosages suggested by the manufacturer according to the cement quantity. The use of antifreeze additives is compatible with the physic-chemical characteristics of Politerm® Blu Fein.
- **Single-layer screeds for the direct gluing of floor coverings:** consult *"Politerm® Blu Application Manual"* or contact *Edilteco Technical Department*.

WARNINGS

- Do not apply with temperatures under +5 °C or under the direct sunlight or with temperatures over +35 °C. If the application is made under the direct sunlight, necessary precautions must be taken (e.g. scaffoding covering or similar).
- It is recommended to lay soundproof strips higher than the floor covering.
- **Minimum thickness:**
  - *a) Absorbent surface:* 5 cm. In case of lower thickness consult the *"Application Manual"* or contact Edilteco Technical Department.
  - *b) Non-absorbent surface:* consult the *"Application Manual"* or contact *Edilteco Technical Department.*
- For the detailed methods of use and application consult the *"Application Manual"*, or contact Edilteco Technical Department.

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	CHARACTERISTICS	FORMULA				
		110	200	250	300	350
TECHNICAL CHARACTERISTICS	Density after 28 days kg/m^3:	apx. 130[a]	apx. 215	apx. 265	apx. 315	apx. 365
	Thermal conductivity λ_D W/mk:	0,043	0,065	0,067	0,080	0,103
	Compressive strenght N/mm^2:	0,528	0,69	0,83	1,61	1,69
	Flexural strenght N/mm^2:	0,12	0,37	0,46	0,95	0,59
	Cohesion kPa:	n.d.	82,62	n.d.	127,17	n.d.
	Hot-sealed membrane rupture N/50 mm:	n.d.	57	n.d.	62	n.d.
	Cold-sealed membrane rupture N/50 mm:	n.d.	35	n.d.	47	n.d.
	Elasticity module N/mm^2:	n.d.	235,3	n.d.	551,1	n.d.
	Permeability to water vapour μ:	5,1	5,9	6,9	7,2	9,2
	Specific heat J/kgK:	1000 *	1000 *	1000 *	1000 *	1000 *
	Shrinkage (NBN) mm/m:	n.d.	0,427	n.d.	0,352	0,270
	Acoustic performance ΔL_w:	n.d.	14 dB **	14 dB **	26 dB ***	n.d.
	Impact noise insulation $L'_{nT,W}$:	n.d.	n.d.	61 dB thick. 11 cm	n.d.	n.d.
	Fire reactivity class:	n.d.	A2-s1,d0			

All the indications provided in this technical data sheet are purely approximate and not binding for legal purpose. The data listed has been gathered from laboratory tests and it hence follows that in practical applications on building sites the final characteristics of the products may be subject to substantial variations depending on the meteorological conditions and the installation. The user must always check suitability of the product for its specific use, undertaking all liability implicit in and deriving from use of the product, as well as comply with all methods and instructions for use generally referable to "workmanlike" execution. Edilteco S.p.A. reserves the right to change the contents of this mechanical data sheet on its final judgements. The spreading of this data sheet through any media, supersedes and cancels the validity of any other technical data sheet previously published.

[a] Only with **Politerm® Blu Fein**. For methods and application consult Edilteco Technical Department.
* 1000 J/kgK = 0,24 kcal/kgK / ** Value obtained in laboratory with 5 cm of Politerm® Blu + 5 cm of screed / *** Value obtained in laboratory with 7 cm of Politerm® Blu + Fonotech 5.

	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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