POLITERM® BLU

SUPERLIGHT THERMO INSULATING AGGREGATE
FOR THE PREPARATION OF LIGHTWEIGHT MORTARS FOR SCREEDS

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Superlight thermo insulating aggregate for the preparation of lightweight mortars for screeds

COMPOSITION

Closed-cell virgin expanded polystyrene beads (Ø 3 - 6 mm), perfectly spherical, controlled density, non-toxic, non-absorbent, rotproof, dimensionally stable over time, chlorofluorocarbon free production (CFC, HCFC and HFC), free of nutritional values able to sustain growth of fungi and bacteria. During productionthe beads are mixed with a specific E.I.A. additive which allows 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 m³ of finished mortar).
· Keep the product away from water and humidity. Store the product in the original closed packages. Store the material in a dry, well-ventilated place, away from frost, heat sources and direct sunlight.

FIELDS OF APPLICATION

· Substrates 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 the “Politerm® Blu Application Manual”).
· Formation of gradients on terraces and flat roofs, also with subsequent direct laying of waterproofing membrane (prefabricated: hot or cold bituminous and synthetic-liquids: provided that solvent-free).
· Insulation of unwalkable attics.
· Insulation of pitched roofs, also with subsequent direct laying of waterproofing membrane (prefabricated: hot or cold bituminous and synthetic-liquids: provided that solvent-free).
· Filling of vaults, also very thick.
· Encapsulation of asbestos cement fibre sheets roofs, also with subsequent direct laying of waterproofing membrane (prefabricated: hot or cold bituminous and synthetic-liquids: provided that solvent-free).
· Filling beneath trafficable asphalt pavements.
· Beneath industrial flooring.

CONSUMPTION / YIELD

To obtain 1 m³ of finished mortar the following is required:
· N° 2 bags of 420 L of Politerm® Blu + water + cement (*).
(*) see 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 in any case absorbent:** abundantly wet the surface, but do not leave puddles.
· **Poorly absorbent laying surfaces (very dense cement surfaces, etc.):** treat the laying surface with adhesion promoter (type M-20) before casting the mortar prepared with Politerm® Blu and work fresh on fresh, or make an adhesion bridge with cement grout hydrated with water and Edilstik, or use suitable anchorage primer.
· **Non-absorbent laying surfaces (sheaths, metal, ceramic, insulating sheets, etc.):** before pour the mortar prepared with Politerm® Blu, lay an electro welded mesh 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 guides called Piano Zero beforehand.

thermal & sound insulation

Moustick
THERMAL INSULATING MORTARS & STRUCTURAL CHEMICALS

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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 conservation conditions. Different types of cement or of poor quality may invalidate the function of the E.I.A. additive with which the Politerm® Blu beads are treated, making mixing difficult and the final properties of the mortar not conform.

Dosages to obtain 1 m³ (1.000 L) of lightweight thermal insulating mortar:

Formula	Bag Politerm® Blu	Water L[a]	Cement kg	Sand (*)
200	420 L: n° 2	90	200	not necessary
250		110	250	
300		140	300	
350		160	350	

a = in accordance with the type of cement used, it may be required a different quantity of water
(*): sand is not required because of the mixing properties of Politerm® Blu. Sand may however be used being aware of the fact that it reduces performance in terms of lightening, thermal insulation and water retention. If using sand the water dosages will vary depending on the amount of sand and its residual moisture. Sand may have to be used when utilizing pumps type "Turbosol" for sand and cement screeds.

- **Mixing: the mortars prepared with Politerm® Blu can be mixed with:**
  - Cement mixer.
  - Horizontal mixer.
- **Mixing and pumping: the mortars prepared with Politerm® Blu can be mixed and pumped on site with:**
  - Specific equipment type Politerm Machine and/or Isolcap Machine (see Moustick equipment).
  - Pumps type "Turbosol" for sand and cement screeds (contact the Moustick Technical Department).
- **Order of component infeed with <u>Politerm Machine:</u>**
  1. Switch on the mixer.
  2. Insert the needed water according to the formulation.
  3. Insert the content of 1 bag of Politerm® Blu.
  4. Insert the necessary amount of cement.
  5. Insert the second bag of Politerm® Blu.
  6. Mix for 10 minutes (loading time included) before pumping.
- **Using antifreeze:** at temperatures below +5 °C, it is recommended to add liquid antifreeze to the dosages recommended by the manufacturer. Any use of antifreeze additives is compatible with the physicalchemical properties of Politerm® Blu.
- **Single-layer screeds for direct gluing of floor coverings:** consult the "Politerm® Blu Application Manual" or contact the Moustick Technical Department.

WARNING

- Do not apply with temperatures inferior than +5 °C or under the direct light of the sun or with temperatures higher than +35 °C. If the application is made under the direct light of the sun, necessary precautions must be taken (e.g. net 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: minimum 5 cm. In case of sub-thickness consult "The Application Manual" or contact the Moustick Technical Department.
b) Unabsorbent surface: consult "The Application Manual" or contact the Moustick Technical Department.

- For the detailed methods of use and application consult the "Application Manual", (available on request) or contact the Moustick Technical Department.

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MAIN TECHNICAL CHARACTERISTICS

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

LEED

SECTIONS	CREDITS	TECHNICAL DESCRIPTIONS
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)

* 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

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