

REGENERATED PRE-ADDITIVATED EXPANDED POLYSTYRENE
FOR THE PREPARATION OF LIGHTWEIGHT INSULATING MORTARS



POLITERM® R

Regenerated pre-additivated expanded polystyrene for the preparation of lightweight insulating mortars

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| <p>COMPOSITION</p> | <p>Regenerated expanded virgin polystyrene beads: size between Ø 2 - 6 mm, controlled density, non-toxic, non-absorbent, dimensionally stable over time, produced without the use of chlorofluorocarbons (CFC-free, HCFC-free, HFC-free), and free of nutritional values that could grow up fungi and bacteria. The beads are pre-additivated during the production with a specific E.I.A. additive, ensuring perfect mixability with the water binder, non-floatability, and homogeneous distribution in the mixture.</p> |
| <p>PACKAGING AND STORAGE</p> | <ul style="list-style-type: none"> · Bag of 420 L (n° 2 bags = 1 m³ of finished mortar). · Bag of 170 L (n° 5 bags = 1 m³ of finished mortar). · Keep the product away from water and humidity. Store the product in the original, intact, and well closed bags. Store the product in a dry and well-ventilated place, away from frost, heat sources and direct sunlight. |
| <p>APPLICATION FIELDS</p> | <ul style="list-style-type: none"> · Base screeds for basements and pilotis floors, space between floors, roofs and wooden floors. · Insulation of unwalkable attic. · Filling of vaults, even of high thickness. · Filling of under asphalt pavement. · Screeds for industrial floorings. |
| <p>CONSUMPTION / YIELD</p> | <p>To fill a volume of 1 m³:</p> <ul style="list-style-type: none"> · N° 2 bags of Politerm® R 420 L + water + cement * · N° 5 bags of Politerm® R 170 L + water + cement * <p>* <i>check the prescribed mixture.</i></p> |
| <p>PREPARATION OF LAYING SURFACE</p> | <p>The laying surface must be consistent, clean and free from dust and debris of all kinds.</p> <ul style="list-style-type: none"> · Cement-based, latero-cement, absorbent laying surfaces: moisten abundantly the surface avoiding water stagnation. The wetting must be done as you proceed with the laying of the lightweight screed. · Highly absorbent laying surfaces (hollow flooring blocks, hollow tiles, etc.): proceed with the perfect cleaning and dedusting of the laying surface. Apply a grout promoting of adhesion and reducer of absorption, composed of cement / Edilstik / clean water (ratio Edilstik / water 1:1). After the drying, wet the surface and gradually proceed with the laying of the lightweight screed. The wetting must be done as you proceed with the laying of the lightweight screed. · Poorly absorbent laying surfaces (very closed concrete floors, etc.): treat the laying bottom, before continuing to pour the mortar with Politerm® R, treat previously the surface with the adhesion promoter latex (like Edilstik) and proceed "fresh on fresh". As alternative make an adhesion bridge with cement grout, hydrated with water and Edilstik or use a suitable anchorage primer. · Non-absorbent laying surfaces (membranes, metal, ceramic, insulating sheets, etc.): before pouring the mortar with Politerm® R, lay a galvanized metal mesh well spaced from the laying surface (positioned at least one third of the final thickness of the casting that will be performed). |

For the mixture use Cem I cement or limestone Cem II cement, in accordance with UNI norm and in perfect conservation state. Different or poor-quality cements may affect the functionality of the E.I.A. additive, with which the Politerm® R beads are treated, and could make the mixture difficult, affecting the conformity of the final characteristics of the mortar.

Dosage for 1 m³ (1000 L) of lightweight thermal insulating mortar:

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

Dosage for 1/5 m³ (200 L) of lightweight thermal insulating mortar (es. dough in a cement mixer):

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

* Sand is not necessary thanks to the mixing features of Politerm® R. Anyway, it is possible to use it, but it will lead to lower performance in terms of lightening, thermal insulation and water retention. In case of use, the water dosages will vary accordingly to the amount of sand and its residual humidity. The utilisation of sand may be necessary when "Turbosol" pumps for sand and cement screeds are used for the pumping.

- **Mixture: mortars made with Politerm® R can be mixed with:**
 - Cement mixer.
 - Horizontal mixer.
- **Mixing and pumping: mortars made with Politerm® R can be mixed and pumped on the surface with:**
 - Specific equipment like Politerm® Machine or Isolcap Machine (*you can consult the equipment depliant*).
 - Pumps like "Turbosol" for screeds made with sand and cement (*please contact Edilteco's technical department*).
- **Order of introduction of components with Politerm® Machine:**
 1. Turn on the mixer;
 2. Insert the necessary water according to the formulation;
 3. Insert 1 bag of Politerm® R;
 4. Put the necessary cement for the formula;
 5. Insert the second bag of Politerm® R;
 6. Mix for 10 minutes (including the introduction time) before pumping.
- **Antifreeze usage:** at a temperature below +5 °C it is recommended to add antifreeze liquid in the in the doses recommended by the manufacturer according to the dosage of cement. The use of antifreeze additives is compatible with the physico-chemical features of Politerm® R.

WARNINGS

- Do not apply at temperatures below +5 °C or under direct sunlight or with temperatures higher than +35 °C. If the application is under direct sunlight the necessary precautions must be taken (such as scaffolding mesh and others).
- The installation of sound-absorbing perimeter bands with a height higher than that of the floor is recommended.
- **Minimum thickness:**
 - a) *Absorbent surfaces:* 5 cm. For thicknesses less than 5 cm please consult the "Manual of use and application" or contact the Edilteco's technical department.
 - b) *Non-absorbent surfaces:* please consult the "Manual of use and application" or contact the Edilteco's technical department.

TECHNICAL CHARACTERISTICS

| CHARACTERISTIC | FORMULA | | | |
|--|---------------|------------|------------|------------|
| | 200 | 250 | 300 | 350 |
| Density at 28 days kg/m ³ : | approx 215 | approx 274 | approx 315 | approx 365 |
| Thermal conductivity λ_v W/m-K: | 0,065 | 0,078 | 0,080 | 0,103 |
| Compressive strength N/mm ² : | 0,37 | 0,51 | 1,61 | 1,69 |
| Flexural strength N/mm ² : | 0,46 | 0,65 | 0,95 | 0,59 |
| Coefficient of water vapour permeability μ : | 5,9 | 5,0 | 7,2 | 9,2 |
| Average water absorption W_p : | 1,194 ± 0,173 | | | |
| Specific heat J/kg-K: | 1000 * | | | |

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.

* 1000 J/kg-K = 0,24 kcal/kg-K



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COMPANY WITH
QUALITY SYSTEM
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ISO 9001

| | SECTION | CREDITS | TECHNICAL DESCRIPTION |
|---------------|------------------------------|----------------|--|
| LEED CRITERIA | Energy and Atmosphere (EA) | Prerequisite 2 | Minimum energy performance |
| | | Credit 1 | Optimisation of energy performance |
| | Materials and Resources (MR) | Credit 5 | Materials extracted, processed and products at a limited distance (regional materials) |