



POLITERM[®] BLU

superlight aggregates for the preparation of
lightweight thermal insulating mortars for screeds
and **structural concrete**



THERMAL

Insulation & Chemicals Division

THERMAL INSULATION . REFURBISHMENT AND DEHUMIDIFICATION

POLITERM® BLU

SUPERLIGHT THERMAL INSULATING AGGREGATE *

Superlight thermal insulating aggregate composed of virgin expanded polystyrene beads with grain size in curve (Ø 3 - 6 mm) and with a controlled density. During production the beads are mixed with the special E.I.A. additive which allows a perfect mixing with water and binder, **even at very low dosages**. The homogenous distribution of the beads throughout the mix and the elimination of the problem of bead flotation creates a product that is perfect for pumping. **For densities lower than 350 kg/m³ it is not necessary the addition of sand.**



Ø 3 - 6 mm

POLITERM® BLU FEIN

SUPERLIGHT THERMAL INSULATING AGGREGATE WITH FINE GRAIN *

Superlight thermal insulating aggregate composed of virgin expanded polystyrene beads with fine grain (Ø 2 mm), and with a controlled density. During production the beads are mixed with the special E.I.A. additive which allows a perfect mixing with water and binder, **even at low cement dosages**. The homogenous distribution of the beads throughout the mix and the elimination of the problem of bead flotation creates a product that is perfect for pumping.

Ideal for:

- The realization of lightweight single-layer base screeds with Piano Zero system for the direct gluing of the flooring.
- **The production of lightweight and structural concrete.**



Ø 2 mm

New system

POLITERM® RAIN DEFENCE ...

... the rain is no longer a problem!

- **After 24 hours from the application**, the base screed is able to overcome the washout, caused by light rain (base screed drying at +20 °C and R.H. 50%).
- **After 48 hours from the application**, the base screed is able to eliminate the water absorption, caused by light rain or other causes (base screed drying at +20 °C and R.H. 50%).



For roofing!



POLITERM® BLU or
POLITERM® BLU FEIN
+
B.R.D. BLU RAIN DEFENCE
create a unique and
NON-ABSORBENT
SYSTEM!



New product

POLITERM® BLU AUTOLIV

... the 1st lightweight, thermal insulating and self-levelling base screed!

Superlight aggregate with high thermal insulating properties, composed of expanded polystyrene with controlled density and special pre-additivation. To be used for the preparation of **lightweight, insulating, structural, fluid and self-levelling concrete** (minimum density 900 kg/m³).



POLITERM® BLU
AUTOLIV
+
SPS ADDITIVE
create structural
lightweight, insulating,
fluid and self-levelling
concrete!



POLITERM® BLU MAIN APPLICATION FIELDS

Internal and external.

INTERMEDIATE LAYER / FILLING *

(on floor and/or basements):

- Surface levelling. ①
- Beneath sand and cement screeds. ②
- Beneath self-levelling screeds. ②
- Beneath underfloor heating system (also with the direct application of radiant pipes). ③
- Vaulted or waffle floor levelling. ④
- Beneath industrial flooring.
- Beneath driveable asphalt.
- Cavity wall insulation. ⑤

BUILDING ELEMENTS **

- Blocks. ⑥
- Prefabricated wall panels. ⑦

SINGLE-LAYER SCREEDS **

(on floor and/or basements) direct application of:

- Ceramic tiles, stone or marble flooring and laying parquet floors. ⑧
- Parquet floors, after applying a thin-bed compound. ②
- Flexible flooring, after application of thin-bed levelling compound. ②

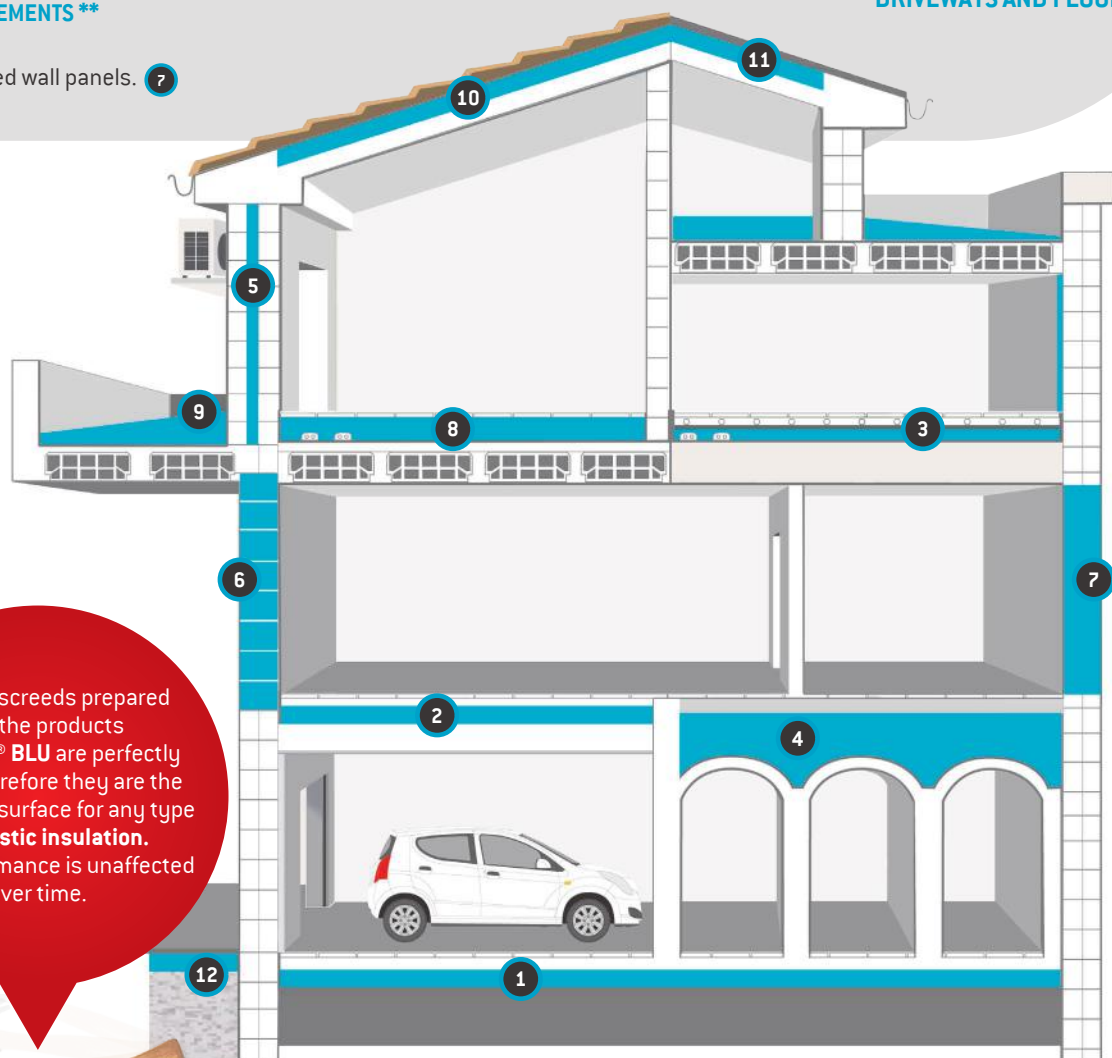
And also:

- Falls on terraces. ⑨

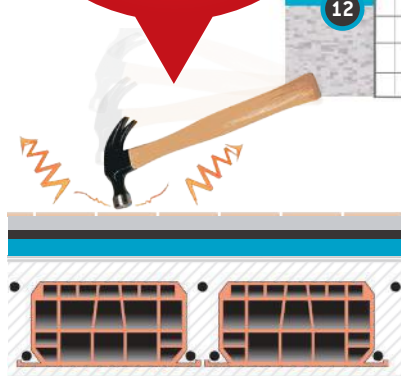
ROOFING *

- Pitched roofs. ⑩
- Flat roofs with or without falls.
- Vaulted roofs.
- Corrugated steel sheet.
- Asbestos fibre cement (encapsulation).
- Direct application of waterproofing membranes. ⑪

BENEATH ASPHALT DRIVEWAYS AND FLOORING ** ⑫



The base screeds prepared with the products **POLITERM® BLU** are perfectly stable. Therefore they are the ideal laying surface for any type of **acoustic insulation**. Their performance is unaffected over time.



Laying of acoustic mats



Impact sound measurement

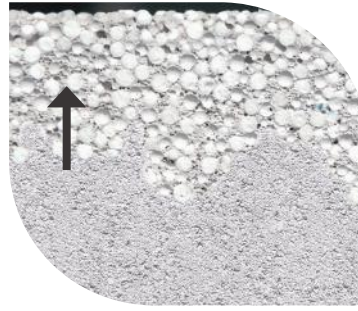
* Density: from 110 to 1500 / ** Density: from 300 to 1500

MORTARS and CONCRETE

PREPARED WITH POLITERM® BLU

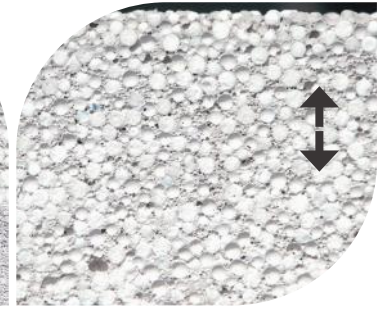
The lightweight and thermal insulating mortars and structural concrete prepared with POLITERM® BLU:

- Are composed of virgin EPS beads mixed with our special E.I.A. additive during the production phase.
- Guarantee consistency and homogeneity of the dosages and of the thermal and mechanical characteristics.
- Do not shrink during the application or curing phase.
- Provide total dimensional stability of the mix over time. The screeds do not crack nor swell.
- The mixes can be pumped over long distances without causing any change in their physical or mechanical characteristics.
- Are lightweight, easy to apply and to transport.
- Are pH-controlled and non-corrosive, hence the mixes do not trigger reactions of any kind with the materials with which they come into contact.
- Are suitable to meet the insulating performances required by the current standards.



**MIXTURE WITH POLYSTYRENE
NON CORRECTLY MIXED**

Non homogeneous distribution into the mix (bead flotation phenomenon).



**MIXTURE WITH
POLITERM® BLU**

Homogeneous distribution into the mix.

MAIN TECHNICAL DATA

LIGHTWEIGHT THERMAL INSULATING SCREEDS

FORMULA (Absolute technical characteristics)	110	200	250	300	350	500	800
Density after 28 gg kg/m ³	apx. 130 ^(a)	apx. 215	apx. 265	apx. 315	apx. 365	apx. 515	apx. 815
Thermal conductivity λ_D W/mK	0,043	0,065	0,067	0,080	0,103	0,104	0,176
Compressive strength N/mm ²	0,528	0,69	0,83	1,61	1,69	2,24	≥ 5,0
Flexural strength N/mm ²	0,12	0,37	0,46	0,95	0,59	0,78	≥ 1,0
Cohesion kPa	n.d.	82,62	n.d.	127,17	n.d.	n.d.	n.d.
Hot-sealed membrane rupture N/50 mm	n.d.	57	n.d.	62	n.d.	n.d.	n.d.
Cold-sealed membrane rupture N/50 mm	n.d.	35	n.d.	47	n.d.	n.d.	n.d.
Elasticity module N/mm ²	n.d.	235,3	n.d.	551,1	n.d.	n.d.	n.d.
Permeability to water vapour μ	5,1	5,9	6,9	7,2	9,2	10,2	14,0
Specific heat J/kgK	1000 ^(b)	1000 ^(b)	1000 ^(b)	1000 ^(b)	1000 ^(b)	1000 ^(b)	1000 ^(b)
Shrinkage (NBN) mm/m	n.d.	0,427	n.d.	0,352	0,270	n.d.	n.d.
Acoustic insulation ΔL_w	n.d.	14 dB ^(c)	14 dB ^(c)	26 dB ^(d)	n.d.	17 dB ^(e)	19 dB ^(e)
Impact sound insulation $L'_{nt,w}$	n.d.	n.d.	61 dB thick. 11 cm	n.d.	n.d.	n.d.	n.d.
Fire reactivity class	n.d.	A2-s1,d0					

^(a) only with Politerm® Blu Fein / ^(b) 1000 J/kgK = 0,24 kcal/kgK / ^(c) Value obtained in laboratory with 5 cm of Politerm® Blu + 5 cm of screed / ^(d) Value obtained in laboratory with 7 cm of Politerm® Blu + Fonotech 5 / ^(e) Value calculated with 5 cm of Politerm® Blu + Fonotech 5

STRUCTURAL CONCRETE			
FORMULA (Absolute technical characteristics)	1000	1200	1500
Density after 28 days kg/m ³	1000 ± 10%	1200 ± 10%	1500 ± 10%
Thermal conductivity λ_D W/mK	0,191	n.d.	n.d.
Compressive strength N/mm ²	≥ 5,0	≥ 7,0	≥ 20
Flexural strength N/mm ²	≥ 1,0	≥ 1,0	n.d.
Specific heat J/kgK	1000 ^(b)	1000 ^(b)	1000 ^(b)
Impact sound insulation ΔL_w	20 dB ^(e)	21 dB ^(e)	22 dB ^(e)
Fire reactivity class	A2-s1,d0		

DETERMINATION OF THE THERMAL RESISTANCE “R” * VALUE

According to the application thickness (lightweight screeds and base screeds)

FORMULA	THERMAL CONDUCTIVITY λ_D W/mK	COEFFICIENT	THICKNESS cm								
			4	5	6	7	8	9	10	15	20
110	0,043	R m^2k/W = (thickness/ λ)	0,93	1,16	1,40	1,63	1,86	2,09	2,33	3,49	4,65
200	0,065		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		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

[*] Ref. λ_D



See the technical data sheets and application manuals.

DETERMINATION OF THE THERMAL TRANSMITTANCE “U” * VALUE

FORMULA	THERMAL CONDUCTIVITY λ_0 W/mK	COEFFICIENT	THICKNESS cm								
			4	5	6	7	8	9	10	15	20
110	0,043	U W/m^2K $=$ $1/R$	1,07	0,86	0,71	0,61	0,54	0,48	0,43	0,29	0,22
200	0,065		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		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

[*] Ref. λ_0

PREPARATION OF MORTARS AND CONCRETE

LIGHTWEIGHT AND THERMAL INSULATING

TO OBTAIN 200 L YIELD OF LIGHTWEIGHT MORTAR				TO OBTAIN 1 m ³ YIELD OF LIGHTWEIGHT MORTAR		
FORMULA	WATER *** L	CEMENT * kg	POLITERM® BLU POLITERM® BLU FEIN	WATER *** L	CEMENT * kg	POLITERM® BLU POLITERM® BLU FEIN
110 **	10	22	n° 1 bag 170 L	50	110 **	n° 5 bags 170 L
200	18	40		90	200	or
250	22	50		110	250	
300	28	60		140	300	n° 2 bags 420 L
350	32	70		160	350	

(*) Cement Portland 32,5 Cem I or Cem II limestone / (**) Only with Politerm® Blu Fein / (***) The water dosage depends on the cement's batch quality

**POLITERM® BLU
YIELD
BAG OF 420 L**



= 500 L
Finished mortar
therefore >



= 1 m³
Finished mortar

**POLITERM® BLU
YIELD
BAG OF 170 L**



= 200 L
Finished mortar
therefore >



= 1 m³
Finished mortar

TO OBTAIN 200 L YIELD OF STRUCTURAL AND LIGHTWEIGHT CONCRETE					TO OBTAIN 1 m ³ YIELD OF STRUCTURAL AND LIGHTWEIGHT CONCRETE			
FORMULA	WATER ** L	CEMENT * kg	SAND kg	POLITERM® BLU POLITERM® BLU FEIN	WATER ** L	CEMENT * kg	SAND kg	POLITERM® BLU POLITERM® BLU FEIN
500	28	60	32	n° 1 bag 170 L	140	300	160	n° 5 bags 170 L or n° 2 bags 420 L
800	28	60	90	135 L	140	300	450	680 L
1000	28	60	130	120 L	140	300	650	600 L
1200	28	60	170	100 L	140	300	850	510 L
1500	30	60	230	85 L	150	300	1150	420 L

(*) Cement Portland 32,5 Cem I or Cem II limestone / (**) The water dosage depends on the cement's batch quality and on the sand's humidity ratio

BENEFITS

LOW ENVIRONMENTAL IMPACT

- Better thermal insulation.
- Lower fuel consumption during transport due to its low weight.
- Higher thermal insulation value therefore: lower volumes for the same thermal performances.
- Several production centres in Italy.

LOW DENSITY

- Low weight reduces lower imposed loads on the structure.

DUCTILITY

- Less water required during the preparation.
- Less water absorbed during the mixing.
- Easy to mix and pump.
- Easy and fast application.
- Easy transportation (lightweight).

SAFE HOME

- It improves the structural resistance and flexibility of the building (earthquakes).
- Fire resistance: A2-s1,d0 (starting from 200 kg/m³).



- Low environmental impact
- Low density
- Ductility
- Better attitude in case of earthquake



The concept of sustainability when applied to buildings can be evaluated from two converging points of view. From one side, it is possible to evaluate the impact that the construction and management of a building will have on its whole environment, while from the other side it is possible to analyze specifically all the technologies that have been used during construction, studying the individual environmental impact of each component and every material type that has been used. The evaluation of sustainability of an individual product is extremely complex. It is not measurable according to just one or more "eco" characteristic, but it is also related to all the factors that interact with the product and the environment during its lifecycle. This issue is further complicated if we say that the product sustainability evaluation is measured across its whole lifecycle, from the raw material to the finished product. Depending on the actual stage in its lifecycle it can have different environmental impacts. The certification of environmental sustainability is the instrument that allows the declaration of the performances and the environmental impacts that a building has on its territory including its energy consumption. Edilteco's products meet the criteria of the environmental sustainability protocols that are used to calculate scores and Leed credits.



Ask for the sustainability sheet with LEED scores of the product you are interested in: info@edilteco.com

PRODUCT WITH LOW environmental impact

little energy used in production and transportation, a lot of energy saved, thanks to its thermal performances!



COMPLEMENTARY PRODUCTS

POLITERM® BLU

EDILSTIK

Synthetic latex to improve the properties of the cement mortars.

To be used in the laying of single-layer lightweight screeds (Piano Zero system) to promote the adhesion to the receiving surface and for the preparation of very thin smoothing screeds (1 - 2 mm) for surfaces protection.



EDILSTIK F.C.A.

Pigmented synthetic latex for temporary stabilization of asbestos fibre cement sheets ("type D" certificate).

To be applied before the realization of encapsulation works with lightweight thermal insulating mortars, composed of Politerm® Blu range of products.



PIANO ZERO PROFILES

PVC guide rails for setting accurate leveling of the base screed. They are particularly suitable for single-layer lightweight screeds. Each profile is 2 m long and 5 cm high. The special cross-section design allows them to be securely fixed and held within the screed. They are very stable providing excellent alignment and preventing the formation of thermal bridges. The Piano Zero Profiles can also be used for the realization of traditional sand-cement screeds, with the additional function of expansion joint.



KRONOS *Screed*

Ready to use mortar suitable for the production of quick drying screeds with controlled shrinkage.

It is composed of cement, fine-grain materials and special additives. Kronos can be used on all kind of floors, with or without thermal and/or acoustic insulation and on lightweight base screeds and screeds. Any kind of flooring (wood, ceramic tiles, carpeting, plastic coats, etc.) can be applied once dry.



ISOLCAP MAX 800 *Screed*

Ready to use, thermal insulating screed, composed of virgin expanded polystyrene beads with constant grain size (Ø 2 mm), and controlled density, mixed with the special E.I.A additive. Suitable as lightweight single-layer base screed when using the Piano Zero system for the direct application of flooring.

Density 815 kg/m³



$\lambda_s = 0,176$
W/mK

News
CE

AUTOLIV *Smoothing base screed*

Ready to use self-levelling mineral mortar powder, for manual or mechanical application.

It is suitable for the high resistant levelling of base screeds prepared with Politerm® Blu and Isolcap (consult Edilteco Application Manual), before the application of ceramic tiles, porcelain, marble, natural stone and parquet.



SPECIFIC EQUIPMENT

POLITERM® BLU

POLITERM® MACHINE 1000 ECO

Entirely stainless steel equipment for the mixing and pumping of screeds and lightweight screeds (in particular the Isolcap range products) composed of fine-grain materials such as virgin expanded polystyrene beads, recycled expanded polystyrene beads, perlite, vermiculite and cork, also mixed with cellular foam produced by specific equipment. The maximum length of the pipe for carrying the mortar is of 100 m with a maximum height of 30 m.

Electrical power supply: 400 V - 50 Hz.

Also available with diesel fuel: homologated diesel engine in accordance with regulation of noise pollution.

Available with tank:
· from 1 m³

* It is also available in the following version:
POLITERM® MACHINE 1000 H2O

Equipped with automatic water dosage system.
For the setting up, please consult the technical data sheet.

POLITERM® MACHINE SCREW

Equipment for the mechanical addition of cement in Politerm® Machine tank.
Electrical power supply: 400 V.
Customized fittings available on request.

SINGLE-DISC SANDER

Equipment for the surface smoothing of lightweight thermal insulating base screeds and screeds.

Electrical power supply: 230 V.

Ideal for the surface smoothing of lightweight and thermal insulating single-layer base screeds and screeds (Piano Zero System).



ISOLCAP MACHINE H2O

Entirely stainless steel equipment for the mixing and pumping of screeds and lightweight screeds (in particular the Isolcap range products) composed of fine-grain materials like virgin expanded polystyrene beads, recycled expanded polystyrene beads, perlite, vermiculite, cork and self-leveling mortars (both cement or anydrite based).

Weight: 320 kg. *Capacity tank:* 220 L.

Electrical power supply: 2,2 kw - 400 V.

Maximum length of the pipe for carrying the mortar: 30 m with a maximum height of 15 m. Equipped with automatic water dosage system.

** It is also available in the following version:
ISOLCAP MACHINE HE H2O

For the setting up, please consult the technical data sheet.



EDILSTIK BLOW MACHINE

Equipment for latex spraying like Edilstik F.C.A. *Electrical power supply:* 230 V - 50 Hz.



LEVELLING TOOL

Aluminium straight edge with handle for the spreading of lightweight screeds on the laying surface.



POLITAINER

Logistic system for the delivery and storage of Politerm® Blu bags. Politainers are available on an annual rental basis.



POLITERM® MOBILE EQUIPMENT PME

Mobile equipment for the mixing and pumping of lightweight base screeds composed of cellular concrete or highly insulating lightweight aggregates, such as expanded polystyrene beads, for the realization of insulating screeds and base screeds, acoustic walls, flat roofing, external roofs.



POLITERM® BLU HAS BEEN CHOSEN FOR

REFERENCES



MART MUSEUM CENTER
ROVERETO - TRENTO - ITALY



SHOPPING CENTER GRAN SASSO
TERAMO - ITALY



NATIONAL THEATRE OF CATALUNYA
SPAIN

EDILTECO, AN INTERNATIONAL SUCCESS

italy . france . benelux



LEGEND

- Edilteco Group
- Partners
- Distributors



360° Insulation

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You Tube Consult our technical and application videos on the Edilteco Youtube Channel . www.youtube.com/user/EDILTECOvideo



Edilteco is associated with:



COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =