CE

POLIPLUS® BLU

PREMIXED ULTRA-LIGHT WEIGHT & HIGHLY THERMAL ISNULATION BOUND EPS (BEPS) MORTAR

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Premixed ultra-light weight and highly thermal insulating Bound EPS mortar for thermal insulation on roofs & floors certified with CE (ETA 24-0636) and with the German premium quality certification RAL

COMPOSITION	Premixed ultra-lightweight thermal insulating Bound EPS (BEPS) mortar for extremely high thermal insulation and simultaneous gradient formation. It is made of virgin polystyrene EPS (N) beads, (Ø 2mm) grain size, premixed with special additives and cement 200 Kg/m^3 dry density.
PACKING & STORAGE	• Bag of 70 L yield • Pallets of 40 sacks (2,8m^3 per pallet) • Use within 12 months from production date when stored properly (dry place protected from frost, water, and direct exposure to sunlight).
FIELD OF APPLICATION	• Thermal insulation on roofs/terraces/verandas/balconies (with or without simultaneous slope formation. Suitable for direct application of hot applied bituminous membrane. • Lightweight thermal insulating substrate (with or without simultaneous slope formation), on pitched or flat roofs, domed roofs. • Thermal insulation on non-walkable roofs. • Intermediate substrate of very high thickness etc. • Floor thermal insulation between dwellings/floors above closed non heated spaces/floors above pilotis • Floor thermal insulating substrate or below under floor heating. • On ground thermal insulation/under industrial floor/beneath asphalt. • Mortar for Flex house system and for thermal insulation bricks with EPS aggregates
CONSUMPTION YIELED	• 13-14 sacks yield 1m^3 of thermal insultaing mortar (depending on the mixing equioment and the precision of the mixing). • Alternativelly, 1 sack yields about 1m^2 of 7cm thick mortar.
SURFACE PREPARATION	• Thoroughly clean the surface. Completely remove dust and residue. • Prepare the leveling points. • Wet the surface (if it is absorbent) without creating puddles. • For highly absorbent surfaces: Proceed with the perfect cleaning of the surface. Completely remove the dust. Apply an adhesion promoter grout with reduced absorption abilities composed of cement/Tektoprimer/clean water (ratio Tektoprimer/water 1:1). Upon drying, wet the surface and continue with the application of Poliplus Blu. • Non-absorbent surfaces: Do not wet the surface. Apply a metal mesh appropriately anchored and at a distance from the surface.

ARCHITEKTONIDIS MONOTIKA S.A. "TEKTO HELLAS S.A"
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MIXING AND PUMPING	• **Can be mixed with:** ✓ Drill with whisk ✓ Cement mixer. ✓ Mixer type "Turbomalt". ✓ Politerm® Machine (see Tekto equipment). ✓ Poliplus Machine (see Tekto equipment). ✓ Plastering machine type PFT* ✓ Truck mixer and concrete pump. ✓ Machine and pump of lightweight concretes with rotor and stator ✓ Pump type "Turbosol" or "Putzmeister" (contact with Tekto Technical department). Hydrate with clean water with a ratio of 8-10L per bag. Mix for at least 5 minutes and not more than 10 minutes (except if you are using plastering machine) ***Mixing and pumping with PFT type machines** ✓ Attach a tank expansion to the machine, a rotor, and a stator for premixed products with EPS. ✓ Keep the feeding tank always full. It is advised to use the expansion. ✓ Do not use air compressor. ✓ Remove the nozzle from the pipe. ✓ Adjust the flow meter to receive a mortar with a creamy and homogenized composition.
WARNINGS	• Do not apply with temperatures lower than +5°C or higher than +35°C. • It is advised to use edge strips for acoustic insulation with a height bigger than the substrate. • It is advised that you use the Piano Zero Guides. The guides assist in creating an improved leveling of the mortar especially when the application is performed by less experienced craftsmen. • **Minimum thickness:** a) *Absorbent surfaces: 5 cm from the highest point of floor pipes (if present).* b) *Non-absorbent surfaces: consult the "application manual" or contact TEKTO's technical department.* For detailed instructions, consult the "*Application manual*" *(available on request)* or contact TEKTO's technical department. During the change of pallet, ensure the appropriate water mixing quantity. Do not wet the applied screed. Protect the screed from rain for the first 48 hours. Do not add any additive in the mixture. Mix only with clean water in the respective quantity and mixing time. Mix the whole bag at once. Do not separate the bag into smaller mixing batches.
APPLICATION DETAILS	Consult the application manual. Special circumstances may be present in each particular project which exceed the purposes of this TDS and/or the application manual. Consult the engineer supervisor or consult TEKTO HELLAS S.A.
CERTIFICATIONS	Poliplus Blu is **CE certified** according to **EOTA** with the **ETA 24-0636** from **MIRTEC**. It is also certified according to the Greek and European standart **ELOT EN 16025-1** and with the **German state certificate of higher quality RAL** from the **German notified body GSH** (**EU notification number No 0919**). For its environmental performances, the product has anι **EPD** πιστοποιημένο certified by **TUV**. For its **VOC emissions** it has a certificate from **Instituto Giordano** (see relevant part of this TDS). The company is certified according to **ISO 9001** from **DQS HELLAS**. It is advised, the application of Poliplus Blu to be undertaken by certified stuff according to the guidelines of TEKTO HELLAS s.a.

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TECHNICAL CHARACTERISTICS

Dry density	190Kg/m^3 (±15%)	ELOT EN 1097-3
Density of fresh mortar	230Kg/m^3 (±15%)	ELOT EN 1015-6
Bound EPS density	210Kg/m^3 (±15%)	ELOT EN 1602
Thermal conductivity $\lambda_{10,\,dry}$	0,065W/m^{2}K	ELOT EN 12667
Thermal conductivity $\lambda_D = \lambda_{(23,50)}$	0,067W/m^{2}K	ELOT EN 12667
Compressive strength in **kPa**	320 kPa	ELOT EN 826
Reaction to fire	A2-s1, d0	ELOT EN 1606
Water vapour diffusion resistance factor, **μ**	9,3	ELOT EN 12431
Water vapour diffusion – equivalent air layer thickness, **Sd,** m	0,427	ELOT EN 12431
Density of water vapour flow rate, **g**, kg/(m^2·s)	2.410	ELOT EN 12431
Water vapour permeance, **W**, mg/(m^2·h·Pa)	1,7	ELOT EN 12431
Water vapour permeability, **δ**, mg/(m·h·Pa)	0,079	ELOT EN 12431
Dimensional stability 60ºC-90%RH-48h	Δεl=0,1%, Δεβ=0,1%, Δεd=-0,1%	ELOT EN 1604
Deformation at 20kPa, 80ºC – 48h	ε_2=0,32%	ELOT EN 1605
Point load, F_p, 5mm deformation	2.250 N	ELOT EN 12430
Compressive creep	ε_{c10a}=0,37%, ε_{10a}=0,48%	ELOT EN 13501-1
Compressibility	1,8mm	ELOT EN 12086
EPS particle size distribution - Amount of dust	PS5(N) - D0	ELOT EN 933-1
Water absorption	W_p=1.78 Kg/m^2	ELOT EN 1609
Impact sound reduction	ΔL_w=18dB	ELOT EN 717-2
Dynamic stiffness, **s'**, σε 5cm	270 MN/m^3	ELOT EN 29052-1
Moisture sorption	$u_{23,50}$ = 0,013 [Kg/Kg] $u_{23,80}$ = 0,065 [Kg/Kg]	ELOT EN ISO12571
Specific heat capacity	1000J/kgK	-
Residual moisture after 28 days	<2% (thickness 5 cm, absorbent surface)	-

AFTER THE APPLICATION OF POLIPLUS BLU

Roofs and terraces with small workability can be applied:

- ✓ TPO, FPO, anchored and/or torched asphaltic membranes etc can be directly applied in accordance to the guidelines of the manufacturer.
- ✓ For application of brushable water insulating products and cemetitious brushable products, after sanding the surface of Poliplus, apply a thin bed smoothing mortar with a fiberglass reinforcement. At the discretion of the applicator, you can burn off the surface EPS beads with a blow torch. This will increase the consumption of the smoothing layer but this will also increase the mechanical performances of the smoothing layer. For torched applied asphaltic membranes, the application can be made with or without the application of a smoothing layer, at the discretion of the applicator and the supervising engineer.

Roofs and terraces with high workability can be applied:

- ✓ After sanding the surface of the mortar, apply a smoothing screed with thickness of 3-30mm or other screed with suitable mechanical performances depending on the project's requirements and the requirements of the final floor layer. At the applicator's discretion, the surface EPS beads can be burned off with a blow torch. This will increase the consumption of the smoothing screed, but this will also improve the screed's mechanical performances.

Floors can be applied:

- ✓ After sanding the mortar, the application of a self-leveling screed with a thickness 1-10mm or a smoothing mortar with a thickness of 3-30mm depending on the requirements. Alternatively, other screeds with higher mechanical performances can be used. At the discretion of the applicator, the superficial EPS beads can be melted off with a blow torch. This will increase the consumption but it will increase the mechanical performances. For direct application of ceramic tiles, use POLIPLUS FEIN or POLIPLUS XXLIGHT.

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Assessment of VOC emissions according to EN 16516	Regulation	Results
	French VOC regulation	
	French CMR components	Complies
	Italian CAM edilizia	Complies
	ABG/AgBB	Complies
	Belgian regulation	Complies

ECOLOGY – INVIROMENTAL FOOTPRINT

- ✓ Very high thermal insulating abilities ➲ Less material thickness to achieve the thermal requirements of a building structure
- ✓ Positive environmental footprint ➲ The energy savings the product offers exceed the energy required for its production.
- ✓ Reduced water needs ➲ Its special composition has significantly reduced mixing water needs. It does not absorb, nor retains water like other mortars.
- ✓ Extremely lightweight for transport ➲ Reduced environmental footprint of transport.
- ✓ Extremely lightweight ➲ Significantly contributes in the reduction of "dead" loads of a construction, increasing in that way the anticipated lifetime of old structures/renovations.

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