Bioscud BT

Water-based, liquid, bituminous, waterproofing membrane. Suitable for roofs, bituminous layers and concrete products, elastomeric, resistant to UV light, atmospheric agents and standing water.

Bioscud BT is specific for waterproofing of roofs, structures, concrete products and for the functional restoration of old pre-shaped bituminous layers, without using the flame; it allows for fast and safe interventions on any substrate, including large-sized ones.

GREENBUILDING RATING
REF. GBR DATA REPORT 01.25
APPROVED

Rating 2

- × Regional Mineral ≥ 30%
- × VOC Low Emission
- × Solvent ≤ 5 g/kg
- ✓ Low Ecological Impact
- ✓ Health Care

1. **Specific to restore the watertightness of old roofs in pre-shaped bituminous layers**
2. **Bituminous emulsion with high level of elasticity for highly deformable substrates when covering**
3. **Ready-to-use, water-based**
4. **Suitable for the containment of water, resistant to standing water, UV light and atmospheric agents**
5. **It performs continuous waterproofing avoiding the discontinuity of pre-shaped layer systems and without using the flame**

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Areas of application

→ Use
- Waterproofing in positive thrust of concrete and reinforced concrete structures and elements: coverings in general, flat and pitched roofs, floors, slabs, walls, foundations, plinths, gutter channels, chimney flashings, roofing details, chimneys, canopies, screeds, plasters, tanks, tankers, planters, hanging gardens, even in the presence of standing water.
- Protection for humidity control of concrete and reinforced concrete structures (horizontal, vertical, inclined surfaces) with high protection from carbonation (low CO_2 permeability).
- Repair of old pre-shaped bituminous layers.
- Bonding of solvent-resistant insulating panels on absorbent cement-based substrates
- Waterproofing of structures and elements under roofing tiles before fixing with polyurethane foam.
- Surfaces occasionally subject to foot traffic for maintenance work.

→ Substrates:
- old pre-shaped bituminous layers, steel sheets, floors and timber boards
- concrete and prefabricated reinforced concrete or fresh concrete castings
- mineral screeds from Keracem Eco range and cement-based screeds
- cement plasters and cement-lime mortar
- fibreglass after sanding down, fibre-cement slabs, external dry building systems
- aluminium, steel, iron, copper

→ Do not use:
- in case of unfavourable drying conditions or in case of impending rain
- in case of exposure to strong sunlight or on warm surfaces
- on floating or not perfectly anchored, damp, wet substrates or substrates subjected to rising damp
- on constantly trafficked surfaces, surfaces subject to heavy traffic or surfaces intended for glued heavy covering
- on lightened cement-based substrates not suitable to withstand direct loads, on insulating panels
- when high levels of acid and base resistance is required
- where heavy objects could be dragged
- on old PVC sheaths

Instructions for use

→ Substrate requirements
Cured (dimensionally stable):
screeds in Keracem Eco and Keracem Eco Pronto, waiting time 24 hrs;
- concrete waiting time 6 months unless otherwise specified;
- screeds or cement-based plasters/renders after waiting for 7 days (in good season) per cm of thickness.

Undamaged (remove parts or elements not perfectly adherent, verify adhesion and compatibility of any existing coatings).
Compact (to full thickness) and consistent.
Resistant and free from bleeding on the surface.
Dry, without superficial condensation (wait for the substrate to totally dry after pressure washing).
Clean: surfaces free of cement slurry, oil-based parting compounds, residues of previous processes, dust; everything that can compromise adhesion must be eliminated (when in doubt, carry out a peeling preliminary test).
Check for any moisture rising or negative thrust: vapour pressures could form at the substrate-waterproofing interface such as to cause debonding and bubbles. To check the residual humidity of substrates, it is recommended to apply a sheet of PE (minimum thickness 0.2 mm) sealed with adhesive tape in an area exposed to the sun and to check for the presence of condensation. Measure the humidity content of the substrate using a calcium carbide hygrometer after 24-48 hrs.

→ Preparation of substrates:
- Surfaces in concrete and reinforced concrete, exterior foundation walls, foundations: carry out the mechanical excavation for preventive tretament of any metal spacers; cutting of the spacers, if any, and passivation with Bioscud BT FIX; prepare the substrate as shown in the table.

Instructions for use

- Cement-based screeds: Check that the residual moisture is less than 3%; prepare the substrate as shown in the table. In the presence of fractionizing joints, remove dust and seal with Bioscud BT FIX; bond 20 cm-wide strips of Bioscud TNT with Bioscud BT near any joint. If cracks are present, carry out the mechanical excavation, remove dust, seal with Kerarep Eco as shown in the technical data sheet, proceed with quartz coating; bond 20 cm-wide strips of Bioscud TNT with Bioscud BT near the sealed cracks.
  To avoid the swelling of the fabric in the presence of movements, bond the entire surface of the sheet on the back in contact with the surface of the screed; take care of the soft bonding of the sheet near the joints (the sheet must follow the transverse profile and not be bonded while taut).
  To conceal joints and cracks previously treated, insert the Bioscud TNT (100 cm) sheet into the first coat of Bioscud BT while still wet, and cover with one or more coats, waiting for the drying between coats; the use of Bioscud TNT over the surface avoids the application of Bioscud TNT strips as previously described. Apply two or more coats of Bioscud BT until the total quantity required is reached.
- Old pre-shaped bituminous sheaths: to allow the dispersion of oils and plasticizers before the overlay, the sheaths must be completely cured (at least 6 months). If bubbles are present, they should be cut crosswise and after waiting for the substrate to dry, a patch of material of suitable characteristics should be applied. In case of circumscribed portions and/or strips that are not perfectly anchored, any surface varnishes or coatings must be removed and Bioscud BT Fix applied. In the event of reptation phenomena (folds, wrinkles, debonding of overlaps and curling of the waterproofing membrane starting at the corners of the roof) maintenance or repair work must be carried out before applying the Bioscud BT system.

Prepare the substrate according to the type of bituminous sheathing:

- Smooth bituminous sheating: perform a thorough dry cleaning removing dust and environmental residues (pressure washing is recommended in the presence of oil and plasticizer residues, wait until fully dry). Prepare the substrate as shown in the table.
- Slated bituminous sheating: perform a thorough dry cleaning by removing the poorly adhered flakes. Prepare the substrate as shown in the table.
- Galvanized or pre-varnished metal substrates (with a well-anchored final layer): seal any overlaps, areas of movement, irregularities or constructive defects using Bioscud BT FIX. On oxidised galvanized substrates remove the oxidation deposit with acid wash and rinse thoroughly.
  In the presence of damaged or rusty areas it is always necessary to completely remove and proceed with the application of rust-preventive, anti-corrosive paint.
- Timber substrates: fill any gaps or edges tapped between boards (non-through cracks) with Bioscud BT FIX; wait for the product to cross-link, approx. 24 hrs; sand the impregnated or painted surfaces and perform a thorough cleaning with Keragrip Eco Pulep. Prepare the substrate as shown in the table.

Concrete:
- primer: Bioscud Primer
- application mode: undiluted
- coverage: 200-300 ml/m²

Cement-based screed:
- primer: diluted Bioscud BT
- application mode: diluted 1:0.5 using water
- coverage: 300 g/m² or 100-200 g/m²

Cement-based screed:
- primer: Active Prime Fix or Active Prime Grip
- application mode: Active Prime Grip undiluted, Active Prime Fix diluted 1:1 with water
- coverage Active Prime Fix 100-200 g/m², Active Prime Grip 200-300 g/m²

Smooth bituminous sheating:
- application mode, direct without using primer

Slated bituminous sheating:
- primer: diluted Bioscud BT
- application mode: diluted 1:0.5 using water
- coverage 300 g/m²

Wood:
- primer: Bioscud Primer
- application mode: undiluted
- coverage: 200-300 ml/m²

→ Application

The product is ready to use; if necessary, uniform consistency mixing from the bottom upwards using a low-rev (≈ 400/min.) helicoidal agitator. Protect the product from frost; it must be stored, even on site, so as to avoid direct sunlight and heat sources.

Waterproofing of perimeters:

After preparing the substrate as described above, waterproof the entire perimeter of the surface by bonding 20 cm high strips of Bioscud TNT with Bioscud BT, overlapping the strips of Bioscud TNT by at least 5/10 cm; take care

Instructions for use

of contacts with other surfaces, whatever their orientation (columns, pillars, walls, ramps), thresholds, through elements, structures or systems anchored to surfaces, drains and sealing elements; in case of confined spaces and in the impossibility to bond Bioscud TNT, make connection shells in several coats with Bioscud BT FIX or make special pieces with Aquastop BT.
Waterproof the structural joints with suitable systems.

- Waterproofing of bituminous sheating overlaps: If the Bioscud TNT reinforcement is not used over the entire surface area, it will be necessary to bond 20 cm high strips of Bioscud TNT with Bioscud BT for each overlap of the bituminous sheathing, providing an overlap between the Bioscud TNT strips of at least 5/10 cm.

- Surface waterproofing:
  Apply Bioscud BT using a roller (average bristle 10-15 mm), brushes, hard rubber float (recommended only for rough or porous substrates) or airless (dilute using water according to the equipment to be used, minimum 10%), taking care to completely cover all previously bonded Bioscud TNT surfaces; wait at least 12 hours after applying the first coat and apply the second coat with a pass perpendicular to the first for the optimal distribution of the product. The second coat must be applied after the complete drying of the first one (environmental conditions can significantly alter durations measured under standard conditions); long waits between coats cause the reduction of the adhesion values of the next coat.
  The use of Bioscud TNT over the entire surface is mandatory in the case of timber substrates, planters and in areas with standing water; apply a coat of Bioscud BT with a roller (average bristle 10-15 mm) taking care to completely cover all surfaces and apply Bioscud TNT over the first coat of product while it is still wet. Press with the unloaded roller to avoid wrinkles and creases. Overlap the reinforcement by at least 10 cm on the perimeter waterproofing and between the sheets. The second coat must be applied after the complete drying of the first one (environmental conditions can significantly alter durations measured under standard conditions); long waits between coats cause the reduction of the adhesion values of the next coat.
  Apply two or more coats for a total of at least 2 kg/m² of product, net of the material used for preparing the substrate. Strictly follow the indications as to the minimum weight required to be applied; to check the applied weight, we recommend distributing the cans of product to be applied on the surfaces at regular intervals of 4 or 16 m² per coat depending on the packaging size.
  The product hardens by evaporation of the water contained in the emulsion; drying times are constrained by temperature and environmental humidity in the hours following application. If the product is not perfectly dry, it risks being washed away and irreparably deteriorated by weather events or condensation. Resistance to standing water is depended on perfect drying. Once the product has hardened, the presence of any bubbles shows an excessive R.H. of the substrate; remove the bubbles, wait for the substrate to dry and reapply the product.
  The stickiness of the surfaces in the moments following application is a feature of the product and does not preclude its final performance; it runs out over time and can be removed by dusting industrial talc or cement.

Special applications:
- Exterior foundation walls: carry out the preventive treatment depending on the type of substrate; restore evenness with suitable products. Provide adequate separation and mechanical protection systems before filling with soil (waiting time ≥ 48 hrs).
- Planters and hanging gardens: apply Bioscud BT reinforced with Bioscud TNT added to the first coat when it is still wet; provide a sliding layer (high density PP) and a separation layer (non-woven fabric g/m²) before filling (waiting time ≥ 48 hrs); in the presence of tall trees, provide anti-root fabric.
- Tanks and tankers for water containment: carry out the preventive treatment depending on the type of substrate. Create a connection shell with special mortars in the wall-floor and wall-wall corners joints. Provide ventilation to facilitate drying before filling (waiting time ≥ 15 days). Do not use for the containment of drinking water, washing water containing hydrocarbons and/or solvents, sewage, when chemical resistances are required, and when the containment of water at pH < 5 or pH > 7 is required; containment of water is permitted provided the pH requirements are met.

→ Cleaning
The removal of the fresh product is carried out with water, to reuse rolls and brushes soak them in water to avoid drying the product. For the final cleaning of tools use a solvent such as turpentine.

Special notes

- → In the presence of substrates with high residual humidity (≥ 3% measured with a calcium carbide hygrometer taking samples from the base of the screed) provide for the insertion of water vapour exhalers equipped with suitable anchoring systems and a waterproof connection to the extent of 1 every 15 m² approx.; install the exhalers 5-10 days prior to the waterproofing and verify the degree of R.H. before applying in the most distant point between two adjacent exhalers.
- → In climatic conditions of high humidity and/or low temperature drying times are lengthened, delaying foot traffic and significantly increasing the risk of being washed away in case of possible rainfall or in the presence of condensation; to decrease drying times, apply in several coats of max 0.5 kg/m².
- → In case of constant foot traffic, apply Bioscud Traffic only if Bioscud BT has been reinforced with Bioscud TNT.
- → Coatings: to reduce the absorption of heat, to protect-decorate the waterproofing layer and ensure greater durability, apply the water-based, liquid, acrylic, waterproofing membrane Bioscud after 24 hrs and in any case after the product has dried completely. Bioscud can suffer, over time, the phenomenon of “alligatoring” caused by the different coefficient of thermal expansion with respect to the underlying Bioscud BT; the phenomenon does not affect the watertightness but exclusively the aesthetic properties and can be restored with the ordinary maintenance of Bioscud.
- → The reinforcement with Bioscud TNT, applied on the first wet coat of Bioscud BT and completely covered with the second coat, significantly increases shear strength and Crack Bridging performances of the waterproofing, reducing the criticalities of the substrates. The durability of applications may be expanded by installing a reinforcement or increasing the number of coats applied, following the indications provided in the technical data sheet.
- → Unscheduled maintenance: to restore aesthetic and functional continuity following wear, clean carefully the surfaces and apply the product according to the methods indicated.
- → For primary waterproofing, the requirements of standard EN 15814 must be complied with (see final performance in the Performance table); the product must be applied in two or more coats reinforced with Bioscud TNT so as to obtain a dry thickness of not less than 3 mm, corresponding to approx. 6 kg/m² of fresh product.

Certificates and marks

CE EN 1504-2 · CE EN 15814 · PI METHOD 1.3 EN 1504-2 · MC METHOD 2.2 EN 1504-2 · IR METHOD 8.2 EN 1504-2

Abstract

Waterproofing of the wall-floor joints and of the fractionizing-expansion joints – Supply and laying of polyester staple fibre non-woven fabric for the reinforcement, such as Bioscud TNT, to be bonded with a water-based, liquid, bituminous, waterproofing membrane elastic, resistant to UV light, atmospheric agents and standing water, such as Bioscud BT by Kerakoll Spa for roofs, bituminous layers and concrete products (seal in advance the fractionizing-expansion joints with Neutro Color by Kerakoll Spa).
Waterproofing of the substrate – Supply and certified laying of a water-based, liquid, bituminous, waterproofing membrane for roofs, bituminous layers and concrete products, elastic, resistant to UV light, atmospheric agents and standing water, such as Biosacud BT by Kerakoll Spa, CE-marked and compliant with the performance requirements of Standard EN 1504-2.

Technical Data compliant with Kerakoll Quality Standard	
Appearance	black paste
Chemical nature	bituminous emulsion
Mineralogical nature of inert material	silicate - crystalline
Apparent volumetric mass	≈ 1.05 ± 0.05 kg/dm³
Solid content	≥ 54% ± 2%
Shelf life	≈ 18 months from production in the original sealed packaging
Warning	protect from frost and avoid direct exposure to sunlight and store away from sources of heat
Pack	16 / 4 / 1 kg buckets
Dynamic viscosity	≈ 20.000 mPas · sec (S06 30 rpm at +20° C)
Only to be used:	
- temperature	from +5 °C to +35 °C
- humidity	≤ 80%
Waiting time between 1st and 2nd coat	≥ 12 hrs
Minimum thickness required	≥ 1 mm dried product corresponding to ≈ 2 kg/m² fresh product
Interval before normal use	≈ 48 hrs / ≈ 15 days (stagnant water)
Coverage*	≥ 2 kg/m²

Values taken at +23 °C, 50% R.H. and no ventilation.
* Consumption may increase on very rough substrates.

Performance		
HIGH-TECH		
Elongation at break	≥ 1000% ± 200%	ISO 527-1
Cold flexibility	-10 °C	UNI 1109
Adhesion to sheet-metal	≥ 0.8 MPa	EN 1542
Water-resistance	≥ 1 bar	UNI EN 1928
CO_2 permeability	S_D > 50 m	EN 1062-6
Permeability to water vapour	class II; 5 m ≤ SD ≤ 50 m²	EN 7783-1 EN 7783-2
Capillary absorption and water permeability	w < 0.1 kg/m² $h^{0,5}$	EN 1062-3
Direct tensile adhesive strength concrete products	> 0.8 N/mm²	EN 1542
Exposure to environmental atmospheric agents	no visible defect	EN 1062-11
Crack Bridging:		
- at +23 °C	class A5	EN 1062-7
- at 0 °C	class A5	EN 1062-7
- at -5 °C	class A5	EN 1062-7
Working temperature	from -10 °C to +90 °C	
Reaction to fire	Class E	EN 13501-1
Water-resistance	Class W1	EN 15820
Crack-Bridging Ability	Class CB2	EN15812
Resistance to water	passed	EN15817
Low temperature flexibility (0 °C)	passed	EN15813
Dimensional stability at high temperature (70 °C)	passed	EN15818
Resistance to compression	Class C0	EN 15815
Durability	passed	
Conformity		EN15814
Conformity	PI-MC-IR	EN 1504-2(C)

Values taken at +23 °C, 50% R.H. and no ventilation. Data may vary depending on specific conditions at the building site.

Warning

→ Product for professional use
→ abide by any standards and national regulations
→ protect from rain and condensation for 48 hrs
→ resistance to standing water is depended on perfect drying after application
→ do not add binders or other materials to the product
→ do not apply on dirty, loose, warm surfaces or surfaces exposed to strong sunlight, or in case of impending rain
→ if necessary, ask for the safety data sheet
→ for any other issues, contact the Kerakoll Worldwide Global Service +39 0536 811 516 - globalservice@kerakoll.com

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