

Bioscud Fiber

Fibre-reinforced, multi-purpose, rainproof waterproofing protection for roofs, bituminous layers and external surfaces subject to foot traffic, flexible, resistant to UV light, atmospheric agents and standing water.

Bioscud Fiber performs the fibre-reinforced, decorative, highly reflective waterproofing (Cool Roof white colour) even of old, pre-shaped bituminous layers, adapting to any shape.



Rating 3

1. Suitable for foot traffic, reinforced with PAN fibres, resistant to ageing and physical-chemical agents
2. Specifically intended for fibre-reinforced, suitable for foot traffic rainproof waterproofing of flat roofs
3. Certified for highly reflective protective decoration – Cool Roof (white colour)
4. Flexible water emulsion for highly deformable substrates
5. Ready-to-use, water-based, solvent-free
6. Resistant to standing water, UV light and atmospheric agents, it does not need protection

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

Areas of application

→ Use

- Fibre-reinforced, suitable for foot traffic waterproofing of concrete and reinforced concrete structures and elements: coverings in general, flat and pitched roofs, floors, slabs.
- Fibre-reinforced waterproofing in positive thrust of walls, exterior foundation walls, foundations, plinths.
- Decorative, fibre-reinforced waterproofing of chimneys, canopies, gutter channels, chimney flashings, roofing details, cornices, perimeter and containment walls.
- Protection for humidity control of concrete and reinforced concrete structures (horizontal, vertical, inclined surfaces) with high protection from carbonation (low CO₂ permeability).
- Cool Roof (white colour) repair and protective decoration.
- Waterproofing of structures and elements under roofing tiles before fixing with polyurethane foam.
- Exposed surfaces subject to foot traffic.

→ Substrates:

- concrete and prefabricated reinforced concrete or fresh concrete castings
- mineral screeds from the Keracem range and cement-based screeds
- cement plasters and cement-lime mortar
- old smooth and slated pre-shaped bituminous layers

- aluminium, steel, iron, copper, wooden floors
- Bioscud BT cured for at least 20 days
- floor and coverings featuring ceramic tiles, cement-based marble tiles, clinker, stone materials
- fibreglass after sanding down, fibre-cement slabs, external dry building systems
- old liquid acrylic-based sheaths and old aluminium-based varnishes after checking the adhesion with a peeling test

→ 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 surfaces intended for glued heavy covering
- on lightened cement-based substrates not suitable to withstand direct loads, on insulating panels, on PVC layers
- on old pre-shaped layers directly applied on insulating panels
- on light boards, wooden beads or canopies
- for water containment, for waterproofing under negative thrust
- when high levels of acid and base resistance is required
- where heavy objects could be dragged

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;
- cement-based screeds or plasters/renders waiting time 7 days per cm of thickness (good weather).

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 after 24-48 hrs.

→ Preparation of substrates

Restore weakened or missing parts, or honeycombs, and fill any uneven surfaces with suitable products; do not use Bioscud to correct uneven areas and do not apply in high thicknesses.

Check the presence of suitable camber and rainwater collection and disposal systems.

Instructions for use

→ Preparation

The product is ready to use; if necessary, uniform consistency mixing from the bottom upwards using a low-rev ($\approx 400/\text{min.}$) helicoidal agitator.

Protect the product from frost; it must be stored, even on site, so as to avoid direct sunlight and heat sources.

→ Application

Waterproof the entire perimeter of the surface with Bioscud BT FIX: make connection shells near any wall-floor and wall-wall perimeter corners, in contacts with other surfaces whatever their orientation (columns, pillars, walls, ramps), thresholds, through elements, structures or systems anchored on surfaces, drains and sealing elements; apply the sealant in several coats and smooth over to create a watertight connection between the surfaces.

As an alternative option, bond 20 cm-high Bioscud TNT strips with Bioscud after carefully preparing the substrate.

Waterproof the structural joints with suitable systems.

Apply Bioscud Fiber using a smooth metal spreader, a hard rubber float (recommended only for rough or porous substrates) or a roller (average bristle 10-15 mm) taking care to completely cover all connection shells already made or previously bonded Bioscud TNT strips; 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. Apply two or more coats for a total of at least 2 kg/m^2 of product.

Strictly follow the indications as to the minimum weight required to be applied; to check the applied weight, we recommend distributing the product cans to be applied on the surfaces at regular intervals of 5 or 20 m^2 per coat depending on the packaging.

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.

For all listed cases, apply two or more coats of Bioscud BT with total coverage $\geq 2 \text{ kg/m}^2$.

- Surfaces in concrete and reinforced concrete, exterior foundation walls, foundations: on highly compact surfaces such as prefabricated and quartz cement floorings, apply Bioscud Primer (approx. $200\text{-}300 \text{ ml/m}^2$) avoiding accumulation of water. On poorly dusting substrates apply a coat of Active Prime Fix, diluted as indicated in the technical data sheet.
- Exterior foundation walls: mechanically break any metal spacers and carry out the preliminary treatment, cutting of the spacers and passivation with Bioscud BT FIX; repair uneven areas with suitable products. Provide adequate separation and mechanical protection systems before backfilling (waiting time $\geq 48 \text{ hrs}$).
- Cement-based screeds: in the presence of fractionizing joints and/or cracks, carry out the mechanical excavation, remove dust and seal with Bioscud BT FIX. Apply a coat of Active Prime Fix, diluted as indicated in the technical data sheet. Bond 20 cm-wide strips of Bioscud TNT with Bioscud near any joint and 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).
- 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). Mechanically remove any wrinkles, crimps, bubbles, excessive overlaps and imperfectly anchored edges; remove varnish or not perfectly anchored decorations. Restore the adhesion of corners, edges, overlaps, strips and debonded portions with Bioscud BT FIX.
- Smooth sheaths: 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). In the presence of old well-anchored organic or aluminium-based varnishes apply Bioscud Primer ($\approx 50\text{-}100 \text{ ml/m}^2$) avoiding accumulation of water.
- Slated sheaths: perform a thorough dry cleaning by removing the poorly adhered

Instructions for use

flakes. Apply one coat of Active Prime Fix, diluted as indicated in the technical data sheet, to fix superficial flakes.

- Old ceramic and stone floorings: check the anchoring of the covering, remove any poorly bonded element and any surface coverings (wax, water-repellent products, etc.). Clean thoroughly and specifically according to the intended use of the surfaces; in the impossibility to perform chemical cleaning, perform mechanical abrasion by polishing or scarifying the surface layer, remove dust and proceed with any surface adjustment. Fill any uneven surfaces.
 - In the presence of substrates with high residual humidity ($\geq 5\%$ measured with a 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. Apply Active Prime Fix ($\approx 200-300$ ml/m²) preventing accumulation of water. In the presence of fractionizing joints and/or cracks, carry out the mechanical excavation, remove dust and seal with Bioscud BT FIX. Bond 20 cm-wide strips of Bioscud TNT with Bioscud near any joint and 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).
 - 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. Sand the impregnated or painted surfaces and perform a thorough cleaning with Keragrip Eco Pulep. Apply Bioscud Primer (≈ 250 ml/m²) preventing accumulation of water.
- 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. To remove residues of hardened product use nitro solvents.

Special notes

→ For the treatment of absorbent surfaces, such as screeds and plasters, Bioscud Fiber may be used as an alternative to Active Prime Fix if diluted 25% max with water; dilution leads to the separation of the fibres without compromising the final result and the accumulations of fibres can be removed while still fresh or covered by the subsequent application of the undiluted product. For the treatment of wall-floor and wall-wall corners, of cracks and of movement joints of screeds and floors, Bioscud Fiber may be used diluted 10% max using water in order to bond 20 cm-long Bioscud TNT strips; dilution leads to the separation of the fibres without compromising the final result and the accumulations of fibres can be removed while still fresh or covered by the subsequent application of the undiluted product.

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, coat with Bioscud Traffic.

The durability of applications may be expanded by increasing the number of coats of Bioscud Fiber 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.

colour chart

white (RAL 9010)

grey (RAL 7038)

The shades shown are intended as an indication only.

Cool Roof

→ The use of a highly reflective covering reduces the surface temperature of the roof, especially flat roofs most exposed to direct radiation due to the incidence of sunlight in summer.

→ Thanks to the reduction of solar energy absorption, lower temperatures are reached in the rooms below the roof, thus reducing energy consumption of air conditioning in summer: passive cooling of the buildings occurs, with direct improvement of living and working comfort.

→ The reflective properties of the covering decrease over time due to the accumulation of dirt; it is recommended to periodically clean the surface and to reapply the covering when it is not possible to restore the initial whiteness.

→ Cool Roof waterproofing with Bioscud Fiber reduces the effects of the local "Heat Island" (difference in thermal gradient between urban and green areas).

Certificates and marks



Abstract

Waterproofing of the substrate – Supply and certified laying of fibre-reinforced rainproof waterproofing protection for roofs, bituminous layers and external surfaces subject to foot traffic, flexible, resistant to UV light, atmospheric agents and standing water, single-component, solvent-free, like Bioscud Fiber by Kerakoll Spa.

Technical Data compliant with Kerakoll Quality Standard

| | | |
|--|--|-------------------|
| Appearance | coloured paste | |
| Colours * | white (RAL 9010) - grey (RAL 7038) | |
| Specific weight | ≈ 1.32 kg/dm ³ | |
| Chemical nature | water emulsion of waterproofing agents | |
| Mineralogical nature of inert material | crystalline carbonate | |
| Solid content | ≥ 71% | |
| 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 | 20 / 5 / 1 kg buckets | |
| Dynamic viscosity | ≈ 14,500 mPas | Brookfield method |
| 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/m ² fresh product | |
| Interval before normal use | ≈ 24 h / ≈ 7 days (stagnant water) | |
| Coverage | ≈ 2 kg/m ² | |

Values taken at +23 °C, 50% R.H. and no ventilation.
* RAL references are indicative.

| Performance | | |
|---|--|---------------------|
| HIGH-TECH | | |
| Water-resistance: | | |
| - watertightness | ≥ 0.5 bar | EN 1928 |
| - 1.5 bar per 7 days | no penetration | EN 14891 |
| Elongation: | | |
| - at F max | ≥ 16% | ISO 527-1 |
| - break warp (+23 °C) | ≥ 46% | ISO 527-1 |
| Adhesion: | | |
| - on concrete | ≥ 1.8 MPa | EN 1542 |
| Resistance to static load (punching) | 15 kg on soft substrates (EPS): | EN 12730 |
| Cold flexibility | -10 °C | UNI 1109 |
| Working temperature | from -10 °C to +90 °C | |
| Resistance to hailstorms | | |
| On soft support (EPS): | | |
| - damage speed | ≥ 32 m/s | EN 13583 |
| - intensity class TORRO (H1-H9) | H6 (grains: golf balls, damages: broken roof tiles, smashed cars) | |
| On rigid support (steel): | | |
| - damage speed | ≥ 41 m/s | EN 13583 |
| - intensity class TORRO (H1-H9) | H7 (grains: tennis ball, damages: scratched metal roofs, solid bricks) | |
| Covering for the protection of concrete surfaces compliant to standard EN 1504-2 | | |
| CO ₂ permeability | S _d > 50 m | EN 1062-6 |
| Permeability to water vapour | class I – S _d < 5 m | EN 7783-1 EN 7783-2 |
| Capillary absorption and water permeability | w < 0.1 kg/m ² h ^{0.5} | EN 1062-3 |
| Direct tensile adhesive strength concrete products | > 0.8 MPa | EN 1542 |
| Thermal compatibility: | | |
| Freeze/thaw cycles without immersion in de-icing salts | ≥ 0.8 MPa | EN 13687-3 |
| Exposure to environmental atmospheric agents | no visible defect | EN 1062-11 |
| Crack Bridging: | | |
| - at +23 °C | A5 class (static) - B 4.1 class (dynamic) | EN 1062-7 A/B |
| - at 0 °C | class A5 | EN 1062-7 |
| - at -5 °C | class A5 | EN 1062-7 |

| | | |
|---|--|---------------------------------------|
| - at -10 °C | class A2 | EN 1062-7 |
| Conformity | PI-MC-IR | EN 1504-2(C) |
| Adhesion: | | |
| - to air | ≥ 1.6 MPa | UNI 10686 |
| - after freeze-thaw | ≥ 1.2 MPa | UNI 10686-B |
| - after sun-rain | ≥ 1.2 MPa | UNI 10686-C |
| Impermeability: | | |
| - to air | no appearance of humidity | UNI 10686-A |
| - after freeze-thaw | no appearance of humidity | UNI 10686-B |
| - after UV light ageing | no appearance of humidity | UNI 10686-15 |
| Resistance to washing | ≥ 5000 cycles | UNI 10560 |
| Cool Roof | | |
| Bioscud Fiber White: | | |
| - solar reflectance | 0.752 (Cool Roof DM 26/06/15 SR > 0.65) | ASTM C 1549-09 |
| - solar absorption | 0.248 | ASTM C 1549-09 |
| - emissivity | 0.874 | EN 15976/2011 |
| - Solar Reflectance Index (SRI) | 91.9 – 92.7 – 93.,1 | ASTM E 1980-01 |
| Solar reflectance certificate - Cool Roof | Suitable | Cert. Unimore EELAB nr ETR-19-0408 |

Values taken at +20 °C, 65% 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 24 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



The Rating classifications refer to the GreenBuilding Rating Manual 2013. This information was last updated in April 2023 (ref. GBR Data Report – 05.23); please note that additions and/or amendments may be made over time by KERAKOLL SpA; for the latest version, see www.kerakoll.com. KERAKOLL SpA shall therefore be liable for the validity, accuracy and updating of information provided only when taken directly from its institutional website. The technical data sheet given here is based on our technical and practical knowledge. As it is not possible for us to directly check the conditions in your building yards and the execution of the work, this information represents general indications that do not bind Kerakoll in any way. Therefore, it is advisable to perform a preliminary test to verify the suitability of the product for your purposes.