

Bioscud

Water-based, liquid, acrylic, waterproofing membrane. Suitable for flat and pitched roofs, bituminous layers and external surfaces, flexible, resistant to UV light, atmospheric agents and standing water.

Bioscud is easy to apply on large surfaces to ensure the waterproofing and the highly reflective protective decoration (Cool Roof) even of old, pre-shaped bituminous layers; it adapts to any shape, as to avoid overheating the rooms below. Certified for the encapsulation of fibre-cement and asbestos-cement slabs.



Rating 3

1. Specifically intended for decorative waterproofing of flat roofs
2. Certified for highly reflective protective decoration – Cool Roof (white colour) of old pre-shaped bituminous layers as well
3. Certified for the encapsulation of fibre-cement and asbestos-cement sheets class A, B, C and D in accordance with Italian Ministerial Decree 20/08/99
4. Ready-to-use water emulsion with a high level of elasticity for highly deformable substrates
5. 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

→ Intended use:

- Waterproofing in positive thrust of concrete and reinforced concrete structures and elements: coverings in general, flat and pitched roofs, floors, slabs.
- Decorative, exposed waterproofing of chimneys, canopies, gutter channels, chimney flashings, roofing details, cornices, perimeter and containment walls, facades, lift shafts and stairwells, surfaces soundproofed with polyurethane foams for protection against UV rays (not soaked).
- Protection for humidity control of concrete and reinforced concrete structures (horizontal, vertical, inclined surfaces) with high protection from carbonation (low CO₂ permeability).
- Repair and protective decoration Cool Roof (white colour) of old pre-shaped bituminous layers.
- Waterproofing of structures and elements under roofing tiles before fixing with polyurethane foam.
- Surfaces occasionally subject to foot traffic for maintenance work.

Substrates:

- 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
- old smooth and slated bituminous layers
- aluminium, steel, iron, copper, wooden floors
- Bioscud BT cured for at least 24 hours
- 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
- PVC layers, after sanding down and preliminary test (reinforce with Bioscud TNT)

→ 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 reduces the effects of the local "Heat Island" (difference in thermal gradient between urban and green areas), resulting in LEED scores.

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
- 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 and/or to measure the humidity content of the substrate using a calcium carbide hygrometer.

→ Preparation of substrates

- Surfaces in concrete and reinforced concrete, exterior foundation walls, foundations: carry out the mechanical excavation for preventive treatment of any metal spacers; cutting of the spacers, if any, and passivation with Aquastop Nanosil; prepare the substrate as shown in the table.
- 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 Aquastop Nanosil; bond 20 cm-wide strips of Bioscud TNT with Bioscud 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 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 while still wet, and cover with one or more coats, waiting for the drying between coats; the use of Bioscud TNT over the whole surface avoids the application of Bioscud TNT strips as previously described.

Apply two or more coats of Bioscud 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 system.
Prepare the substrate according to the type of bituminous sheathing:
- Smooth bituminous sheathing: 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 sheathing: perform a thorough dry cleaning by removing the poorly adhered flakes. Prepare the substrate as shown in the table.
- 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

Instructions for use

any uneven surfaces with suitable products from the Keralevel range. In the presence of substrates with high residual humidity ($\geq 3\%$ 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. Apply Active Prime Grip ($\approx 200 - 300 \text{ g/m}^2$) or Active Prime Fix ($100 - 200 \text{ g/m}^2$) preventing accumulation of water. In the presence of fractionizing joints and/or cracks, carry out the mechanical excavation, remove dust and seal with Aquastop Nanosil; waterproof by bonding 20 cm-wide strips of Bioscud TNT with Bioscud near any joint and sealed crack. To avoid the swelling of the sheet in the presence of movements, bond the entire surface of the sheet on the back in contact with the surface of the floor; 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 while still wet, and cover with one or more coats, waiting for the drying between coats; the use of Bioscud TNT over the whole surface avoids the application of Bioscud TNT strips as previously described. Apply Bioscud in two coats with total coverage $\geq 2 \text{ kg/m}^2$. Once the product has hardened, the presence of any bubbles in correspondence with the joints shows an excessive R.H. of the substrate; remove the bubbles, wait for the substrate to dry and reapply the product.

- Galvanized or pre-varnished metal substrates (with a well-anchored final layer): seal any overlaps, areas of movement, irregularities or constructive defects using Aquastop Nanosil. Prepare these areas by bonding Bioscud TNT with Bioscud. Apply two or more coats of Bioscud.

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 Aquastop Nanosil; 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.

- Encapsulating coatings for the restoration of fibre-cement and asbestos-cement structures: 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
- application mode: diluted 1:0.5 using water
- coverage: 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 Grip 200 – 300 g/m², Active Prime Fix 100 – 200 g/m²

Old ceramic floors:

- primer: Active Prime Fix or Active Prime Grip
- application mode: undiluted
- coverage Active Prime Fix 100 – 200 g/m², Active Prime Grip 200 – 300 g/m²

Smooth bituminous sheathing:

- primer: Bioscud Primer
- application mode: undiluted
- coverage: 50-100 ml/m²

Slated bituminous sheathing:

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

Wood:

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

Dry fibre-cement substrates:

- primer: diluted Bioscud
- application mode: diluted 1:0.5 using water
- coverage: 200-300 g/m²

Encapsulating asbestos

Type A, B, C:

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

Type D:

- primer: diluted Bioscud
- application mode, diluted 35% using water
- coverage: 200-300 ml/m²

→ Application

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 of contacts with other surfaces, whatever their orientation (columns, pillars, walls, ramps), thresholds, through elements, structures or

Instructions for use

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 Aquastop Nanosil or make special pieces with Aquastop BT.

Waterproof the structural joints with suitable systems.

- Waterproofing of bituminous sheathing 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 for each overlap of the bituminous sheathing, providing an overlap between the Bioscud TNT strips of at least 5/10 cm.

- Surface waterproofing:

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.

Apply Bioscud using a roller (average bristle 10-15 mm), brush, hard rubber float (recommended only for rough or porous substrates) or airless (dilute with 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, fibre-cement panels and in areas with standing water; apply a coat of Bioscud 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 fresh. 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 5 or 20 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.

Encapsulating fibre-cement and asbestos-cement structures

- Type A – externally exposed (structures exposed to atmospheric agents and subject to degradation or/and release of fibres): the average thickness of the dry encapsulating coating shall not be less than 0.3 mm and at no point shall it be less than 0.250 mm. The last two products of the encapsulating cycle will have to be two coating products with different and contrasting colours.

- Type B – internally exposed (“sound but likely to get damaged” or “damaged” internal structures): the average thickness of the dry encapsulating coating shall not be less than 0.25 mm and at no point shall it be less than 0.2 mm. The last two products of the encapsulating cycle will have to be two coating products with different and contrasting colours.

- Type C – non-exposed (in support of confinement operations) The thickness of the dry encapsulating coating should not be less than 0.2 mm and no measurement should be less than this value.

- Type D – auxiliary (to avoid the dispersion of fibres in the environment in support of removal operations): the encapsulating coating should be of a contrasting colour to that of the substrate; dilute using 35% water.

Instructions for use

→ 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

- 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.
- For the treatment of absorbent surfaces, such as screeds and plasters, Active Prime Fix or Active Prime Grip may be used as an alternative to Bioscud diluted 50% max with water as indicated in the technical data sheet.
- The reinforcement with Bioscud TNT, applied on the first wet coat of Bioscud 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.

→ Drying

Drying times according to ASTM D 5895-03 (Dry-Time test)

50% relative humidity

Temperature +30 °C:

- dry to touch = 30 min

- deep dry = 1 h

Temperature +15 °C:

- dry to touch = 45 min

- deep dry = 1,5 h

Temperature +5 °C:

- dry to touch = 1.5 hrs

- deep dry = 2.5 hrs

85% relative humidity

Temperature +30 °C:

- dry to touch = 80 min

- deep dry = 2.5 hrs

Temperature +15 °C:

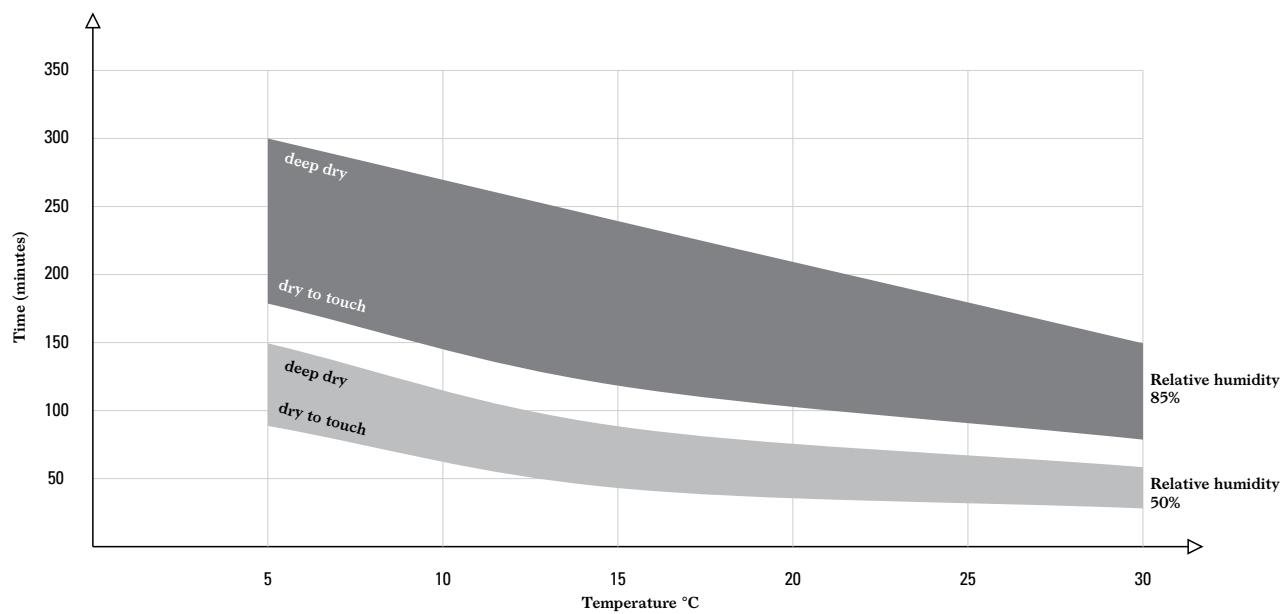
- dry to touch = 2 hrs

- deep dry = 4 hrs

Temperature +5 °C:

- dry to touch = 3 hrs

- deep dry = 5 hrs



Certificates and marks



Colour chart

white (RAL 9010)	
grey (RAL 7038)	
sand (RAL 1013)	
red (RAL 3013)	
green (RAL 6017)	

Shades shown are purely indicative.

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 Bioscud TNT reinforcement, to be bonded with a coloured, multi-purpose, elastomeric, waterproofing liquid membrane for flat and pitched roofs, bituminous layers and external surfaces, resistant to UV light, atmospheric agents and standing water, such as Bioscud by Kerakoll Spa (seal in advance the fractionizing-expansion joints with Aquastop Nanosil by Kerakoll Spa).

Waterproofing of the substrate – Supply and certified laying of a coloured, multi-purpose, elastomeric, waterproofing liquid membrane for flat and pitched roofs, bituminous layers and external surfaces, resistant to UV light, atmospheric agents and standing water like Bioscud by Kerakoll Spa, CE-marked and compliant with the performance requirements of Standard EN 1504-2.

Technical Data compliant with Kerakoll Quality Standard		
Appearance	coloured paste	
Colours *	white (RAL 9010) - grey (RAL 7038) - sand (RAL 1013) - red (RAL 3013) - green (RAL 6017)	
Specific weight	≈ 1.44 kg/dm³	
Chemical nature	water emulsion of waterproofing agents	
Mineralogical nature of inert material	crystalline carbonate	
Solid content	≥ 70%	
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	≈ 10,000 mPas	Brookfield method
Only to be used:		
- temperature	from +5 °C to +35 °C	
- humidity	≤ 80%	
Dust-free drying	≥ 6 hrs	ISO 9117-3
Waiting time between 1 st and 2 nd coat	≥ 12 hrs	
Minimum thickness required	≥ 1 mm dried product corresponding to ≈ 2 kg/m² fresh product	
Interval before normal use	≈ 24 h / ≈ 7 days (stagnant water)	
Coverage**	≥ 2 kg/m²	

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

Performance		
HIGH-TECH		
Water-resistance:		
- watertightness	≥ 0.6 bar	EN 1928
- 1.5 bar per 7 days	no penetration	EN 14891
Elongation:		
- at F max	≥ 106%	ISO 527-1
- break warp (+23 °C)	≥ 263%	ISO 527-1
- break warp (-5 °C)	≥ 15%	ISO 527-1
Adhesion:		
- on concrete	≥ 2.00 MPa	EN 1542
- on sheet metal	≥ 0.8 MPa	EN 1542
Resistance to static load (punching)	15 kg on soft substrates (EPS):	EN 12730
Cold flexibility	-10 °C	UNI 1109
Fire classification	Broof (t2) (t3)	EN 13501-5
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	SD > 50 m	EN 1062-6
Permeability to water vapour	class I – Sd < 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

Performance		
Crack Bridging:		
- at +23°C	A5 class (static) B 4.1 class (dynamic)	EN 1062-7
- 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)
Encapsulation of asbestos-cement slabs pursuant to Ministry of Health Decree 20/08/99		
class A	Suitable	Cert. 355502 Inst. Giordano
class B	Suitable	Cert. 355503 Inst. Giordano
class C	Suitable	Cert. 355504 Inst. Giordano
class D	Suitable	Cert. 355072 Inst. Giordano
Adhesion	≥ 2.5 MPa	EN 4624
Adhesion after freeze/thaw	≥ 2.5 MPa	EN 4624
Adhesion after sun/rain	≥ 2.5 MPa	EN 4624
Accelerated UVB aging/condensation and water-resistance	undamaged	UNI 10686
Accelerated UV ageing	no chalking	ASTM G 154-06
Resistance to washing	> 5000 cycles	EN 24624
Cool Roof		
Bioscud White:		
- solar reflectance	0.734 (Cool Roof DM 26/06/15 SR > 0.65)	ASTM C 1549-09
- solar absorption	0.266	ASTM C 1549-09
- emissivity	0.874	EN 15976/2011
- Solar Reflectance Index (SRI)	89.1 – 90.1 – 90.7	ASTM E 1980-01
- Solar reflectance certificate - Cool Roof	Suitable	Cert. Unimore EELAB n. ETR-18-0247

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 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 2012. This information was last updated in December 2024 (ref. GBR Data Report – 12.24); 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 of your building site 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.