



# B-FLEX S

ONE-COMPONENT POLYURETHANE  
RESIN LIQUID WATERPROOFING  
MEMBRANE



## DESCRIPTION

B-FLEX S® is a one-component, moisture-curing, cold-applied liquid membrane based on polyurethane resin. It is characterised by very high elasticity (>900%) and excellent tensile strength and, once cured, forms a continuous and durable waterproofing membrane in full adhesion to the substrate.

The chemical structure of B-FLEX S is based on a hydrophobic, elastomeric polyurethane resin, which naturally provides excellent mechanical, chemical and thermal properties, as well as very good resistance to UV radiation. B-FLEX S is resistant to water (immersion), frost and water ingress; it is also water-vapour permeable and resistant to common detergents, oils and chemicals.

## FIELDS OF APPLICATION

- Waterproofing of concrete roofs;
- Waterproofing of bituminous membrane roofs;
- Waterproofing of terraces and balconies;
- Waterproofing of concrete decks exposed to pedestrian and vehicular traffic;
- Waterproofing of green roofs, planters and flowerbeds;
- Waterproofing of swimming pools;
- Waterproofing and protection of profiled metal sheet roofs;
- Encapsulation of asbestos-cement (fibre cement);
- Driveable waterproofing systems;
- Under-tile waterproofing systems;
- Decorative waterproofing;
- Waterproofing of roofs with complex details and/or limited accessibility;
- Waterproofing of wastewater treatment tanks;

## PRODUCT DATAS

|                 |                     |
|-----------------|---------------------|
| Base            | Solvent             |
| Catalysis ratio | One component       |
| Mixing ratio    | -                   |
| Composition     | Polyurethane resins |
| Appearance      | Viscous liquid      |
| Specific weight | 1.45 kg/L           |
| Dry residual    | 95.0%               |
| Dilution        | Solvent (5 - 10%)   |
| Pot Life        | 60 minutes          |

## CONSUMPTION

1.5–2.5 kg/m<sup>2</sup> (applied in two coats).

This consumption value is based on application on a smooth substrate in good condition. Factors such as highly porous surfaces, temperature, relative humidity and application methods may alter the actual consumption of the product.

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## COLORS

B-FLEX S is available in the following colours:

- White
- Grey
- Red

## PACKAGING

B-FLEX S is available in the following packaging sizes:

- 6.0 kg
- 25.0 kg

| Parameter   | Result                             | Standard      |
|---|------------------------------------|---------------|
| Viscosity   | 3,000 (+/- 600) mPa.s              | EN ISO 2555   |
| Elongation at break                               | 900 (+/- 80)%                      | ASTM D 412    |
| Non-volatile substance                            | > 95%                              | EN ISO 3251   |
| Carbon dioxide permeability (CO <sub>2</sub> )    | Sd > 50 m                          | EN 1062-6     |
| Capillary water absorption and water permeability | <0.01 kg / m <sup>2</sup> (h 0.5)  | EN ISO 1062-3 |
| Direct tensile adhesion                           | > 4.0 MPa                          | EN 1542       |
| Tensile strength                                  | 7.45 (+/- 0.3) N / mm <sup>2</sup> | ASTM D 412    |
| Water-vapour permeability                         | Sd <5 m                            | EN ISO 7783-2 |
| Water pressure resistance                         | No losses                          | DIN EN 1928   |
| Adhesion to concrete                              | > 2.0 N / mm <sup>2</sup>          | ASTM D 903    |
| Hardness  | > 70 (shore A scale)               | EN ISO 868    |
| Penetration resistance                            | Resistant                          | UNE 53420     |
| Impact resistance                                 | 4 Nm                               | EN ISO 6272   |
| Solar reflectance                                 | 0.87                               | ASTM E 903-96 |
| Solar emittance                                   | 0.89                               | ASTM E 408-71 |
| Thermal resistance                                | Passed (100 days at 80 ° C)        | EOTA TR-01    |
| UV resistance                                     | Excellent (50 h at 70 ° C)         | -             |
| Water ageing resistance                           | Passed                             | EOTA TR-012   |

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| Parameter                             | Result                       | Standard   |
|---------------------------------------|------------------------------|------------|
| Hydrolysis resistance                 | Excellent (30 days at 55 °C) | -          |
| Building material fire class          | B2                           | DIN 4102-1 |
| Resistance to sparks and radiant heat | Passed                       | DIN 4102-7 |
| Time before second coat               | 72 h max                     | -          |
| Rain resistance time                  | 4 h                          | -          |
| Time before pedestrian traffic        | 12 h                         | -          |
| Final curing time                     | 7 days                       | -          |

## APPLICATION

### SUBSTRATE PREPARATION

Correct substrate preparation is essential in order to achieve optimum performance and long service life. The substrate must be perfectly dry, clean, sound, cohesive and free from any contamination (dirt, dust, grease, oils, paints, salt efflorescence, moss, vegetation, etc.) that may adversely affect adhesion of the membrane. The residual moisture content of the substrate must not exceed 5% (to determine the moisture level, use a suitable electronic moisture meter or carbide hygrometer).

- **Concrete substrates, cement screeds:** depending on the type and condition of the substrate, the surface must be prepared appropriately by sandblasting, shot-blasting, mechanical scarification, bush-hammering or another method considered suitable for the specific case. Any depressions, holes or cracks must be repaired beforehand using suitable repair products selected according to the thicknesses to be reinstated.
- **Bituminous membrane or PVC substrates:** inspect the membrane in order to identify any existing defects such as blistering, tears and detachments. Carry out all necessary repairs before applying the system.
- **Metal substrates:** check the condition of the metal substrate and subsequently carry out a dry sandblasting cycle to preparation grade SA 2½. Where it is not possible to use dry sandblasting, a different type of surface preparation is required, such as wire-brushing or mechanical cleaning using scraping or impact tools.
- **Ceramic substrates:** Existing ceramic, porcelain stoneware, klinker and similar floor or wall tiles must be firmly bonded to the substrate and free from any substances that may compromise adhesion, such as grease, oils, waxes, paints, etc. A suitable sanding/abrading cycle must be carried out (this will facilitate adhesion of the system to the substrate).

Before installing the system, particular attention must be paid to movement joints and to junctions between horizontal and vertical surfaces, which must be properly treated with a medium-modulus polyurethane sealant.

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## PRIMER

The type of primer depends on the nature of the substrate:

- **PRIMER PU-S** (porous substrates, friable concrete, concrete, bituminous membrane, wood)
- **PRIMER POX S** (metal supports)
- **PRIMER T** (non-porous substrates such as ceramic)
- **PRIMER T-1** (PVC)

Primer consumption is directly proportional to the porosity of the substrate to be primed. Before applying the product, make sure that the primer has cured (surface dry). It is important to apply the product within 72 hours of primer application; if this is not possible, a new primer coat is required.

## PRODUCT APPLICATION

The product can be applied using conventional methods: brush, roller or airless spray\*. After preparing and priming the substrate, apply B-FLEX S evenly in at least two coats. Where required, the waterproofing system can be reinforced by applying a layer of non-woven fibreglass reinforcement fabric into the first coat, fresh on fresh.

\*For airless spray applications, the product must be diluted with Solvent at a rate of 5–10%.

## EQUIPMENT CLEANING

Clean all tools and equipment immediately after use with a suitable thinner (BTECH Solvent or similar). Once cured, the product can only be removed mechanically.

## STORAGE

The product must be stored in its original, undamaged and tightly closed containers in a dry place, away from sources of heat, at a temperature between +5 °C and +25 °C for a maximum of 12 months. Refer also to the storage recommendations provided in the Safety Data Sheet and on the product label.

## WARNINGS

- Solvent-based product;
- Flammable product;
- Do not apply the product at temperatures below +5 °C;
- Do not apply if condensation is present on the substrate;
- Do not apply on substrates with residual moisture content >5% or subject to rising damp;
- Do not use on newly-applied bituminous membranes (<6 months); wait for complete oxidation of the surfaces to be treated;
- Do not dilute the product with water;
- Do not dilute the product with unsuitable solvents;
- The product may show slight surface chalking;
- Do not apply if rain is forecast;
- Do not apply in the presence of fog or mist;
- If water is used to clean the substrate, allow it to dry thoroughly before applying the system.

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## HEALTH AND SAFETY INFORMATION

For information and advice regarding safe handling, storage and disposal of chemical products, the user must refer to the latest version of the Safety Data Sheet, containing physical, toxicological and other safety-related data. Do not release the product or empty containers into the environment.

**Product for PROFESSIONAL USE ONLY.**

## LEGAL NOTICE

The information and recommendations given above, although they correspond to our best experience, must in any case be considered purely indicative and must be confirmed by exhaustive practical applications. Therefore, before using the product, anyone who intends to make use of it must determine whether it is or is not suitable for the intended application and, in any case, assumes all responsibility that may arise from its use. Always refer to the latest updated version of the technical data sheet, available on the website [btechitalia.eu](http://btechitalia.eu).

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