# STARFLEX MONO 100 BLACK

## ONE-COMPONENT MODIFIED POLYURETHANE MEMBRANE


## CHARACTERISTICS

High **adhesion** on different substrates: concrete, bituminous membrane, pvc etc..

Excellent **elasticity** even at low temperatures.

**Waterproof**.

Permeability to water vapour.

Excellent **crack-bridging** ability.

Resistant to **immersion** in water.

Resistant to **abrasion, weathering**.

Contributes to obtaining credits for **LEED** certification.

It meets the requirements of the **1504-2** standard for coatings: product for protection against penetration risks

1.3, humidity control 2.2, increase in resistivity 8.2.

## APPLICATION TEMPERATURE

Applicable **from +5°C to +35°C**.(R.H. **< 85%) on substrate**.

## OPERATING TEMPERATURE

Operating temperature **from -40°C to +80°C** in air.

## APPLICATION FIELDS

**Waterproofing with or without reinforcement of**:

- Roofing, terraces, balconies.
- Tanks, channels, pipelines.
- Foundations and retaining walls.
- Slabs of bridges and viaducts.
- Waterproofing under tiles and screed.
- Asbestos encapsulation.

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## SUBSTRATE PREPARATION

- The substrates to be treated must be **sound, compact, free from dust and pollution** from foreign substances (dirt, oil, grease, release agents, etc.).

- The **cement substrate**, after adequate mechanical preparation, must have a **surface resistance** to top tearing greater than **1.5 MPA**, measured using suitable instruments.

- In the case of **ceramic substrates** or **old resinous coatings**, after adequate mechanical preparation, their correct adhesion to the substrate and the absence of traces of pollutants must be checked.

- In the case of **vertical substrates** (bathtubs, swimming pools, tanks, etc..) the preparation can be carried out by dry or wet sandblasting, or high pressure hydro-washing (300 bar).

The product can be applied directly to a properly prepared and clean substrate. To achieve excellent adhesion, it is recommended to use specific primers depending on the nature of the substrate.

**BITUMINOUS MEMBRANES**: substrate preparation carried out using medium and high pressure water washing (> 300 bar), to have a clean surface free from any pollutant. Possibility of acting directly with **STARFLEX MONO 100 BLACK**, otherwise applying **PRIMER 0230**, a specially formulated polyurethane primer for laying
"moisture-couring" waterproofing membranes. Indicative consumption of product 150 g/m2. Also available in the ultra-fast **PRIMER 0230 R** version. Alternatively, if slated sheath, application by roller or airless spray of **STARCEMENT 5/A** two-component epoxy resin-based primer in water dispersion, with a consumption of 0.1 kg/m2 diluted in a 1:1 ratio with water, with the aim of consolidating the protective layer of slate of the bituminous membranes.
**TILES:** thorough cleaning of the substrate with detergents and sanding to remove the surface gloss. Subse-quent application by roller or airless spray of **DUROGLASS FF4416** two-component anti-corrosion primer with adhesion on metal surfaces and different materials, with a consumption of 0.2 kg/m$^2$. Alternatively, use **DURO-GLASS P1/2**, two-component, solvent-free epoxy anchoring agent for thick skim coats (starting from 0.3 kg/m$^2$). In most cases, tiles need to be regularized to eliminate the joints and to protect them from rising damp. We therefore recommend the preventive application of **DUROGLASS FU BIANCO TIX** and/or **DUROGLASS FU RAPID.**

**CONCRETE**: substrates must be sound, dry, free from loose layers, dust, pollution. Cleaning can be done by sandblasting, pressure washing, shot peening. Application by roller or airless spray of **DUROGLASS FF4416** two-component corrosion resistant primer with adhesion on different types of surfaces, with a consumption of 0.2 kg/m$^2$.
Alternatively, use **PRIMER 0260**, a one-component, quick-solvent polyurethane (0.15-0.20 kg/m$^2$). For thick smoothing, use **DUROGLASS P1/2**, two-component, solvent-free epoxy anchor (starting from 0.30 g/m$^2$).

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**WET SUBSTRATES:** substrate preparation carried out by high-pressure water washing (> 250 bar) or sanding fol-lowed by vacuuming of residual dust, in order to have a clean surface free from any pollutant, and therefore suita-ble for the subsequent application of the waterproofing system. Application of two coats of special three-compo-nent primer based on epoxy resins for the preparation of damp concrete substrates **DUROGLASS FU BIANCO TIX** diluted 15% with water, with an indicative consumption of 0.5 kg/m$^2$ per coat. Alternatively, application of a two-component, epoxy resin-based **DUROGLASS FU RAPID** primer, diluted 15% with water, with an indicative consumption of 0.50 kg/m$^2$ and subsequent dusting of quartz with a particle size of 0.1-0.3 mm .

**WOOD:** application of **PRIMER 0230**, a polyurethane anchor specially formulated for laying "moisture-couring" waterproofing membranes. Indicative product consumption 0.15 kg/m$^2$, or alternatively use **DUROGLASS FF 4416** two-component epoxy primer with indicative consumption of 0.2 kg/m$^2$.

**ALUMINIUM/IRON** application by roller or airless spray of **DUROGLASS FF4416** two-component corrosion resistant primer with adhesion on different types of substrates, with a consumption of 0.2 kg/m$^2$. If necessary, perform subsequent manual gluing of self-adhesive butyl band covered with non-woven fabric on the overlaps of the sheet metal in the direction perpendicular to the slope of the roof, with the aim of distributing the tensions.

**PVC/TPO/EPDM:** preparation of the substrates carried out by high pressure water washing (> 300 bar), to have a surface free from any pollutant, suitable for the subsequent application of the waterproofing system.
Application of **PRIMER 0130** single-component, flexible adhesion promoter based on polyurethane resins, with a consump-tion of 0.15 kg/m$^2$.
Alternatively, application of **DUROGLASS FF4416** two-component anti-corrosion primer with adhesion on differ-ent types of surfaces, with a consumption of 0.2 kg/m$^2$.

## PRODUCT PREPARATION

**One-component product** ready to use after careful homogenization of the product with appropriate equipment for 3-4 minutes until reaching 20°C.

## DILUTION AND COLOUR

If necessary, it can be diluted with 5% by weight of thinner **DILUENTE 15**. Do not use thinners con-taining reactive groups such as alcohols. Inappropriate thinners cause the product to not harden.

To increase the hardening speed, use a maximum of 3 – 4% of accelerant **ACCELLERANTE 1**. Do not exceed the indicated quantity of **ACCELLERANTE 1**, otherwise the product will not harden.

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## PRODUCT APPLICATION

**STARFLEX MONO 100 BLACK** can be applied both as a reinforced and without reinforcement system. The product can be applied:

- Brush
- Roller (essential for reinforced systems)
- Airless spray using pressures of 130-150 bar and nozzles 0.031" - 0.035"

In the latter case, dilute it with 5-8% of **DILUENTE 15**, use a Graco Mark V type pumping unit, 421-423 nozzles, pressures of 200 bar, pipe diameter of 1/2 inch (first 15 metres), 3/8 inch (following 15 metres), 1/4 inch (last 1-2 metres), or TECNOSPRAY/E16 at a pressure of 180-200 bar with 19-21" nozzles.

**As a non-reinforced waterproofing layer**, apply at least two coats of product with a consumption of 0.6-0.8 Kg/m$^2$ for the first layer and 0.6-0.9 Kg/m$^2$ for the second, with an interval from 10 hours to 48 hours maximum. Up to 0.80 kg/m$^2$ per coat can be applied horizontally or with limited slopes without reinforcement.

**As a reinforced system**, apply the first coat of **STARFLEX MONO 100 BLACK** waterproofing membrane at a rate of at least 0.7-1.0 kg/m$_2$. Application of a **fresh layer** of **STARTEX NW** or **STARTEX NW DETAILS** polyester fabric on fresh, taking care to make it adhere perfectly to the underlying waterproofing layer and subsequent application of the second coat of **STARFLEX MONO 100 BLACK** polyurethane waterproofing membrane in a ratio of 0.60-0.8 Kg/m$_2$.
**Waterproofing under tiles** application of the first coat of **STARFLEX MONO 100 BLACK** waterproofing membrane at a rate of 1.2 kg/m$_2$. Application of a layer of **STARTEX NW** or **STARTEX NW DETAILS** polyester fabric on fresh, taking care to make it adhere perfectly to the underlying waterproofing layer and subsequent application of the second coat of **STARFLEX MONO 100 BLACK** polyurethane waterproofing membrane at a rate of 1.0 Kg/m$_2$. On the fresh dusting of quartz with a grain size of at least 0.1-0.5 mm in order to create a correct grip for the tile glue.

## OVER APPLICATION

The **STARFLEX MONO 100 BLACK** product can be overcoated with any type of single-component or two-component polyurethane and polyurea liquid membrane within 24 hours. If it is not possible to respect the over-application times, apply a coat of **PRIMER 0130R**.

Example.
After a minimum of 24 hours and a maximum of 48 hours, a non-yellowing coloured protection such as **STARFLEX MONO TOP** can be applied on the waterproofing layer at a rate of **0.15 – 0.4 Kg/m$^2$**.
As an alternative, application of a two-component, elastic finishing coat based on UV resistant aliphatic polyurethane resins such as **POLISTAR E/P**, with an indicative consumption of **0.15 kg/m$^2$**.

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### WARNINGS AND PRECAUTIONS

- the product is moisture curing. The speed of hardening is strongly influenced by the relative humidity in the environment.

## SAFETY AND CLEANLINESS

When applying these products, it is recommended to use goggles, masks and rubber gloves and all the PPE required by current regulations.
Clean the tools thoroughly after use with **DILUENTE 15**.
For more information regarding the precautions for use, please refer to the safety data sheet.

# STARFLEX MONO 100 BLACK

| TECHNICAL DATA | | |
|---|---|---|
| **Colour** | | Black |
| **Specific weight** | UNI EN ISO 2811-1 | 1.59 ± 0.05 Kg/l |
| **Viscosity at 20°C** | UNI EN ISO 2555 | 7500 ± 1500 mPa.s |
| **Non-volatile substances** | UNI EN ISO 3251 | 90±2% in weight<br>82±1% in volume |
| **Curing at 22°C, 50% R.H.** | | - track free*: 7 - 9 hours<br>- rain resistance: 7 hours<br>- over application 24 hours maximum<br>- fully cured: 10 days<br><br>**The speed of reaching the "track free" condition depends on the quantity of ACCELERANTE 1* |
| **Permeability to carbon dioxide** | EN 1062-6 | SD > 50m |
| **Permeability to water vapour** | UNI ISO 7783-2 | Sd < 5 m |
| **Capillary absorption and water permeability** | EN 1062-3 | < 0.1 kg/m² · $h^{0.5}$ |
| **Direct bond strength** | EN 1542 | > 4.0 MPa |
| **Crack bridging** | EN 1062-7 | Method A static: A5 (23° C)<br>Method B dynamic: B4.2 (23° C) |
| **Wear-resistance** | EN ISO 5470-1 | Grinder H22 - 1000 g,<br>1000 rpm < 350 mg |
| **Impact resistance** | EN ISO 6272 | 4Nm |
| **Bond to green concrete** | EN 13578 | No swelling, no cracking, no flaking |
| **Tensile strength** | UNI EN 12311-2 | > 4 M Pa |
| **Elongation to breakage** | UNI EN 12311-2 | > 450 % |
| **Shore A hardness** | EN ISO 868 | 70 |
| **UV resistance (INVE 2000) P-500W lamp 580 hours at 70°C** | | Optimal |
| **Liquid applied waterproofing products for use under ceramic, glued tiling with adhesives** | UNI EN 14891 | |
| **Starting bond** | | > 0,5 MPa |
| **Later bond immersion in water** | | > 0,5 MPa |

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| TECHNICAL DATA | |
|---|---|
| **Storage** | The product in its original sealed packaging kept in a dry and protected place at temperatures between +5°C and +35°C will keep for 6 months. |