

# FLEXIDINE HDPE FB12

Fleece Back flexible High-Density Polyethylene (HDPE) sheet

Product # 114.70

Version no: 16.11.23

data  
Tech

**PRODUCT DESCRIPTION:** Flexidine HDPE FB12 Fleece Back Membrane is a high performance, heat weldable, flexible High-Density Polyethylene (HDPE) sheet, manufactured & supplied in specified thickness, designed for waterproofing of new and existing buildings.

## AREAS OF APPLICATION

- Basement waterproofing from bottom and
- Side walls
- RCC Podiums
- Car Parks
- Roads and bridges
- Canals, subways, tunnels & underpasses
- Metro Stations

## ADVANTAGE

- Supplied in pre-manufactured standard thickness. No need to worry of thickness variation at site, unlike liquid applied systems.
- Outstanding puncture resistance, high breaking and tearing strength
- Very high peel strength of seam joints and heat welds
- Chlorine free, plasticizer free, phthalate free. Environmentally friendly and safe for humans
- Exceptional resistance to bacteria, chemical, acid & slat corrosion
- No lateral water migration, limiting water ingress / leakage.
- Resistance to root penetration
- Continuous serviceability from -30°C to 100°C without cracking, tearing or brittleness failure
- 100% recyclable.

## APPLICATION

### SURFACE PREPARATION

A roof deck or wall is expected to be structurally sound to support and restraint the roofing system. It should also pose enough strength to withstand all anticipated loads, foot or construction traffic, rain and wind loads. It should also be able carry the weight of application workers and the equipment without showing signs of deflection at any point. For the application on RCC or brick wall substrate, the surface must be free of large cracks and should be as smooth as possible. There should be no large holes, undulations or sharp changes in elevation of the surface. For application on PEB roofs, the surface must free from cracks, holes and should be smooth. All roof mounted equipment must be removed prior to installation and must be re-installed on frame structure on not directly on the membrane. All sharp undulations from metal fasteners or ripped roof edges must be cleared and repaired, prior to installation. Surface preparation includes, but not limited to, smoothening and filling all holes, irregularities and depressions before the system is applied.

Post that, complete the moisture scan and make sure any wet surface or materials are clean and dry. Carefully sweep all roof surface to eliminate all dirt and debris. Grind and cut out large chunks or blisters on substrate. Repair cracks and holes in concrete especially larger than ¼" wide. Follow the same procedure until the application area is completely smooth and dry.

### Slope Requirement

Providing a proper slope for water to drain off is a mandatory requirement of the site, before FLEXIDINE HDPE FB12 systems can be installed. For RCC roofs, a screed based slope on top of mother slab is required, so that the subsequent installed layers, follow the slope into the drain off points. Such slopes must be properly verified and the entire roof must be free from any kind of water accumulation or ponding during testing.

### APPLYING AND LAYING

After the surface is fully prepared in accordance with the FIBREX guidelines, unpack and unroll FLEXIDINE HDPE FB 12 Membrane and position without stretching. Let the membrane relax for up to 30 minutes and inspect for any damages.

### In-Situ Embedded Monolithic System

Monolithic system, makes it possible to install the membrane on top of the substrate and then install tiles on top of it. Such a system also allows using insulation boards on top of slabs and waterproofing it, thus providing a system for roof insulation if required.

After surface is fully prepared, apply a 2 mm thick layer of FIBREX cementitious adhesive, and while tacky, lay the unrolled FLEXIDINE HDPE FB12 membranes one by one, side by side considering overlaps as well as cover over the side parapet walls, on top of this and roll press the same for proper adhesion. This allows the underside of the membrane to adhere to the screed in a proper manner. Ensure all corners and joints are properly overlapped by 50 mm, for heat welding. Once the entire area is covered, verify the joints using a seam probe to ensure no joints are left open. If any, close this using a hand heat welding machine. Once verified, apply a 2 mm thick layer of FIBREX cementitious adhesive on top of the FLEXIDINE HDPE FB12 membrane, thereby sandwiching the membrane between the 2 layers of adhesive and fix tiles / stone, thus creating a monolithic substrate. FLEXIDINE HDPE FB12 membranes come in a standard size of 2 meters in width and 20 meters in length. Lay and orient sheets such that, it will form a uniform sheet covering entire roof area, working from lower slope to upper slope, ensuring the that flow of water is not hindered around the overlap welds.

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### Membrane laying System – Fully Adhered

There are 2 ways to lay a membrane in an embedded system

1: Fully Adhered – using adhesives

2: Mechanically fastened using specially designed concrete fasteners.

In a fully adhered system, the membranes are sandwiched and fixed to the substrate using cementitious adhesives, thus fully bonding the membrane to the substrate. The pull strength achieved is higher than 5 N.A 2 mm thick adhesive layer is applied on top of the screed slope. Care must be taken that the screed is not too porous and not very absorptive, else the adhesive layer will loose moisture soon and create a weaker bond with the membrane on top. Once the adhesive is tacky, lay the membrane on it and press using rollers. Ensure the overlaps between two sheets for this system is 50 mm. The overlap then is heat welded with the help of heat gun. The welding temperature will vary according to the thickness of the membrane usually between 350 °C and 600°C. Do verify the exiting air temperature with a separate thermometer before the welding process to avoid damage due to excessive heat.

Verify the heat welding using a probe (rounded tool) and ensure complete welding integrity. Pass the tester along the weld while applying little pressure to detect leaks, weak points, open joints. This is an absolute necessary test and must be done by a qualified heat welder, when the joint has cooled, ideally after 6 hours of welding. Mark out any irregularities or weak joints or openings and then using a hand held welder, repair these joints using an additional piece of the membrane over the open joint

### Membrane laying System –Mechanically Fastened

Mechanically fastened membrane provides added protection against strong wind-uplift, while rain-coating a flat roof. After surface is fully prepared, start positioning unrolled Flexidine HDPE FB12 membranes one by one, side by side considering overlaps as well as cover over the side parapet walls. Flexidine HDPE FB12 membranes come in a standard size of 2 meters in width and 20 meters in length. Lay and orient sheets such that, it will form a uniform sheet covering entire roof area, working from lower slope to upper slope, ensuring the that flow of water is not hindered around the overlap welds. One end of the membrane is fastened using fasteners and washers for concrete. The holes are drilled at distance of 2 meter from each other, 25 mm from the edge of the membrane, puncturing the membrane. 40 mm wide washers are placed on top and expansion anchored fasteners are hammered through the hole. The overlap of the sheet besides it, will be a total of 100 mm, covering the gap and washers, providing a 35 mm lip for heat welding.

Corner and Joint Application

The Flexidine HDPE FB12 Membrane is flexible and easy to mould into shapes and corners. To ensure proper coverage of critical corners and joints, using an experienced applicator engineer is important. Using hand-held hot air gun, heat up the membrane to make it malleable and then push into corners. On cooling the membrane will take shape. Further corners need to be cut, spliced and over welded to provide proper coverage and rain-coating of the substrate below.

### CLEAN UP

- Clean all tools immediately after use with Fibrex Paint Remover. Do not allow material to harden.

### TECHNICAL SPECIFICATIONS

Nominal Thickness   mm; ASTM D751	1.2 ± 10%
Typical Weight   Kg/m <sup>2</sup>	0.92 ± 10%
Breaking Strength   Kg/cm <sup>2</sup> ; MD/TD; ASTM D 412	95 Min 110 Typical
Elongation at Break   %, MD/TD; ASTM D 412	60 Min 80 Typical
Tearing Strength   Kg/cm; MD/TD; ASTM D 412	75
Puncture Resistance   Kg; ASTMD751	20
Brittleness Point   °C; ASTM D 2137	-30°C
Linear Dimensional Change   %; 6hrs @ 70°C; ASTM D 1204	0.1%
Factory Seam Strength   LBF; ASTM D 751 Grab Method	66 Min 80 Typical
Weather Resistance   KJ/(m <sup>2</sup> .mm); ASTM G155	> 21,600
Water Vapour Permeance   Perms; ASTM E96, Procedure B	0.10 Max
Coverage	The dimensions of the membrane are calculated to cover the substrate, including seam overlaps Standard Seams: 75 mm; Seams with mechanical anchoring: 150 mm Upstands: additional length of 150mm
Roll Details	Thickness (mm) 1.2 Width (Mtr) 1.2 Length (Mtr) 20 Sq.mtr (Mtr <sup>2</sup> ) 24 Weight (Kgs) 23



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All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## PACKAGING

Flexidine hdpe fb12 is available in 1.2\*20 mtr roll with 1.2 mm thickness.

## STORAGE

Store flexidine hdpe fb 12 membrane in dry & clean conditions and in their original, closed wrapping away from sources of chemical contamination, damage, ignition sources and open flame. Shelf life is beyond 5 years. Exercise caution when lifting, moving, transporting, storage & handling to avoid puncture and physical damage.

## PRECAUTIONS

During application the following precautions should be observed: ensure adequate ventilation and avoid contact of the material with the eyes, nasal passages, mouth and unprotected skin. Avoid contact with the hands by wearing protective gloves and using, if necessary, a suitable barrier cream. In case of contact with the eyes, rinse immediately with plenty of water and seek medical advice and after contact with the skin wash immediately with plenty of soap and water (do not use solvents). Prolonged contact with the skin should be avoided, especially where the user has an allergic reaction. Always wear gloves and eye/face protection as necessary. Observe personal hygiene, particularly washing the hands after work has been completed or at any interruption whilst work is in progress. Care should be taken when removing gloves to avoid contaminating the insides. In case of accidents seek medical advice.

## NOTE

The information supplied in this datasheet is based upon extensive experience and is given in good faith in order to help you. Our company policy is one of continuous Research and Development; we therefore reserve the right to update this information at any time without prior notice. We also guarantee the consistent high quality of our products; however as we have no control over site conditions or the execution of the work, we accept no liability for any loss or damage which may arise as a result thereof.

## HEALTH AND SAFETY

This material is intended to be used by trained professionals with proper equipment's. The following safety measures are recommended:

- Wear protective gloves, clothing, goggles, hearing protection for noise reduction and hard hats for falling debris.
- Do not eat, drink or smoke while in active contact with these materials.
- Avoid skin contact.
- Wash hands thoroughly with soap and cool water.
- Never wash the skin with a solvent.
- Anyone experiencing difficulty breathing when working with these materials or showing an allergic reaction should seek fresh air immediately and consult a physician if symptoms persist.

## DISCLAIMER:

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## FIBREX OTHER PRODUCTS – WE DO

