

TORODIN TECNO

Asphaltic waterproofing membrane

DESCRIPTION

Asphaltic membrane produced by the physical modification of asphalt with a special combination of SBS polymers that confer the impermeabilizing mass with notable properties of thermal stability, resistance to aging and climatic conditions, as well as exceptional flexibility performance at low temperatures. The membrane is structured with a non-textile of continuous filaments of pre-stabilized polyester of high mechanical resistance

TECHNICAL CHARACTERISTICS OF THE PRODUCTS

Characteristics	Unit	Results
Thickness	mm	3 & 4
Resistance to longitudinal and transversal traction (minimum)	N	400
Longitudinal and transversal elongation (minimum)	%	30
Absorption of water (maximum)	%	1,5
Flexibility at low temperatures	°C	-20
Resistance to impact	J-Joule	4,9
Dripping from heat (minimum)	°C	95
Dimensional stability	%	1
Flexibility after aging (minimum)	°C	-10
Water-tightness (minimum)	w.c.m	15
Tear resistance	N	120
Polymers contente (SBS)	%	13

NORMAS

- ABNT NBR 9952:2014 – Asphaltic Membranes for Waterproofing (Applicable to Type III – superior to Class A);
- ABNT NBR 9575:2010 – Waterproofing – Systems and Projects;
- ABNT NBR 9574:2008 – Execution of Waterproofing.

ADVANTAGES

- Greater resistance and flexibility;
- Excellent adhesion;
- Uniform thickness;
- Pre-fabricated product;
- Can be applied with blowtorch or hot asphalt
- Faster execution

UTILIZATION

- Concrete slabs for shopping center parking garages.
- Ground concrete slabs subject to major structural demands.
- Pre-cast concrete slabs.
- Helipads/heliports.
- Raised reservoirs and swimming pools.
- Ramps and locations subject to major static or dynamic overloads.
- Bridges, overpasses and tunnels.
- Storm drains subject, or not, to influence of the water table, with application on external surface.

For other uses and applications consult the Technical Department (sac@viapol.com.br).

USAGE INSTRUCTIONS

Preparation of Surface

The surface must be free of dust, sand, residues of oil, grease and release agent, stains of oil and grease, fungi, mildew, carbonation or any type of material/substance that may impede adhesion of the material. After this is achieved, wash the surface and allow it to dry.

Regularization

On the moist horizontal surface execute the regularization with a minimum trim of 1% in the direction of the water run-off points. The regularization mortar should be prepared with cement and medium sand mortar, ratio 1:3, using kneading water composed of 1 volume of **Viafix®** adhesive emulsion and 2 volumes of water for better adhesion to the substrate. This mortar must receive an even finish, with a minimum thickness of 2cm.

In the region of the drainpipes create a recess 1cm in depth, measuring 40x40 cm, with beveled edges, so that the entire waterproofing will be level after executing the reinforcements to be made at this location.

All corners and edges must be rounded off with a radius of approximately 5cm to 8cm.

In vertical masonry areas, start a roughcast of cement and medium sand, ratio 1:3, followed by application of evened mortar of cement and medium sand, ratio 1:4, using kneading water composed of 1 volume of **Viafix®** adhesive emulsion and 2 volumes de water.

In the entrance spans of buildings (doorways, frames, etc.), the regularization should advance at least 60cm into the interior, under doorjambs and casings, respecting the trim to external areas, except in the case of internal areas with wood floors or floors subject to degrading from the action of moisture. It is recommended that external areas have an elevation at least 6cm less than internal elevations, both in the level of waterproofing as well as in the level of the finished flooring.

Drainpipes and other outcrop pieces should be adequately fixed to allow execution of finishing.

In reservoirs and swimming pools conduct the full load test for a minimum of 72 hours prior to preparation of the surface.

Equipment

- Blowtorch, trowel and cutter knife.
- Asphalt heater and **meada**.

Application of product

On the dry regularized surface apply one coat of **Viabit®**, **Adeflex®** or **Ecoprimer®** primer with a roller or broad brush and allow to dry for a minimum of 6 hours.

Application with blowtorch flame

Align the **Torodin® Tecno (Techno?)** asphaltic membrane according to the realignment of the area, starting the adhesion from the drainpipes towards more elevated levels.

With the aid of a LPG gas blowtorch flame, proceed with the total adhesion of the **Torodin® Tecno (Techno?)** membrane. The seams between strips of membrane should have an overlap of 10cm and should be beveled to achieve a perfect seal.

Execute the membranes in the horizontal position, going up 10cm in the vertical.

Align and adhere the membrane in the vertical position, then descend and lay a 10cm overlap on the membrane executed in the horizontal position. In the vertical the membrane should be adhered 30cm higher than the finished floor.

Application with hot asphalt

Align the **Torodin® Tecno (Techno?)** asphaltic membrane according to the realignment of the area, then start the adhesion from the drainpipes towards the more elevated areas.

Apply one coat of **Vitlastic EC Elastomeric Asphalt** of approximately 2mm thickness, simultaneously unrolling the **Torodin® Tecno (Techno?)** asphaltic membrane over the coat of asphalt, always taking care to leave an excess of asphalt just ahead of the spool as the membrane unwinds.

Apply strong pressure on the membrane just applied, from the middle towards the sides, in order to remove any bubbles/air pockets that may have been trapped between the asphalt coated surface and the membrane.

All the lengths of membrane must be applied with a 10cm overlap, making sure that an excess of asphalt is applied on the overlaps to guarantee perfect fusion between lengths of membrane, resulting in a raised asphalt 'welt' along the seams.

Execute the membranes in the horizontal position, going up 10cm in the vertical. Align and adhere the membrane in the vertical position, then descend and apply a 10cm overlap on the membrane applied in the horizontal. In the vertical the membrane must be adhered 30cm higher than the finished floor.

Apply asphalt copiously over all seams as a reinforcing procedure and to correct possible flaws in the adhesion of the membranes.

Approximate total asphalt consumption for adhesion of the membrane: 3 kg/m².

After the asphaltic membrane has been executed, conduct the watertightness test, filling the waterproofed areas with water and maintaining the level for a minimum of 72 hours.

Separation Layer

This layer prevents the dilatation and contraction forces of the mechanical protection mortar from acting directly on the waterproofing.

Use plastic sheeting with a thickness of 24 micra as a separation layer.

As a buffer layer in parking lots use geotextile with a minimum weight of 400 grs/m², and over this execute a separation layer of plastic sheeting (24 micra thickness).

MECHANICAL PROTECTION MORTAR

Horizontal

Execute the mechanical protection mortar of cement and sand, ratio 1:4, evened out to a minimum thickness of 3cm. This mortar should have perimeter seals 2cm in width, filled with bituminous mortar of cement, sand and **Vitkote®** asphaltic emulsion, ratio 1:8:3.

If the mechanical protection is to be the final flooring, execute seams forming squares measuring a maximum of 2.00 m x 2.00 m, filled with bituminous mortar as prescribed.

For parking lots and ramps execute the projected flooring, which should conform to project specifications and the specific needs of the location.

Vertical

Over the waterproofing lay roughcast of cement and medium sand, ratio 1:3, followed by execution of evened mortar of cement and medium sand, ratio 1:4.

Use kneading water composed of 1 volume of **Viafix®** adhesive emulsion and 2 volumes of water.

This mortar should be structured with plastic netting and should extend 10cm above the asphaltic membrane.

USAGE RESTRICTIONS

- Do not apply during rainy weather conditions or on moist substrate;
- The humidity of the concrete should not exceed 4%.

CONSUMPTION

Torodin® Techno	Consumption*
Asphaltic Membrane	1.15m ²
Primer	0.400 l/m ²

Note: Consumption of asphaltic membrane shown per m² of area, considering overlaps and losses from cutouts of edges.

Consumption of primer may vary according to type of substrate.

Torodin® Techno	Consumption*
Vitlastic EC Elastomeric Asphalt	3.0 Kg/m ²

Note: Consumption may vary according to type of substrate.

Approximate Yield

Torodin® Extra Techno	Packaging	Yield*
Asphaltic Membrane	Spool of 10 m ²	8.6 m ²

FINISH

AA – Sand on both faces for adhesion with hot asphalt.
PP – Polyethylene on both faces for adhesion with blowtorch.

Other types of finish: by consultation with Technical Department (sac@viapol.com.br).

PACKAGING / STACKING

Packaging	Stacking
4mm membrane - Spools 1m width x 10m length	Pallet with 25 spools
5mm membrane - Spools 1m width x 10m length	Pallet with 20 spools

VALIDITY / STORAGE

5 (five) years from date of manufacture, in original intact packaging, in a covered, dry, ventilated location, far from sources of heat. Maximum storage temperature: 25°C.

SAFETY RECOMMENDATIONS

Prior to starting work consult the SSCP (Safety Information Sheet for Chemical Products) of the products, available on our site www.viapol.com.br

Use adequate PPE, with gloves, facial protection mask, waterproof boots and safety eyewear.

Keep the product out of the reach of children and domestic animals.

In case of contact with the skin, wash the region with neutral soap and water.

In case of contact with the eyes, wash copiously with potable water for at least 15 minutes and seek medical advice.

In the eventuality of irritation of the skin, eyes or ingestion of the product, consult a doctor, citing the type of product involved.

In case of ingestion, do not induce vomiting and seek medical assistance immediately.

ENVIRONMENTAL PRECAUTIONS

Do not discard the product or its packaging carelessly. Dispose of materials in an appropriate location, in accordance with regulations based on local environmental legislation in force concerning the type of product or material. Do not reuse empty packaging.

For further details consult the safety sheet (SSCP) for the products **Torodin® Tecno**, **Viafix®**, **Viabit®**, **Adeflex®**, **Vitkote®**, **Vitlastic EC** and **Ecoprimer®** on our site: www.viapol.com.br

Note: The information contained in this datasheet is based on our best knowledge and is provided for your help and guidance. We need to point out that the performance of our products depends on the preparation condition of the surface and the storage and application of the product, factors not subject to our control. The consumption of the products in practice depends on the application technique, the condition of the equipment used, and the surface to be coated. We do not, therefore, accept any responsibility of any nature regarding the consumption and performance of our products arising from inadequate storage or use of the products. For further clarification please consult our Technical Department.

Viapol reserves the right to alter the specifications and/or information contained in this datasheet without prior notice.