AMPHIBIA 3000 GRIP

SYNTHETIC HYDRO-REACTIVE MEMBRANES

PRODUCT DESCRIPTION

AMPHIBIA 3000 GRIP is an EPDM PRE/POST-APPLIED waterproofing membrane, reactive to contact with water, SELF-REPAIRING, SELF-SEALING and SELF-FASTENING to the concrete.
This is composed of a co-extruded, multi-layer, polymer, continuous coat, with differentiated function for total water tightness of underground structures against water seepage.
It is composed of 3 layers with expansive capacity differentiated by the following features:

- **TIGHT BARRIER**, WATERTIGHT layer
- **CORE**, self-sealing and self-repairing super expansive safety layer, even in the event of a puncture
- **ACTIVE BARRIER**, hydro-reactive layer with controlled expansion, prevents side water seepage and seals the overlaps.

Moreover it is provided with a calibrated non-woven fabric on the inner face, side in contact with fresh concrete, which allows the mechanical adhesion of the membrane to the structure.

PRODUCT APPLICATION

• Waterproofing and protection of concrete underground structures such as residential and industrial buildings, shopping malls, public works etc...which require close and continuous contact between waterproofing product and structure (foundation slabs and walls, against slurry walls, piling or disposable formwork, internal tanking of existing structures)
It can also be used in other structures such as channels, tanks, purification systems, tunnels, etc...
• Anti-damp protection for concrete structures built at ground level such as underfloor screeds

ADVANTAGES

• Absolute impermeability with no side seepage of water

• Immediate mechanical protection, self-repairing also in case of accidental perforations
• High resistance to hydraulic load
• High flexibility and capacity to bridge cracks
• Cold application with easy visual inspection of correct installation
• Self-sealing overlappings
• Total adhesion to the reinforced concrete structure
• Easy passage of connecting reinforcements
• Resistance to aggressive natural agents contained in the ground
• Also usable in the presence of salt water
• Water tightness of the system even when water is not constantly present
• Easy and quick application, easily adapts to the different configurations of the supports
• Enables to create the PROTECTIVE SCREED (recommended for large surfaces with exposure to processing for several days)
• Possibility of complete coupling with other Volteco waterproofing systems
• Protection against radon, methane and steam barrier
• Protection against roots

PREPARATION AND APPLICATION

APPLICATION GUIDE - INTRODUCTION

Surfaces that are to be waterproofed can be damp, not necessarily clean but must not have great protrusions, cavities or continuous water flows that could compromise the continuity and sealing process of the overlaps.

Remove any stagnant water.

The sheets can be folded and cut in any direction.

The AMPHIBIA side stamped with “CONCRETE SIDE” is ALWAYS installed in contact with the concrete structure that needs to be waterproofed.

The overlaps between the sheets must be at least 25 cm from each construction joint.

Avoid cross overlaps.

Sealing of spacer-blocks

PRE-APPLIED application.

The formwork spacer holes need to be sealed with the relative plastic AMPHIBIA STOPPER in different shape according to their diameter:

- in case of tubes diam. 20-22 make an AKTI-VO 201 edge (see relevant technical data sheet) on the stopper fins near the disc

- in case of tubes diam. 24 make two adjacent AKTI-VO 201 beads on the stopper fins near the disc

- in case of tubes of different diameters or metal spacers on traditional wooden formworks, use AMPHIBIA 3000 STRIP fixed with BI MASTIC (see relevant technical data sheet).

POST-APPLIED application

- in the case of spacer tubes, depending on their type and diameter, plug the hole with the special AMPHIBIA STOPPER or specific plug supplied with spacers, or saturate the hole in the surface with BI MASTIC or SPIDY 15 (see relevant technical data sheet) in order to make the laying surface flat and free of holes

- in the case of metal spacers for traditional wooden formwork, cut them flush with the masonry and, if necessary, grout them with BI MASTIC or SPIDY 15 in order to make the laying surface flat and free of holes

Sealing overlappings

To prevent the overlaps of sheets from opening during subsequent processes (e.g. in the case of pre-applied installations: reinforcement installation and concrete casting), they must be sealed with suitable protection.

Wait 1-2 hours after applying AMPHIBIA 3000 GRIP before proceeding with sealing.

See options in Table 1 below

TABLE 1

Product	Definition	Type of protection	Fields of application
Bi Mastic (See related technical data sheet)	High performance elastic adhesive mastic for joining overlaps	Modified silanol adhesive	To protect and seal horizontal and vertical Amphibia overlaps, including stapling where required To protect horizontal and vertical Amphibia overlaps when used against radon gas ingress
Amphibia Safety Tape	Adhesive tape to protect the overlaps	Acrylic adhesive + film	Horizontal coverage of Amphibia overlaps, combined with BI MASTIC if required
Bi Mastic + Amphibia Lap Seal	High performance elastic adhesive mastic for joining overlaps + Butyl adhesive tape for overlap gas-tightness	Modified silanol adhesive + butyl adhesive with film	To protect horizontal and vertical Amphibia overlaps when used against gas ingress, in particular radon and methane gas

Laying the product under slabs (pre-applied installation)

Even out the installation surface with lean concrete casting which must be sufficiently smooth and uniform.

Apply AMPHIBIA 3000 GRIP with the non-textile surface facing upwards, with staggered joints and overlapping the edges by 5 cm.

Begin application by laying AMPHIBIA 3000 GRIP H.90 along the entire perimeter lengthwise on the formwork, securing it at the edge of the formwork by means of a stapler (staples with 6-7 mm long points) and overhanging it 5 cm beyond the level of the finished bed.

Seal vertical overlaps against formwork with BI MASTIC, if necessary supplementing the fixing with staples.

Reinforce the corners with AKTI-VO 201 or BI MASTIC.

Then complete the laying of AMPHIBIA 3000 GRIP by sealing all overlaps between the sheets according to the instructions provided in Table 1, taking into account the specific application and design requirements.

Laying the product on vertical surfaces

- PRE-APPLIED (For walls at a height to be built through installation in formwork): apply a strip of AMPHIBIA 3000 GRIP to the raft foundation toe, up to the external limit of the reinforced concrete wall which will be built, sealing the overlaps with BI MASTIC and joining it to any AMPHIBIA 3000 GRIP from the slab using the specific corner profile AMPHIBIA PRESSURE CORNER 90° (Fig.1), following application of an AKTI-VO 201 strip or alternatively BI MASTIC (see relevant technical data sheets) in the underlying overlap between the two sheets.

Fasten the AMPHIBIA PRESSURE CORNER 270° corner profile (Fig. 2) to the external limit of the future wall, above the freshly-applied AMPHIBIA strip, by applying an AKTI-VO 201 edge or alternatively BI MASTIC as the application area.

Install the formwork outside the profile (FIG. 3) and proceed to apply AMPHIBIA 3000 GRIP on the formwork, with the non-woven textile surface stamped with “CONCRETE SIDE” facing the casting to be executed, pre-cutting it to the size required to cover the wall.

Overlap the joints between sheets by 5 cm and seal them with BI MASTIC, with possible integration of overlap fastening via stapler (staples with 6-7 mm length tips) - Ref. Table 1.

Reinforce edges with AKTI-VO 201 or BI MASTIC and seal each through-body with AKTI-VO 201.

Connect the AMPHIBIA 3000 GRIP foot to the AMPHIBIA PRESSURE CORNER 270° corner profile along the adhesive side of the profile (Fig. 4).

Then lay the reinforcements, internal formwork and the relative casting.

After removing the formwork, seal the spacer holes (see introduction) with AKTI-VO 201 combined with the designated plastic AMPHIBIA STOPPER or with AMPHIBIA 3000 STRIP in the case of metal spacers on traditional wooden formwork.

- PRE-APPLIED (For walls to be built against diaphragms, piling, sheet piles retaining walls or existing structures): even out the surfaces by eliminating rough parts and large cavities to achieve a sufficiently flat installation surface. To this end, it is also possible to use panels in rigid non-biodegradable material.

In case of water inflow filtering through temporary works, seal with TAP 3/I-PLUG mortars or set up temporary drainage systems behind the waterproofing.

Pre-cut the membrane to the size required to cover the wall.

Install AMPHIBIA 3000 GRIP with the non-textile side stamped with “CONCRETE SIDE” facing the concrete casting to be executed.

Reinforce edges with AKTI-VO 201 or BI MASTIC and seal each through-body with AKTI-VO 201.

Join at the foot of the wall with the AMPHIBIA 3000 GRIP coming from the bed.

Overlap all of the joints between sheets by 5 cm and seal them with BI MASTIC - Ref. Table 1.

Then lay the reinforcements, formwork and related concrete casting.

- POST-APPLIED: create a connecting fillet at the foot of the wall with SPIDY 15 (see the related technical data sheet), preventively cleaning the base and removing any loose cement portions.

Pre-cut the membrane to the size required to cover the wall.

Apply AMPHIBIA 3000 GRIP with the printed side facing the operator.

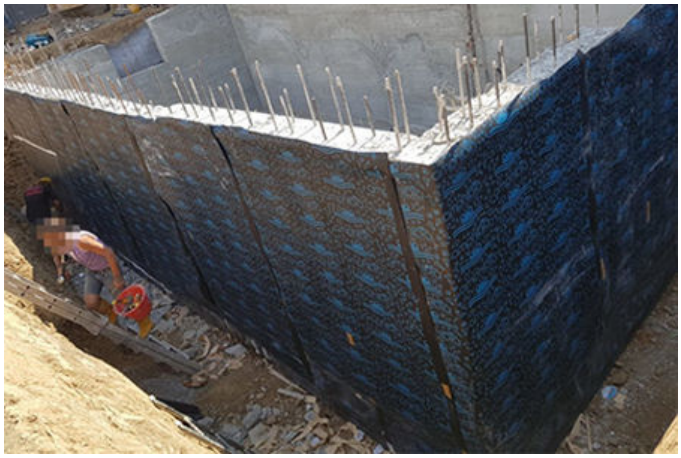
Overlap the joints between sheets by 5 cm and seal them with BI MASTIC - Ref. Table 1.

Mechanically secure the top edge of the membrane to the wall using the AMPHIBIA PRESSURE LINE metal profile (Fig. 5).

Connect AMPHIBIA 3000 GRIP at the edge of the foundation nut with AMPHIBIA from the slab by means of the AMPHIBIA PRESSURE CORNER 90° metal angle profile fixed with nails (Fig. 6) after laying a curb of AKTI-VO 201 or alternatively BI MASTIC in the underlying overlap between the two sheets.

Reinforce the corners with AKTI-VO 201 or BI MASTIC and seal each bushing body with AKTI-VO 201, integrating pieces of membrane on the bodies.

Protect AMPHIBIA 3000 before backfilling (see "Warnings").



References available at www.volteco.com

WARNINGS - IMPORTANT NOTES

Compact and homogeneous concrete castings, which will form the structure, adequately sized for the operating and hydraulic loads, will have to be poured, both horizontally and vertically, on AMPHIBIA 3000 GRIP (pre-applied installation)

Protect AMPHIBIA 3000 GRIP with 250 g/m^2 non-woven textile or with polystyrene/polyurethane insulating panel and **backfill with soil, compacting in layers in order to obtain a uniform confinement of the membrane**.

Every joint (expansion, rotation, translation) must be sealed with suitable profiles for VOLTECO joints.

Do not apply the product if the temperature is higher than +35°C or lower than +0°C.

In case of pre-applied horizontal installation, the exposure to heavy rain, where no suitable protective screed has been put in place, can lead to the formation of gel on the surface, making it slippery.

AMPHIBIA 3000 GRIP is a professional product. VOLTECO always recommends checking the technical data sheet before use.

We recommend having installation carried out by qualified installers.

For special design or execution situations, contact the Volteco Technical Service.

PACKAGING AND STORAGE

-	AMPHIBIA 3000 GRIP H. 1.80	AMPHIBIA 3000 GRIP H. 0.90

Roll dimensions	m 1.80 X 20 (in 70.87 X 787.40)	m 0,9 X 20 (in 35,43 X 787,40)
Equivalent area	36 m^2 (387.5 ft^2)	18 m^2 (193,75 ft^2)
Roll weight	59 kg (130 lbs) - Tolerance +/- 5%	30 kg (66 lbs) - Tolerance +/- 5%

ACCESSORIES	-
Amphibia Pressure Line	Steel straight profile coated on one site with Amphibia 3000 Length = 1.5 m (59.06 in) Height = 5 cm (1.97 in) Package = 10 pcs
Amphibia Pressure Corner Coated on surface at 90°/270° with AMPHIBIA 3000	Steel corner profile coated on one site with Amphibia 3000 Length = 1.5 m (59.06 in) Height = 5 cm (1.97 in) X 10 cm (3.93 in) Package = 10 pcs
Amphibia Safety Tape	Adhesive tape to protect overlaps Package = 25 m roll (984.25 in)
Amphibia Lap Seal	Butyl adhesive tape for overlap gas-tightness Package = 10 m roll (393.70 in)
Amphibia Stopper	Protective stopper to close formwork holes Package = bag 50 pcs
Bi Mastic	High performance deformable adhesive mastic Package = 10 unipack box

The products must be stored in a dry place protected from sun and humidity.

PREFERABLY HORIZONTALLY.

DO NOT STACK THE PALLETS.

PHYSICAL AND TECHNICAL SPECIFICATIONS

Specification	Standards	Values AMPHIBIA 3000 GRIP
Visible defects	UNI EN 1850-2	No visible defect
Straightness	UNI EN 1848-2	70 mm
Mass per unit area	UNI EN 1849-2	1.6 ± 0.2 kg/m^2
Thickness	UNI EN 1849-2	1,6 ± 0,2 mm * 1,4 mm membrane only
Water tightness	UNI EN 1928 B (700 KPa/24 hrs)	No passage
Impact resistance	UNI EN 12691	Method A: 300 mm Method B: 1750 mm
Resistance to chemical agents and water tightness	UNI EN 1847 ($CaOH_2$ - 28 days) UNI EN 1928 B	Test Passed
Resistance to artificial ageing and water tightness	UNI EN 1296 (12 weeks 70°C) UNI EN 1928 B	Test Passed
Tearing strength	UNI EN 12310-1	Longitudinal: >450 N Transversal: >450 N
Tensile strength	UNI EN 12311-2 (A method)	Longitudinal: >300 N/50mm Transversal: >250 N/50mm
Elongation at breaking point	UNI EN 12311-2 (A method)	Longitudinal: > 500% Transversal: > 500%
Water vapour permeability	UNI EN 1931	Sd: 412 m Flow: 1.12 E-9 (kg/m^2)*s
Resistance to static load	UNI EN 12730 (method B/24 h)	20 kg
Shear resistance of joints with BI MASTIC	UNI EN 12317-2	472 N
Fire resistance	UNI EN 13501-2	Class E

Additional specifications (Not requested for CE marking)

Specification	Standards	Values
Resistance to lateral water migration	DIN EN 12390-8	700 kPa
Resistance to hydrostatic pressure	ASTM D 5385	700 kPa
Overlap resistance to hydrostatic pressure	ASTM D 5385	700 kPa
Radon diffusion coefficient	ISO/TS 11665-13	Membrane: 2,7 E-11 m^2/s Overlap with Bi Mastic: 3,0 E-11 m^2/s Overlap with Bi Mastic + Amphibia Lap Seal: 2,8 E-11 m^2/s
Methane transmission rate	ISO 15105-1	Membrane: 348 ml/m^2 x d Overlap with Bi Mastic + Amphibia Lap Seal: 394 ml/m^2 x d
Resistance to root penetration	EN 14416	Test Passed

National approvals	Certificate
Rapport d'enquête technique (FR)	SOCOTEC FRANCE S.A. Report (ETN) n° 220268080000023 (15/03/2023)
BBA Technical approval for construction	BBA Agrément Certificate 20/5771 of 13/09/2024

Specification	Certification
Environmental Product Declaration 0298 (EPD)	EPDItaly 0298 (30/05/2027) www.epditaly.it

The quoted data are obtained in a laboratory at +20°C and 60% RH.

WATCH VIDEOS AND INSIGHTS

Safety Data Sheets | Declaration of performance | Specifications | Technical diagrams and DOPs | EPD Declaration | YouTube Video

SAFETY

Refer to the related Safety Data Sheet.

CE	**VOLTECO S.p.a** Via delle Industrie, 47 - 31050 Ponzano Veneto (I)

17
DOP 0029
EN 13967:2012
AMPHIBIA 3000 GRIP
Flexible membranes for waterproofing - Plastic and rubber waterproof membranes including plastic and rubber membranes intended to stop rising damp from the ground

Reaction to fire: Class E
Water tightness: Test passed (24h/700 kPa)
Tearing strength (longitudinal): > 450 N
Tearing strength (transverse): > 450 N
Impact resistance: Method A: 300 mm - Method B: 1750 mm
Tensile strength (longitudinal): >300 N/50 mm
Tensile strength (transverse): >250 N/50 mm
Resistance to static load: 20 kg
Durability - Water tightness after exposure to chemical substances: Test passed
Durability - Water tightness after artificial ageing: Test passed
Joint strength: 472 N
Hazardous substances: See SDS

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LEGAL NOTES

Note for buyer/installer:
This document prepared by Volteco S.p.A. is provided as an aid and guideline for the buyer/installer.
This does not take into consideration the details of each single operational context, for which Volteco S.p.A. will not be held liable.
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It may vary and the installer is therefore required to update his/her information prior to each application by referring to www.volteco.com.
The above clarifications extend to the pre-post-sales technical/commercial information of the commercial network.

ANNEXES

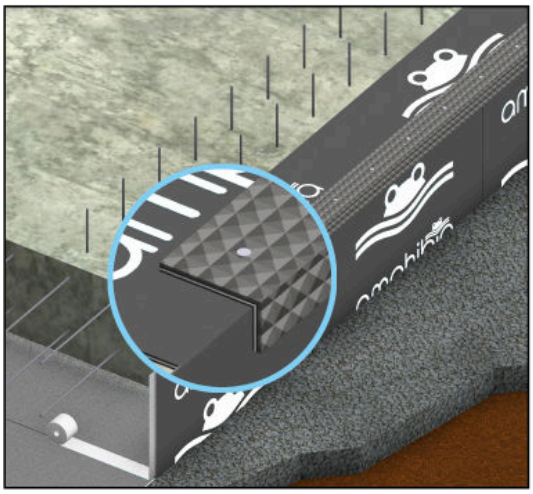

FIG. 1

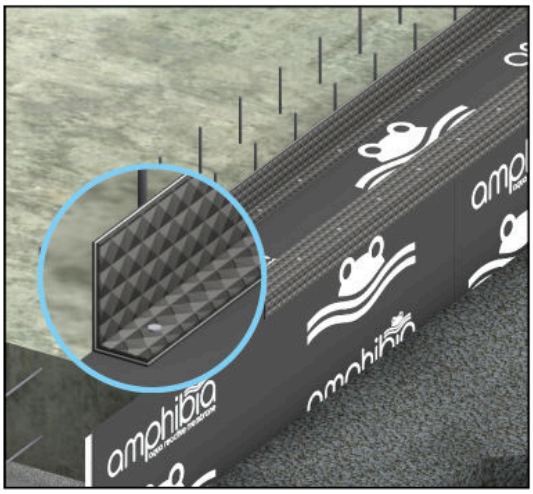

FIG. 2

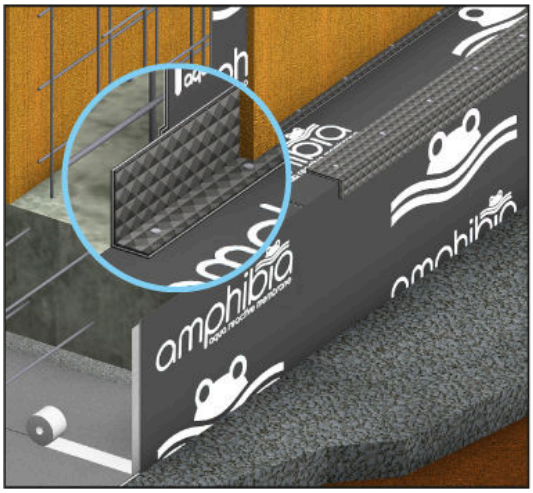

FIG. 3

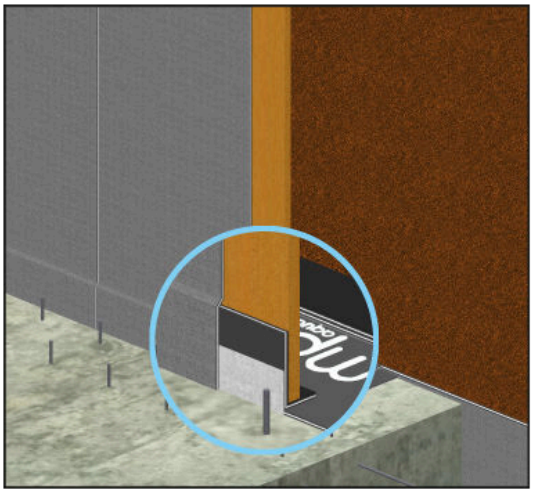

FIG. 4

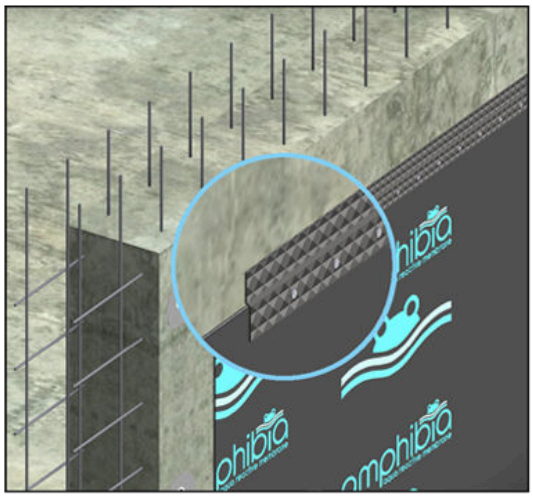

FIG.5

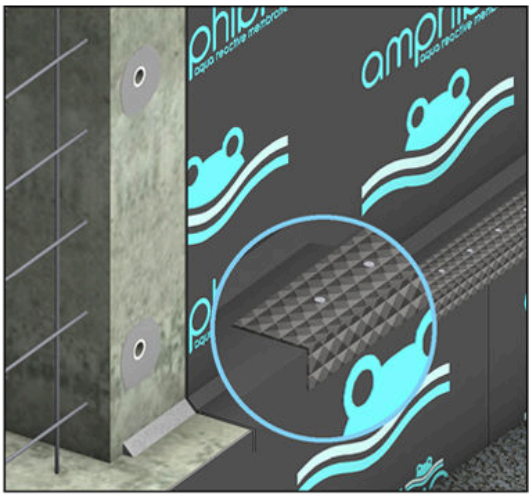

FIG. 6