



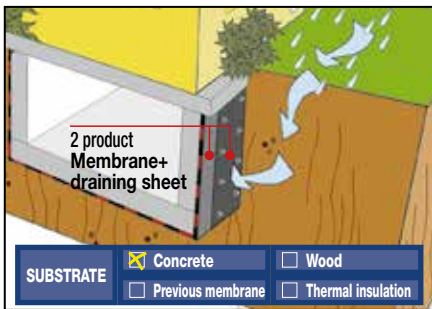
# ARMODILLO POLYESTER ARMODILLO POLYESTER ANTIROOTS

SPECIAL WATERPROOFING, MULTI-FUNCTIONAL POLYMER-BITUMEN MEMBRANES. IT IS ELASTOPLASTOMERIC, REINFORCED AND PROTECTIVE FOR WATERPROOFING THE GROUND FOUNDATION WALLS

GRANTS *LEED* CREDITS

CATEGORY	CHARACTERISTICS			ENVIRONMENTAL						METHOD OF USE			
SPECIAL ELASTOPLASTOMERIC FOR SPECIFIC USES	WATERPROOF	DRAINING	REAZIONE AL FUOCO	ECO GREEN	ASBESTOS FREE	TAR FREE	CHLORINE FREE	RECYCLABLE	NON DANGEROUS WASTE	EXHAUSTED OIL FREE	TORCH APPLICATION	HOT AIR APPLICATION	NAILING

## 1 PROBLEM



## HOW TO WATERPROOF, DRAIN AND PROTECT FOUNDATION WALLS WITH ONE PRODUCT

The waterproofing cover is often damaged during burying operations.

## 2 SOLUTION



ARMODILLO makes bonding the membrane to foundation walls without getting burnt easy. When laying a smooth membrane on vertical surfaces the installer can burn his hands while holding the roll, but the bubbles on ARMODILLO keep the installer's hands away from the torch making installation much easier and safer.

The insulating product can be applied by torching without using bitumen and nails. A side strip, which is smooth, indented, 70-mm wide, allows welding of side overlaps. The lower face is covered by flamina, which is a plastic film that can be easily torched.

**CE** INTENDED USE OF "CE" MARKING SPECIFIED ACCORDING TO THE AISPEC-MBP GUIDELINES

**EN 13969 - BITUMEN DAMP PROOF SHEET INCLUDING BITUMEN BASEMENT TANKING SHEETS**

- Membranes for foundations
- ARMODILLO POLYESTER
- ARMODILLO POLYESTER ANTIROOTS

ARMODILLO is a membrane with integrated functions for protecting and draining the waterproofing system and solves the problems of waterproofing, mechanical protection and drainage with one single product.

ARMODILLO is a membrane manufactured from a "phase inversion" compound containing distilled bitumen, selected for industrial use, with a high content of elastomeric and plastomeric polymers where the polymers, in which the bitumen is dispersed, form the most consistent ingredient. The membrane is reinforced with puncture and tear resistant non-woven polyester fabric with a high ultimate elongation value.

The upper face of the membrane is armoured with resistant and elastic polymer-bitumen plates that protect the membrane from perforation when it is being buried and at the same time form an efficient drainage network which allows any water to quickly drain to the perimeter drains, stopping dangerous pooling. If the plates are torched they become adhesive making it possible to bond insulating panels, non-woven fabrics and other materials on the membrane.

## APPLICATION FIELDS

ARMODILLO can be used on both flat and vertical parts of a building, either alone or with other membranes as a protective and draining layer. The special configuration of the upper face, similar to the plates of an Armadillo's shell, from where the name of the membrane comes, protects the membrane while it is being laid underground.

Below you will find the main fields of use for ARMODILLO for which four stratigraphic systems have been planned:

- **DRY-OUT:** for waterproofing and draining foundation walls.
- **DRY-IN:** for the hygienic refurbishment of damp cellars.

## METHOD OF USE AND PRECAUTIONS

ARMODILLO is normally hot bonded to the foundation walls, but it can also be nailed down

although this will make the membrane more prone to tearing when it is covered with earth and when the earth settles.

## ADVANTAGES

- A waterproofing, protective and draining layer in one multifunctional product.
- The protective plates are heat-adhesive when torched so, with no additional costs for adhesives, you can bond other materials that won't move during refilling.
- Multifunctional waterproofing and draining membrane: foundation walls, cellars, roof gardens, underfloor.
- The insulated rustications protect the hands of the installer from burns.
- It resists to puncturing more than HDPE products

## APPLICATION FIELDS

### “DRY-OUT” SYSTEM

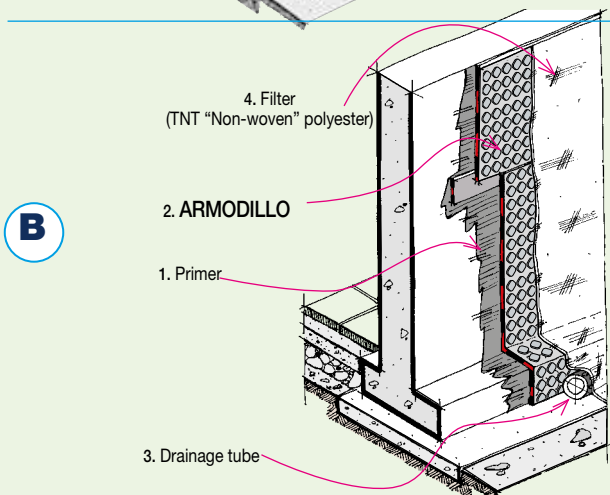
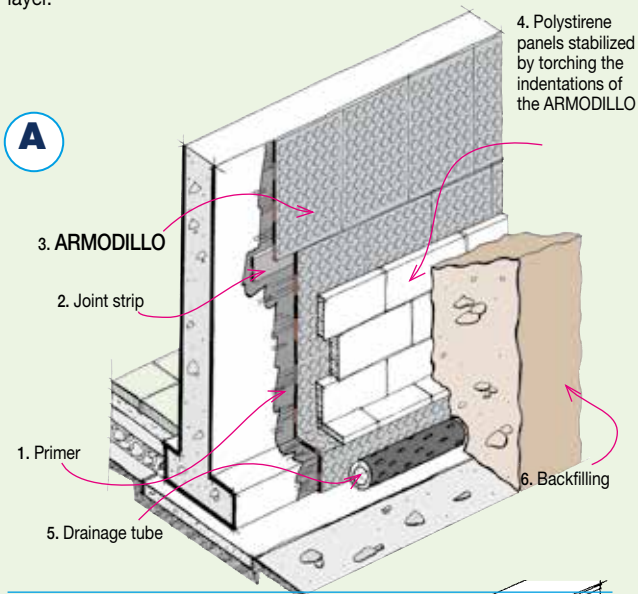
This is the INDEX system for waterproofing and draining the outer face of underground walls. It consists of the combination of the following products:

- **ARMODILLO POLYESTER**
- **EXPANDED POLYSTYRENE** or **FILTER/P** panels

The first is an indentated membrane to be fully bonded to the wall to be covered, with the rusticated face outwards. The sheets should be overlapped and bonded laterally along the overlaps of the membrane, while joints at the head of the sheets will be sealed by bonding the head of the membrane to a 14 cm strip of reinforced polyester membrane which has previously been bonded along the wall. The difficult parts and joints will be realised with a smooth membrane belonging to TESTUDO line. The covering will be protected with polystyrene panels fixed to the indentations of the **ARMODILLO**. You do not need to use nails or adhesives to fix the panels but simply torch the indentations on the **ARMODILLO** membrane and then press the polystyrene panel **A** onto the membrane. In this way, in a single operation a drainage air space is produced as well as an effective protective layer capable of resisting being laid underground and the tangential stress of the earth settling. Filtering non-woven fabric (Filtro) can be used instead of the polystyrene panels and this material captures the smallest particles of the earth which could block the drainage channels **B**.

Filtro can easily and quickly be fixed to the membrane by torching the armour plates and pressing the fabric onto the membrane.

**ARMODILLO POLYESTER** can also be used as a simple rusticated drainage sheet if it is installed with the indentations towards the surfaces to be covered, with the advantage that it can be fixed to the wall by torching the armour plates and will not move when it is covered with earth, as would happen with a normal plastic sheet nailed at the head. The overlaps can also be bonded and the head joints can be covered with a strip of membrane to form a continuous waterproof layer.

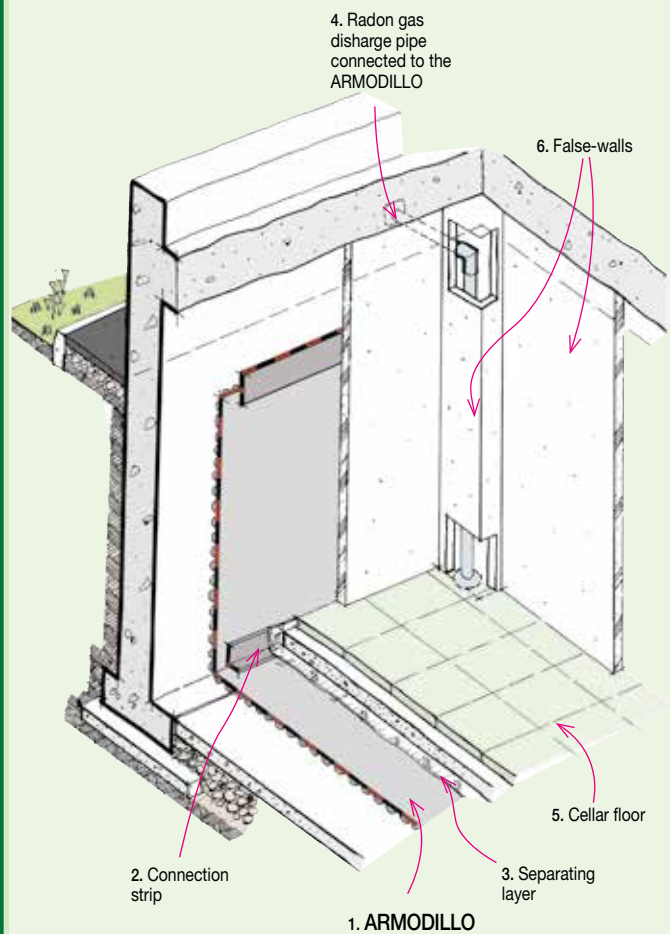


### “DRY-IN” SYSTEM

This is the INDEX system for refurbishing damp cellars from the inside when it is impossible to work from the outside. This system consists in the installation of:

- **ARMODILLO**  
with the rusticated face facing towards the surfaces to be covered. Torch the plates of the armoured face and fix the sheets on the walls, dry lay the membrane on the floor dry. The side overlaps on the membrane should be torch bonded, while the head of the sheets should touch but not overlap and then be sealed with 14 cm strips of reinforced polyester membrane bonded over the joints. The difficult parts and joints of pipes should be made with a smooth membrane belonging to TESTUDO line.

**ARMODILLO** is impermeable to water and gas, and as can be seen in the picture, a draining air space is formed between the damp surfaces and the membrane through which the humidity and any gas emissions from the ground, even radioactive ones, can drain. Then the waterproofing layer can be covered with traditional or prefabricated construction materials, both on the wall and floor.

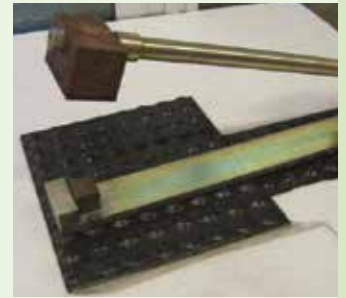
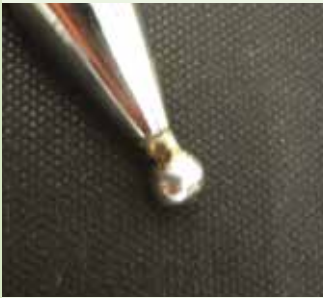




## RESISTANCE TEST

### STATIC LOADING

Subjected to static and dynamic puncture tests conform to UNI8202 methods: with a 0.45 mm thick embossed HDPE drainage sheet, ARMODILLO resists for 7 days without being punctured under a load with a maximum diameter of 10 mm.



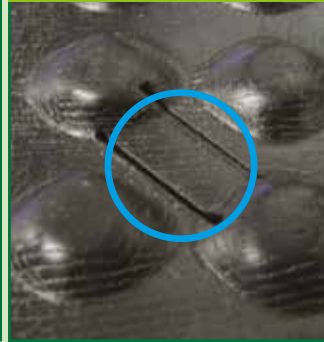
**ARMODILLO PASSES THE TEST**



**INDENTATED HDPE FOIL PASSES THE TEST**



**ARMODILLO PASSES THE TEST**



**INDENTATED HDPE FOIL DOES NOT PASSES THE TEST**



## REFERENCES



Residential villas - Donoratico (Livorno)

"Autovip" Car dealer - Campagna (Salerno)

"Parrot" Building - Treviso

## TECHNICAL CHARACTERISTICS

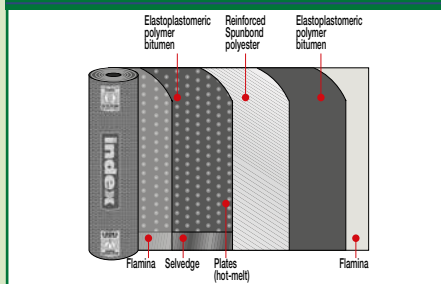
	Standard	T	<b>ARMODILLO POLYESTER</b>
Reinforcement			"Non-woven" Spunbond polyester
Weight	EN 1849-1	±10%	5.0 kg/m <sup>2</sup>
Roll size	EN 1848-1	-1%	1x7.5 m
Watertightness	EN 1928 - B	≥	60 kPa
• after ageing	EN 1926-1928	≥	60 kPa
Shear resistance L/T	EN 12317-1	-20%	500/300 N/50 mm
Maximum tensile force L/T	EN 12311-1	-20%	600/400 N/50 mm
Elongation L/T	EN 12311-1	-15% V.A.	35/40%
Resistance to impact	EN 12691 - A		1250 mm
Resistance to static loading	EN 12730 - A		25 kg
Resistance to tearing (nail shank) L/T	EN 12310-1	-30%	170/170 N
Flexibility to low temperature	EN 1109	≤	NPD
Reaction to fire Euroclass	EN 13501-1		E
<b>Thermal specifications</b>			
Thermal conductivity			0.2 W/mK
Heat capacity			6.50 KJ/K·m <sup>2</sup>

Compliant with EN 13707 in terms of the resistance factor to steam penetration for reinforced polymer-bitumen membranes, the value of  $\mu = 20000$  may be considered, unless declared otherwise.

The numerous possible uses and the possible interference of conditions or elements beyond our control, we assume no responsibility regarding the results which are obtained. The purchasers, of their own accord and under their own responsibility, must establish the suitability of the product for the envisaged use.

### COMPOSITION OF THE MEMBRANE

#### ARMODILLO POLYESTER



### PRODUCT FINISHING



"FLAMINA" PE FOIL. Plastic protection film helping prevent coils from sticking to the roll. As it withdraws under the action of the flame right during its installation, it signals the best melting point in order to correctly glue the membrane to the brackets and rises. When not heated, it can be used as a sliding layer.



INDENTATED FLAMINA.

The figures shown are average indicative figures relevant to current production and may be changed or updated by INDEX at any time without previous warning. The advice and technical information provided, is what results from our best knowledge regarding the properties and the use of the product. Considering

• FOR ANY FURTHER INFORMATION OR ADVICE ON PARTICULAR APPLICATIONS, CONTACT OUR TECHNICAL OFFICE • IN ORDER TO CORRECTLY USE OUR PRODUCTS, REFER TO INDEX TECHNICAL SPECIFICATIONS •

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