

EC-DECLARATION OF CONFORMITY



The undersigned

dott. Luigi Carlon

legal representative of

INDEX Construction Systems and Products S.p.A.

address

Via G. Rossini, 22 37060 Castel D'Azzano - Verona

in compliance with the Directive 89/106/EEC, related to the construction products, declares that the products of family

DEFEND

are flexible reinforced bitumen sheets and are in conformity to the Annex ZA of the following standard

European standard	EN 13707	Flexible sheets for waterproofing- Reinforced bitumen sheets for roof waterproofing
Type of compound	BPP	
Type of reinforce	Polyester and/or fiberglass	
Reaction to fire	Euroclass F	

Products technical specifications, in conformity to Annex ZA, are given with the accompanying document each delivery. Additional information are included in technical data sheets.

Method of installation and intended use of the products are described on accompanying document and on technical data sheets. Specific information are available on application manuals issued by INDEX S.p.A.

The notified body Bureau Veritas (identified with N°1370) has approved the Factory Production Control (FPC), related to the a.m. products, with the issue of the Certificate of Conformity N° 1370-CPD-0040.

Date 11/02/2009

Signature

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are flexible reinforced bitumen sheets and are in conformity to the Annex ZA of the following standard

European standard	EN 13970	Flexible sheets for waterproofing-Bitumen water vapour control layer
Type of compound	BPP	
Type of reinforce	Polyester and/or fiberglass	
Reaction to fire	Euroclass F	

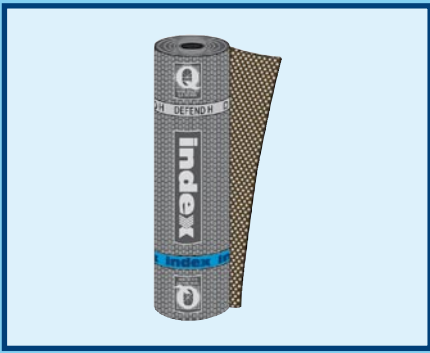
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In conformity with the standard EN 13970 the initial type test, which is subjected to a certification by a notified laboratory, has been carried out by POLYMER INSTITUT (identified with N° 1119).

Date 11/02/2009

Signature

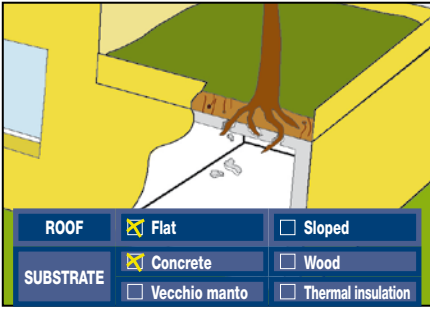


DEFEND ANTIROOT/H

• DEFEND ANTIROOT/H POLYESTER

ELASTOPLASTOMERIC POLYMER-BITUMEN WATERPROOFING MEMBRANE, WITH AN ANTIROOT ADDITIVE, FOR PROTECTING ROOF GARDENS, SUNKEN WORKS AND GRAVEL COVERED ROOFS

PROBLEM

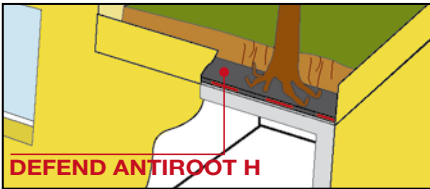


HOW TO REALISE A WATERPROOFING LAYER IN DIRECT CONTACT WITH THE GROUND THAT IS RESISTANT TO THE PENETRATION OF ROOTS ALSO AT THE JOINTS

The more and more widespread need to reduce cement in towns, with intense greenery planted also to the light roofs of new estates, has brought with it the problem of the root resistance of waterproofing layers not protected with cement screed. The reason for its absence is due to its excessive weight, and the difficulty of applying it to pitched roofs. Direct contact of the layer with the soil implies intrinsic resistance of its membranes against the perforating action of roots. The use of membranes reinforced with metal foils or polyester film has often turned out to be a failure because the continuity of the mechanical protection on the sheet overlaps is not guaranteed. In some cases, the roots also crossed the overlaps of the two layers, overlaid and staggered with each other.

SOLUTION

CATEGORY	CHARACTERISTICS	
SPECIAL ELASTOPLASTOMERIC	WATERPROOF	VAPOUR BARRIER



DEFEND ANTIROOT/H POLYESTER is a root resistant waterproofing membrane. The antiroot properties are obtained by adding phenoxy-fatty acid ester, a specific antiroot agent, to the polymer-bitumen compound. Once applied, **DEFEND ANTIROOT/H POLYESTER** forms a continuous barrier against roots. As it does not contain film or bi-reinforced foils, **DEFEND ANTIROOT/H POLYESTER** is more flexible and malleable during application. The anti-root additive does not migrate into the soil, is not washed away with water, and resists the heat developed by the flame while the overlaps are being sealed. The use of phenoxy-fatty acid ester comes from thirty years of German experience in the waterproofing sector. **DEFEND ANTIROOT/H POLYESTER** is made up of distilled and selected bitumen

for industrial use containing a high quantity of elastoplastomeric polymers such as to obtain a "phase inversion" alloy. The continuous phase of this alloy consists of the polymer in which the bitumen is dispersed, where the characteristics are determined by the polymer matrix and not by the bitumen, even if it is the largest ingredient. The performance of bitumen is therefore increased, durability and resistance to high and low temperatures are improved, thus maintaining the bitumen's already excellent qualities of adhesion and waterproofing. The reinforcement of the membrane consists of a single strand Spunbond non-woven polyester fabric, with high basic weight (grammage). This fabric is isotropic, rot-proof, thermally fixed and boasts: high mechanical resistance, considerable ultimate elongation, excellent resistance to punching and laceration. The upper face of **DEFEND ANTIROOT/H POLYESTER** is coated with a uniformly distributed, fine silk-screen printed talcum. The lower face is coated with embossed Flamina. The reinforcement and the waterproofing mass are resistant to chemical effects of humic acids and fertilizers. **DEFEND ANTIROOT/H POLYESTER** is used in all waterproofing systems in contact

ADVANTAGES

- Resistant to roots also at the overlaps.
- Doesn't disperse dangerous substances in the environment.
- Puncture resistant.



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

EN 13707 - REINFORCED BITUMEN SHEETS FOR ROOF WATERPROOFING

- Antirroot
- DEFEND ANTIROOT/H POLYESTER 4 mm

METHOD OF USE

TORCH APPLICATION	HOT AIR APPLICATION	NAILING		

with the ground or where there is the risk of the system being attacked by roots.

FIELDS OF USE

Is always applied as the last waterproofing layer in contact with the earth for gardens. When waterproofing roof gardens for instance, it is used as the top layer of a system, the first layer being a polymer-bitumen membrane reinforced with "non-woven" polyester fabric and the second being **DEFEND ANTIROOT/H POLYESTER** which is placed astride the overlaps of the previous layer and full bonded with the torch, (see technical specifications n 10, Roof Gardens).

CERTIFICATION



FORSCHUNGSANSTALT GEISENHEIM
to guarantee the resistance to roots conforms to the European test method EN-13948.



TECHNICAL CHARACTERISTICS

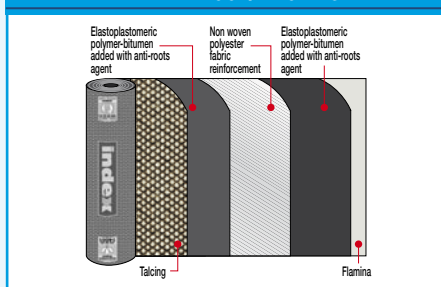
		DEFEND ANTIROOT/H POLYESTER
Thickness (EN 1849-1)	T	4 mm
Roll size (EN 1848-1)		1x10 m
Reinforcement		"Non-woven" Spunbond polyester fabric
Watertightness (EN 1928 - B method)		60 kPa
Shear resistance (EN12317-1)		500/300 N/50 mm
Maximum tensile force Long./Trasv. (EN 12311-1)		600/400 N/50 mm
Elongation (EN 12311-1)	-15 V.A.	35/40%
Resistance to impact (EN 12691 - A method)		1.250 mm
Resistance to static loading (EN 12730)		15 kg
Dimension stability (1107-1)		NPD
Flexibility to low temp. (EN 1109)		-10°C
Flow resistance at elevated temperature (EN 1110)		120°C
Resistance to root (EN 13948)		Test passed
Reaction to fire class (EN 13501-1)		Euroclass F
External fire performance (EN 13501-5)		F _{roof}

INDEX's exclusive production systems are covered by registered patents.

Fig. 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.

MEMBRANE COMPOSITION

DEFEND ANTIROOT/H POLYESTER



PRODUCT FINISH



EMBOSSING FLAMINA. The embossing on the lower surfaces of the membranes finished with Flamina film makes it possible to lay the product precisely and quickly; forming a smooth surface when melted with the torch. It indicates the correct melting temperature and lets the film retract faster. The embossing also enables optimal vapour diffusion; in spot bonded and loose laid installation, in the points where it remains intact, preventing blisters and swelling.



TALCING. The talcing of the top face is carried out with a technique which evenly spreads the talc over the top surface with a special pattern, preventing accumulation and zones without talc. This new system makes it possible to quickly unroll the rolls and gives the surface an appearance which is pleasing to the eye.

The figures shown are average indicative figures relevant to current production and may be changed or updated by INDEX S.p.A 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. Consider

• 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

index
Construction Systems and Products

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