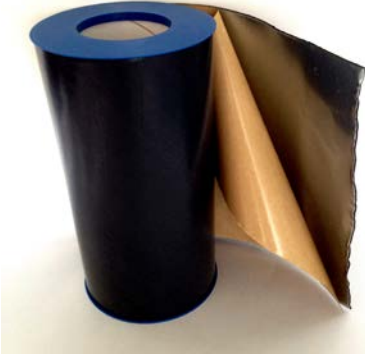


Metalnastri DoubleShield 3.3

The anticorrosion tape “Metalnastri DoubleShield 3.3” is a new concept of technology based on a double active-passive protection barrier. The product is a compound between two different layers of material: a sacrificial anode as inner layer and a sealing membrane as outer layer. The result is an unique and effective product that provides active protection to the metal surface that has to be covered with, and a physical-chemical passive protection. “Metalnastri DoubleShield 3.3” is a free solvent and environmentally friendly. It is designed to protect permanently underground structures, providing protection for the life-span of the same and virtually avoiding any future maintenance.



DESCRIPTION

The product “Metalnastri DoubleShield 3.3” is a coupling between an electro-conductive adhesive laminar zinc tape with the main purpose of active protection, and a self-adhesive membrane made from a polymer-modified bitumen with a HDPE carrier foil that performs as external sealing, working as a barrier for physical and chemical protection.

FEATURES

Active protection: is provided by the sacrificial action of the high purity laminated zinc (>99.95%) by its electro-conductive adhesive which ensures a positive electric connections between the metal substrate and the zinc so that it can act as a sacrificial galvanic anode.

Passive protection: is given by the top coat bonded to the zinc foil, this is composed of a membrane made from a polymer-modified bitumen with HDPE carrier foil which bonds in an excellent way to the zinc, sealing and protecting it against any external attack and any mechanical damages

Chemical protection: the special composition of the outer coat provides a resistance to all the aggressive substances that naturally occur in soils.

MAIN USES

Metalnastri DoubleShield 3.3 is used mainly for:

- underground pipes;
- steel pole for the public lighting;
- underground steel storage tanks;
- joining under and above-ground steel structures



ACTIVE PROTECTION

An anticorrosion protection by means of insulating coating (paintings, plastics, rubber and so on) achieves exclusively a passive protection of the surface.

DoubleShield 3.3 coating with electro-conductive adhesive, manufactured by Metalnastri, represents an effective step ahead in the technique of protection against spontaneous corrosion phenomena of whichever metal structure.

The DoubleShield 3.3's inner layer ensures a positive electrical connection between the metal substrate and the zinc, through the specially formulated electro-conductive adhesive.

The high dissolution tension of zinc tape and its fixing to the steel surface by means of binder in the electro-conductive film permits, whenever in some areas there is a lack of coating or whenever an electrolyte infiltrates between the metal structures and the zinc tape, the immediate formation of a galvanic cell, in which, the zinc becomes an anode dissolving itself and protecting the metal structure (cell cathode). In this case the product realizes an “active protection” of the metal surface.

The complete homogeneity and isotropy of the zinc lamina avoid, all along the superficial development, the presence of variations of dissolution tension: it has a very low auto-corrosion consumption.

PASSIVE PROTECTION

DoubleShield 3.3's outer layer is a self-adhesive bituminous sealing membrane cold-applied, that is a self-adhesive, flexible, crack-bridging made from polymer-modified bitumen with HDPE carrier foil on one side.

It is used for underground structures permanently against ground moisture (capillary water, retained water) non-accumulating seepage water.

The self-adhesive bituminous sealing membrane with HDPE carrier foil affords immediate resistance to water and driving rain, is flexible, tear-resistant and cold-bending. It is environmentally friendly and is resistant to all aggressive substances that occur in soils. It does not contaminate ground water.

Technical Data Sheet Metalnastri DoubleShield 3.3

Composition	Weight gr/m ²	Width micron
Membrane	1000	1000
Zinc foil	560	80
Adhesive	500	Min. 225
Paper	90	75
TOTAL Zinc and Membrane	2150	1380
TOTAL Zinc	700	80
TOTAL Membrane	1590	1290
Property		
Membrane	Measuring Unit	Value
Weight	Kg/ m ²	1.1
Width membrane	mm	1.0
Adhesive thickness	μ	200
Application temperature	°C	+ 3°
Condition		
Rain resistance		Immediate
Heat resistance	DIN EN 1296, DIN EN 1298 ≥ +70°C storage period 12 weeks	Shape stability
Cold-bending test	DIN EN 1109	No cracks at 5°C
Water impermeability	DIN EN 1928, procedure B Water pressure 4 bar, 24 h.	Impermeable
Water-vapour permeability	DIN 1931, procedure B	S _D = 320m, μ = 2744000
Ultimate tensile strength	DIN EN 12311-2, procedure A	Longitudinal ≥ 90//50mm - Transvers ≥ 70//50mm
Extension at ultimate tensile strength	DIN EN 12311-2, procedure A	Longitudinal ≥ 900 % - Transvers ≥ 700 %
Tear resistance test	EN 12310-1	Longitudinal 125 N - Transvers 65 N
Colour		Black
Laminate Zinc	Measuring Unit	Value
Thickness	mm	0,080 (-0,005/+0,020)
Purity	%	> 99,95
Adhesive	Measuring Unit	Value
Thickness	mm	> 0,025
Adhesive on steel		
48 h after application	N/mm	> 0,65
Adhesion zinc to membrane	N/mm	> 0,8
Shear resistance	Hours	> 8
Electrical conductivity	Ohm·mm ²	≤ 10
Minimum temperature for application	°C	+ 3°
Working temperature	°C	-10 a +70
Maximum temperature for short period (1/2 hours)	°C	+100
Paper	Measuring Unit	Value
Weight	Gr/m ²	90 ± 5%
Thickness	mm	77 ± 5



Metalnastri S.r.l. - Via Padova 3
20063 Cernusco sul Naviglio (Milan) - ITALY
☎ +39 02 92 59 20 60 - 📠 +39 02 92 47 16 18
www.metalnastri.it - info@metalnastri.it