

COMPLETE INFORMATION OF POLITABER NATURE COMBI 50/G BLANCO



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View “**Declaración de Prestaciones – DoP**” in: DoP_E_37453_13707_POLITABERCOMBI50G_v02

View “**Certificado AENOR de Producto**”, in: N_E_37453_POLITABER_COMBI_50G_Dic.2022

View **Marcado CE**, completo, in: MCE_37453_13707_POLITABERCOMBI50G_v02

View **Safety Data Sheet** in: FS_E_31400_POLITABER_v07

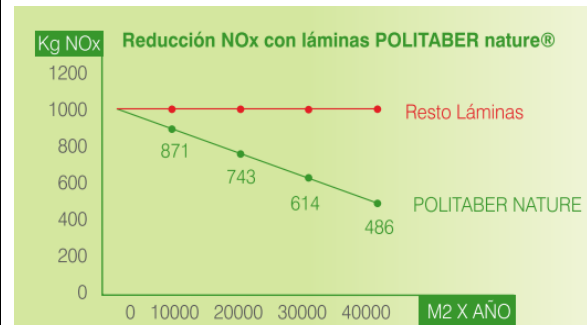
Sheet of 1 mx 8 m and 5 kg / m² of reinforced LBM (SBS) -50 / G-FP elastomer-modified bitumen, with fiberglass stabilized non-woven polyester felt reinforcement, plastic interior finish and granule exterior finish NATURE® photocatalytic, white. SRI solar reflectance value of 43,8 ± 5,1%. Place by adhesion by means of a torch. In systems "Adhered" to the support. Self-protected monolayer and bilayer membrane. Uses according to: UNE-EN 13707, 13859-1 and 13969 Standards

Recommended for: light protection flat roof sheet, single layer membrane or bilayer membrane top sheet exposed to the elements; single layer on sloping roof exposed to the elements. Not recommended for: bottom sheet in bilayer system; landscaped roof; sheet under heavy or buried protection.

Decontamination sheet, with photocatalytic activity due to the incorporation of the **NATURE® photocatalytic granule** on its upper face. POLITABER NATURE COMBI 40 / G WHITE sheets cause a constant disintegration of the contaminating oxides NO_x, which are transformed into an inert compound, nitrates (NO₃) through an oxidation process. Activity proven by Report n°21171 of the IETcc CSIC (See Graph 1.)

Main advantages:

- Decontaminating effect. Transformation NO_x into NO₃
- Thermal reflective. White granule color
- Antibacterial, fungicidal action against fungi and mold.



Graph. 1. Based on data from report 21171 IETcc CSIC (Madrid, May 2017)

TEST	METHOD	VALUE	UNIT	TOLERANCE
External fire performance :	EN 13501-5 : 2002	B _{ROOF(t1)}		
Reaction to fire :	EN 13501-1 : 2002	Class E		Documentation of A. Chova, verified by AENOR
Watertightness :	EN 1928 : 2000	Pass		
Tensile strength in:				
- Longitudinal direction:	EN 12311-1 : 1999	700	N / 5 cm	± 200
- Transverse direction:		450		± 150
Elongation:				
- Longitudinal direction:	EN 12311-1 : 1999	45	%	± 15
- Transverse direction:		45		± 15
Root resistance (penetration):	EN 13948 : 2007	NPD		
Static loading resistance:	EN 12730 : 2001	≥ 15	kg	
Impact resistance:	EN 12691 : 2006	≥ 1.000	mm	
Tear resistance:	EN 12310-1 : 1999	--		
Joints strength: (to shear)	EN 12317-1 : 1999	450	N / 5 cm	± 150
Durability:	EN 1296 : 1999			
(Pliability)	EN 1109 : 1999	-5	°C	± 5
(Flow resistance)	EN 1110 : 1999	100	°C	± 10
Pliability:	EN 1109 : 1999	≤ -15	°C	
Dangerous substances:	--	NPD		

Pass → Positive or correct; NPD → No Performance Declared; -- → Not required

OTHER ADDITIONAL FEATURES OF POLITABER NATURE COMBI 50/G BLANCO

Designation:	UNE 104410	LBM-50/G-FP		
Visible defects:	EN 1850-1	No visible defects		
Mass per unit area:	EN 1849-1	5,0	kg/m ²	-5 / +10 %
Roll size (Length x Width)	EN 1848-1	8 x 1	m	≥
Granule loss:	EN 12039	20	%	-20 / +10 %
Dimensional stability:	EN 1107-1	≤ 0,4	%	
Flow resistance:	EN 1110	≥ 100	°C	
Mass pliability at a low temperature:	EN 1109	≤ - 20	°C	
Solar reflectance value	ASTM E1980-11	43,8	%	± 2,7
Thermal emissivity	ASTM E1980-11	0,80		± 0,06
SRI index	ASTM E1980-11	43,8		± 5,1

DESCRIPTION OF POLITABER NATURE COMBI 50/G BLANCO

POLITABER *nature*[®]
GRÁNULO FOTOCATALÍTICO
Color: BLANCO

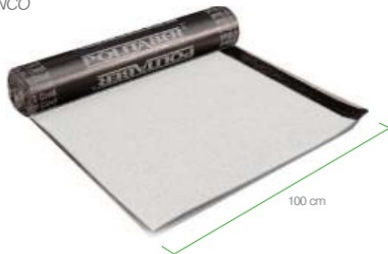


Image 1. POLITABER NATURE COMBI 50/G BLANCO

5. Mineral granule POLITABER NATURE®. Slate-type white granule. SRI solar reflectance value of 43,8 %
4. Overlap band. 8 cm
3. Reinforced nonwoven polyester, type 150 g/m²
2. POLITABER – SBS elastomer bitumen
1. Plastic film. Nonstick

NOTE: The protection of self-protected bituminous sheets finished with mineral coating (slate or granule), being made up of natural products, may present differences in tone between sheets of different manufacturing batches. This should be considered when ordering material, both for new construction and for roof rehabilitation. This visual effect is homogenized and minimized by exposure to the elements of the sheets, in a reduced period of exposure.

DECONTAMINATING EFFECT. POLITABER NATURE COMBI 50 / G BLANCO

HOW DOES IT WORK? CHEMICAL PHOTOCATALYSIS

The Iberian Association of Photocatalysis, AIF defines photocatalysis as a photochemical reaction that converts solar energy into chemical energy on the surface of a catalyst or substrate, consisting of a semiconductor material that accelerates the reaction rate. During the process both oxidation and reduction reactions take place. In this way, the elimination of most of the pollutants in cities is promoted.

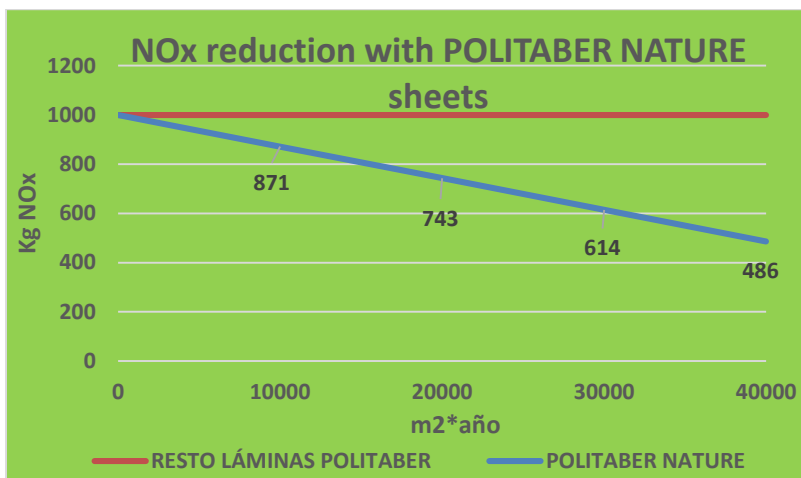
As the AIF indicates, photocatalysis starts from the natural principle of decontamination of nature itself. Like photosynthesis, thanks to sunlight, it is capable of eliminating CO² to generate organic matter, photocatalysis eliminates other common pollutants in the atmosphere, such as NO_x, SO_x, VOCs, through an oxidation process activated by energy solar.

POLITABER NATURE COMBI 50/G BLANCO sheet has the NATURE® photocatalytic granule that causes constant oxidation of NO_x pollutants produced by vehicles, industry and energy production. Said NO_x are transformed into an inert compound, nitrates (NO₃) through an oxidation process that occurs when it comes into contact with the NATURE® granule, sunlight and ambient humidity. Said inert nitrates (NO₃) are evacuated from the roof surface with the corresponding transport of particles associated with the evacuation of rainwater on the roof.



HOW MUCH DOES IT DECONTAMINE? QUANTIFICATION OF PHOTOCATALYTIC OXIDATION

To quantify the decontaminating effect of **POLITABER NATURE COMBI 50/G BLANCO** sheet, with **NATURE® photocatalytic granule**, sheet has been analyzed at the Eduardo Torroja Institute of Construction Sciences (IETcc), according to report no. 21.171 of the IETcc CSIC, (Madrid, May 10, 2017). This report evaluates the photocatalytic activity of the **NATURE® granule**, according to the Italian standard UNI 11487 / CEN, "Tests to measure the photocatalytic activity of building materials through the degradation of NOx in continuous flow".



Graph 2. Created from technical data of the report No 21.171 of the IETcc CSIC, (Madrid, May 10, 2017)

m2	Kg NOx /year	Car emissions /year
2000	26	33
4000	51	65
6000	77	98
10000	129	163

Table 1. Kg NOx transformed into NO₃ by the **NATURE® granule**

According to graph 1, for a 2000 m² roof with **POLITABER NATURE COMBI 50/G BLANCO** sheet, during 20 years of use, we managed to eliminate 514 kg NOx from the atmosphere, equivalent to the emissions of 33 cars during 20 years.

The emissions data have been obtained by considering an emission value per passenger car, equal to the limit value set by the Euro-6 regulation, modification of 2015, which is equivalent to 0.08 grams of NOx emitted per km traveled. (0.08 g NOx / Km) An average daily displacement per vehicle of 27 km has been considered.

For the photocatalytic oxidation values, the arithmetic mean of the intrinsic rate of oxidation obtained for the samples with **NATURE® granule** has been used, which is equivalent to 1468 µg / (m² h) or 12.86 g / (m² year). Image 2 shows Table 5 of report No. 21171 of the IETcc CSIC, (Madrid, May 10, 2017), where the intrinsic rates of oxidation obtained for the samples L.B.P-1 and L.B.P-2 of granule **NATURE®** appear.

SAMPLE		L.B.P-1	L.B.P-2
NO (velocidad máxima ventilador)	%	9,70	15,61
NO (velocidad mínima del ventilador)	%	7,20	9,74
r	µg·m ⁻² h ⁻¹	8,86E+02	2,05E+03

Tabla 5. Resumen de resultados obtenidos para las probetas ensayadas según norma UNI 11484:2013



ChovA

SISTEMAS DE IMPERMEABILIZACIÓN
Y AISLAMIENTO

POLITABER NATURE COMBI 50/G BLANCO

LBM (SBS). SELF-PROTECTED WITH NATURE GRANULE

TECHNICAL FILE Nº 37469 Rev. 04/21 Date: 05/02/2021

USE RECOMMENDATIONS, ADAPTED TO “CTE”, ACCORDING:

- DR del CTE, CEC, “*Catálogo de Elementos Constructivos*”, and
- Norma UNE 104401: 2013, “*Impermeabilización en la edificación sobre y bajo rasante, con láminas bituminosas modificadas. Sistemas y puesta en obra.*”
- DITE Nº 06/0060. “*POLITABER FM MONOCAPA*”

Provided information corresponds to data obtained in our own laboratories. This product will maintain these characteristics on average. ChovA, S.A. reserves the right to modify or cancel any parameter without notice. ChovA, S.A guarantee is only applying to the product quality.

As for commissioning work, which do not participate, they must also meet the waterproofing requirements for the implementation, specified in the applied rules, both in membrane composition and fulfillment them. This technical data sheet will be void by subsequent revisions and, if in doubt, apply the latest revision.