



## LOTUS Series

### Kind of product

The waterproofing membranes of the LOTUS Series are obtained by the co-extrusion of an elasto-plastomeric bitumen-polymer compound and of a reinforcement, which is placed in the thickness of the membrane in complete synergy with it. The waterproofing membranes of the LOTUS Series are manufactured in the type LOTUS PE (with stabilised polyester "non-woven" reinforcement) and LOTUS W (with glass fibre reinforcement). The underside is covered by the "Termotene" film and the black surface is finished with talc powder and may be painted with reflective protective paints like ELASTOMUL G or PARWENOL 4822 Alluminio.

The LOTUS Series is produced also in the versions LOTUS PE ARD and LOTUS W ARD, with the top side covered by slate granules, available in the weights of 3,5-4-4,5 kg/m<sup>2</sup>. The membranes of the LOTUS Series are supplied in rolls with plastic strips and Quality Control Certificate, are in conformity with the CE marking where necessary and do not contain asbestos, pitch or other dangerous elements.

### Fields of use

The membranes of the LOTUS Series are specifically used for the realisation of waterproofing jobs.

In particular, for what concerns the use for covers and foundation, the different versions can be used as follows (1):

INTEND USE  MEMBRANES	ROOFS (EN 13707)						UNDER TILES (EN 13859-1)	FOUNDATIONS (EN 13969)
	EXPOSED			ROOF GARDEN	UNDER HEAVY PROTECTION			
	Single layer	Multi layer			Anti roots	Single layer		
		Top	Intermediate	Multi layer				
LOTUS PE			▲				▲	▲
LOTUS PE ARD		▲					▲	
LOTUS W			▲					
LOTUS W ARD		▲					▲	

(1) In conformity with the applicable norms and the Guide Lines AISPEC-MBP

### Methods of application

The application methods represent a decisive factor which characterizes the performances of the waterproofing membrane. We recommend to clean the support thoroughly and to treat it with an approved primer (applied by long-handled brush, roll or spray) with a consumption of 0,2 ÷ 0,3 l/m<sup>2</sup>, to be adjusted depending on the porosity degree of the support itself. The membrane will be applied by means of a propane gas flame; a special care should be given to the execution of the overlaps between one roll and another, which will always have to be staggered: the side laps will have to be 8 to 10 cm wide, the end laps 12 ÷ 15 cm. To get a correct and complete documentation and to find all the more appropriate solutions for each circumstance we suggest you to contact the Imper Italia S.p.A. Technical Services, which are in any case at your full disposal for the examination of particular problems and to give all the necessary assistance for the use of the product.

**TECHNICAL CHARACTERISTICS**

Characteristics	EN Norms	Units	Tolerances (2)	LOTUS PE	LOTUS PE ARD	LOTUS W	LOTUS W ARD
Rolls size	1848-1	m	≥	10x1 (-1%)	10x1 (-1%)	10x1 (-1%)	10x1 (-1%)
Thickness	1849-1	mm	±5 %	3 – 4	-	3 – 4	-
Mass per unit area	1849-1	Kg/m <sup>2</sup>	±10 %	-	3.5 - 4 - 4.5	-	3.5 - 4 - 4.5
Watertightnes	1928-B	kPa	≥	60	60	60	60
Flexibility at low temperature	1109	°C	≤	-5	-5	-5	-5
Flow resistance at elevated temperature	1110	°C	≥	110	110	110	110
Tensile properties: maximum tensile force	12311-1	N/5cm	±20%	450/350	450/350	300/200	300/200
Tensile properties: elongation	12311-1	%	± 15 <sup>(3)</sup>	40/40	40/40	2/2	2/2
Dimensional stability	1107-1	%	≤	0.25/0.1	0.25/0.1	0.2/0.1	0.2/0.1
Resistance to static loading	12730-B	Kα	≥	15	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>
Resistance to impact	12691-B	mm	≥	700	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>
Resistance to tearing (nail shank)	12310 -1	N	+30%	150/150	150/150	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>
Peel resistance of the joint	12316 -1	N/5cm	±20 N	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>
Shear resistance of the joint <sup>(4)</sup>	12317-1	N/5cm	±20%	break outside of the joints	break outside of the joints	break outside of the joints	break outside of the joints
Artificial ageing by long term exposure to elevated temperature (EN 1296)							
Flexibility at low temperature	1296-1109	°C	+15°C	NPD <sup>(5)</sup>	-	NPD <sup>(5)</sup>	-
Flow resistance at elevated temperature	1296-1110	°C	-10°C	100	100	100	100
Artificial ageing by long term exposure to UV	1297	-	-	NPD <sup>(5)</sup>	Pass the test	NPD <sup>(5)</sup>	Pass the test
Watertightness	1296-1928	kPa		60	60	60	60
Chemical resistance	-	-	-	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>
Tensile properties: maximum tensile force	12311-1	N/5cm	±20%	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>
Tensile properties: elongation L/T	12311-1	%	±15 <sup>(3)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>
Water vapour transmission properties	1931	u	≥	20.000	20.000	20.000	20.000
Resistance to root penetration	LG Aispec		-	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>	NPD <sup>(5)</sup>
External fire exposure	13501-5	EC <sup>(6)</sup>	-	Froof	Froof	Froof	Froof
Reaction to fire	13501-1	EC <sup>(6)</sup>	-	F	F	F	F

(2) In conformity with the applicable norms and the Guide Lines AISPEC-MBP

(5) "No performance determinated" as not relevant for intended use

(3) ± 2 for glass fibre reinforcement

(6) European classification

(4) Declared value or break outside of the joints

SP-LOTU/L0

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... and no water penetrates

**IMPER ITALIA S.p.A.**

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