



# Polyflame

GARDEN (I - II) : APP ROOT RESISTANT  
WATERPROOFING MEMBRANE

## INTRODUCTION

BITUMAT APP root resistant waterproofing reinforced membranes are produced from a blend of special polypropylene thermoplastic polymers, distilled bitumen and selected additives. This combination gives the proven waterproofing qualities of bitumen combined plasticity, excellent resistance to heat aging protect against root penetration, weathering and ease of application by torch welding.

BITUMAT Saudi-made membranes offer total impermeability to water, outstanding bondability and seam integrity, easy repair and maintenance and the possibility of a wide range of decorative finishes for exposed applications.

## DESCRIPTION

POLYFLAME GARDEN is a range of modified bitumen membranes with a reinforcement of 180-200 gsm nonwoven, polyester which provides suppleness and flexibility to compliment the plastomeric qualities of the bitumen blend at both high and low temperatures. The polyester fabric is rot proof and extremely robust with certain isotropic qualities. Other weights of polyester are available on request.

## USES

POLYFLAME GARDEN is a special membrane, excellent for roofing systems, flower boxes or wherever anti root penetration properties are required. When surfaced with factory applied coloured slate granules, POLYFLAME GARDEN is ideal as an exposed top layer.

## OUTSTANDING FEATURES

- Good elongation and recovery
- High tensile strength and tear resistance
- Very good puncture resistance
- Excellent for mechanical anchorage
- Rot-proof.
- Root penetration resistance

## GENERAL DATA

Roll length	:	10 mt.
Roll width	:	1 mt.
Thickness	:	3, 4, 5 mm
Reinforcement	:	200 gsm nonwoven polyester fabric. Other weights available on request.

## FINISHES

Polyflame Garden I - 3 mm black finish  
Polyflame Garden II - 4 mm granule finish

## QUALITY CONTROL

In addition to stringent regular tests by BITUMAT laboratory, periodic visits and Quality Control tests are performed by :

SOCOTEC, Paris, France  
MASENCO, Hurst, Texas, U.S.A.

## STANDARDS

POLYFLAME GARDEN complies with the requirements and tolerance levels of UEAtc (European Union of Technical Agreement) MOAT 27-1983 and MOAT 30-1984 and CGSB (Canadian General Standards Board) 37-GP-56M-July 1980.

## INSTALLATION

### TOOLS REQUIRED

Gas torch, Knife, Trowel, Measuring tape, Marking string, Gloves.

### APPLICATION

POLYFLAME GARDEN is installed by torch welding method, loose-laid or fully bonded to substrate. When loose-laid, only laps are bonded together. Peripheries and protrusions are sealed according to specifications.

### COVERAGE RATE

For flat areas	:	1.13 m <sup>2</sup> /m <sup>2</sup> per layer
For 30 cm. girth flashing	:	0.35 m <sup>2</sup> /mt. length
Average wastage	:	3 - 5%

### GENERAL GUIDELINES FOR TORCHING

The underside of the membrane should be torched just enough to superficially melt the bitumen. Excessive heating may damage the reinforcement. Overlaps should be reheated from the top and resealed with a trowel to ensure seam integrity.

For details of installation methods and flashing requirements, consult the relevant *Bitumat Design and Installation Manual*.

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## TECHNICAL DATA

	<i>Property</i>	<i>Result</i>	<i>Test Method</i>
1.	Softening point, °C	155	ASTM D 36
2.	Penetration, @ 25°C, dmm	25	ASTM D 5
3.	Low temperature flexibility, °C	-6 to -10	UEAtc; UNI 8202
4.	Heat resistance, 2 hours @ 120°C	No flow	CGSN-37-GP-56M; UEAtc
5.	Reinforcement	180-200 gm/m <sup>2</sup> non-woven polyester	
6.	Tensile strength, N/5 cm ⇒ Longitudinal ⇒ Transverse	1050 (23 kN/m) 700 (15.8 kN/m)	ASTM D828 modified; CGSB-37-GP-56M or ASTM D146; UEAtc; UNI 8202
7.	Elongation, % ⇒ Longitudinal ⇒ Transverse	50 55	ASTM D828 modified; CHSB-37-GP-56 M or ASTM D146; UEAtc; UNI 8202
8.	Load strain product ⇒ Longitudinal ⇒ Transverse	52,500 38,500	CGSN-37-GP56M UEAtc
9.	Lap joint strength, N/5 cm ⇒ Longitudinal ⇒ Transverse	1050 700	CGSB-37-GP-56M UEAtc
10.	Tear resistance, N ⇒ Longitudinal ⇒ Transverse	195 210	UEAtc; DIN 53859 UEAtc; DIN 53859
11.	Puncture resistance, N ⇒ Static indentation (at 25 kg) ⇒ Dynamic indentation (at 25 kg)	115 L4 l4	ASTM E 154 UEAtc 5.1.9 UEAtc 5.4.1
12.	Water absorption, % Wt.	< 0.12	ASTM D 570; ASTM D 471
13.	Water vapour transmission, g/m <sup>2</sup> /24 hrs. Water impermeability of the membrane at the seamed joint	<0.28 Absolutely impermeable	ASTM E 96, Procedure E. 37.8 °C at 90% RH
14.	Resistance to leakage at joints	Pass	UEAtc
15.	Resistance to aging & UV (Weather-O-Meter, 2000 hrs.) (Equals 10 years exposure to the elements)	Pass	ASTM G 53, UNI 8202
16.	Resistance to thermal aging	Pass	ASTM G 53; UNI 8202
17.	Resistance to hydro-shock	Pass	ASTM G 53; UNI 8202

The information given in this Technical Sheet is to the best of our knowledge based on Laboratory tests and practical experience.  
However, as the product is often used under conditions beyond our control, we cannot guarantee anything but the product itself

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