

# BITUMODE GAMMA-P

## APP MODIFIED BITUMEN PLASTOMERIC WATERPROOFING MEMBRANE REINFORCED WITH COMPOSITE POLYESTER

### PRODUCT DESCRIPTION

Produced by the Modern Waterproofing Company, Bitumode is a line of polymer-modified bitumen waterproofing membrane of the highest quality. Bitumode is modified by APP and APAO, thus guaranteeing superior performance under various conditions.

BITUMODE GAMMA - P is reinforced with composite polyester (P) of non-woven polyester armoured with glass fiber filament which provides highly mechanical properties and dimensional stability.

### USES

BITUMODE GAMMA - P is a general purpose membrane, can be applied virtually anywhere where torch applied modified bitumen membranes subject to light to moderate mechanical stresses are specified and good cold flexibility features are required.

BITUMODE GAMMA - P can be applied in:

- Single layer roofing system for advanced use.
- Double layer system for basements.
- Double layer roofing system combined with BITUMODE DELTA - G fiberglass reinforced.
- Toilets and wet areas inside buildings.
- Retaining walls.
- Under raft foundations.

BITUMODE GAMMA - P with Mineral Slated Finish is recommended for exposed roofing system (Unprotected) for Non-accessible roofs or roofs subject to low traffic conditions.

### ADVANTAGES

BITUMODE GAMMA - P has been designed with special regard to providing clients with an excellent and versatile product. Advantages of BITUMODE GAMMA - P include:

- Easy to apply (by torch).
- Highly mechanical properties.
- Absolute impermeability to water.
- Flexibility at low temperature up to -6°C.
- Excellent high temperature performance.
- Excellent adhesion on any surface.
- High dimensional stability.
- Resistant to soil chemicals and salts up to certain limits.
- Environmentally friendly.

### CERTIFICATION

This product is certified from the Egyptian government being in compliance with the quality mark of (EOS) and ASTM D 6222/2016.

### QUALITY CONTROL

The Modern Waterproofing Company is ISO 9001 certified. It applies a stringent quality control system utilizing its in-house laboratory. Occasional samples are analyzed by independent laboratories to ensure continued adherence to the highest standards (ASTM, EN, etc.). Each roll of Bitumode is individually coded with a label containing all necessary information about the roll. This is intended to ensure traceability in accordance with ISO control standards.

### PRODUCT RANGE

Standard thickness available includes 3mm and 4mm. Some types could be available by weight 3kg/m<sup>2</sup> and 4kg/m<sup>2</sup>.

Bottom surface finish is normally polyethylene film (PE).

Upper surface finish choices include:

- Polyethylene film (PE)
- Fine sand (S)
- Mineral slated grey (GY)
- Mineral slated green (GRN)
- Mineral slated white (WT)
- Mineral slated red (RD)

Slated rolls are available in 4kg, 4.5kg, 5kg and 5.5kg per square meter. The nominal length of each roll is 10 meters and the nominal width is one meter. Special specification can be designed based on client's needs.

### PRODUCT INFORMATION

		TOLERANCE	
Roll Length	10m	EN-1848-1	±1%
Roll Width	1m	EN-1848-1	±1%
Thickness for PE finish	3 & 4 mm	EN-1849-1	±5%
Weight for slated surface finish	4, 4.5, 5 & 5.5 kg/m <sup>2</sup>	EN-1849-1	±10%
Reinforcement	Non-woven Composite Polyester		

TECHNICAL DATA		TEST METHOD	UNIT	VALUE	TOLERANCE
Softening Point (Ring & Ball)		ASTM D-36	°C	≥ 150	
Penetration at	25°C	ASTM D-5	dmm	20 to 25	
	60°C		dmm	70 to 80	
Cold Flexibility		EN 1109	°C	-2 to -6	
Heat Resistance		EN 1110	°C	120	
Tensile strength	Long	EN12311-1	N/5cm	850	±25%
	Wide		N/5cm	700	±25%
Elongation at break	Long	EN12311-1	%	45	±20%
	Wide		%	50	±20%
Tear Resistance (Nail - Shank)	Long	EN12310-1	N	200	±25%
	Wide		N	250	±25%
Tensile-tear Resistance	Long	ASTM D-5147	N	650	±25%
	Wide		N	500	±25%
Joint tensile strength	Long	EN 12317-1	N/5C	850	±25%
	Wide		N/5C	650	±25%
Dimensional stability	Long	EN 1107-1	%	± 0.5	
	Wide		%	± 0.5	
Water absorption		ASTM D-5147	%	1% max.	
Static puncture resistance		EN 12730:2001	kg	20	
Dynamic puncture resistance		EN 12691	mm	1750	
Water impermeability at 60 K pa		EN 1928: 2000	-	Absolutely impermeable	
Impermeability to water vapor		EN 1931	μ	60,000	
Ageing due to U.V. radiation		EN 1269	-	Pass	
Resistance to thermal ageing		EN 1296	-	No signs of deterioration after the test	
Adhesion to concrete		EN 13596	N/cm <sup>2</sup>	40	
Average granule loss for Mineral Slated Finish		ASTM D-4977	gm/m <sup>2</sup>	Less than 200	

## NOTES:

- Above results are based on 4mm membrane
- Due to constant product improvements, MODERN company reserves the right to change above values without advance notice

## APPLICATION INSTRUCTIONS:

- BITUMODE membranes are installed and welded by propane torch, loose laid or fully bonded to the substrate.
- While unloading from truck, avoid the membranes by no means to fall or thrown down.
- To avoid over bending of membrane at 90° corners, apply 5X5 cm sand cement cant strip
- Surface to be waterproofed should be free from dust, oils and should be smooth.
- Before installing BITUMODE membranes, surface should be primed with NIROL W, WM, WB, R or S.
- The position of each roll is determined by unrolling it in its position, then, rerolled about half of its length without changing its orientation.
- Each roll should overlap the next by 10 cm side lap and 15 cm staggered end laps.
- For fully bonded system, the membrane is unrolled slowly while applying the flame to its lower face until burning the plastic cover and the bituminous mass melting to weld the membrane to the substrate.
- Then torching the seams by heating the contact line at side end laps by torch from above, use a trowel for pressing the upper membrane to the lower one, avoiding overheating of the same point.
- For sloping roofs, start laying the membrane from the lower edge with longitudinal direction of rolls perpendicular to slope direction, side laps of next roll to be placed above the first one, etc....
- For detailed application procedures, please refer to BITUMODE MANUAL GUIDE, where you can find construction detail drawings.

## STORAGE:

BITUMODE membranes should be stored vertically in well covered and ventilated place not subject to direct sunlight

