BITUMODE DELTA - P

APP MODIFIED BITUMEN PLASTOMERIC WATERPROOFING MEMBRANE REINFORCED WITH SPUNBOND NON WOVEN POLYESTER

What is Bitumode?

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 DELTA - P is reinforced with Spunbond Non-woven Polyester (P) which provides high mechanical properties.

Uses

BITUMODE DELTA - 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 normal low temperature performance is required.

BITUMODE DELTA - P can be applied in:

- Single layer roofing system for normal use.
- Double layer roofing system combined with BITUMODE DELTA – G fiberglass reinforced.
- Waterproofing of toilets & wet area inside buildings.
- Slab on grade.

BITUMODE DELTA - 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 DELTA - P has been designed with special regard to providing clients with an excellent and versatile product line.

Advantages of Bitumode DELTA – P include:

- Easy to apply (by torch).
- High mechanical properties.
- Absolute impermeability to water pressure.
- Flexibility at low temperature up to -2c°.
- Excellent high temperature performance.
- Excellent adhesion on any surface.
- High dimensional stability.
- Environmentally friendly.

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^2 and 4kg/m^2.

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 and 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.

BITUMODE DELTA-P | NON WOVEN POLYESTER

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CE 4673 ISO 9001

This Publication cancels any previous one - Ver. 5 Printed May 2012

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TECHNICAL DATA		TEST METHOD	UNIT	RESULT	الخواص الفنية
Roll length		EN 1848-1	m	10	الطول
Roll Width		EN 1848-1	m	1	العرض
Thickness for PE finish		EN 1849-1	mm	2, 3, 4, 5	السمك لتشطيب السطح بولى ايثلين
Weight for slated surface finish		EN 1849-1	kg/m²	4, 4.5 , 5	الوزن لتشطيب السطح الحصوة
Softening Point (Ring & Ball)		ASTM D-36	°c	≥ 150	درجة الليونة (اختبار الحلقة و الكرة)
Penetration at	25 °c 60 °c	ASTM D-5	dmm dmm	15 to 25 60 to 80	درجة الاختراق عند ٢٥° مئوية عند ٦٠° مئوية
Cold Flexibility		EN 1109	°c	0 to −2	المرونة عند درجات الحرارة المنخفضة
Heat Resistance		EN 1110	°c	120	الثبات عند درجات الحرارة العالية
Reinforcement				Non-woven Polyester	التسليح
Tensile strength	Long Wide	EN 12311-1	N/5cm N/5cm	750 600	مقاومة الشد القصوى طولياً عرضياً
Elongation at break	Long Wide	EN 12311-1	% %	≥ 40 ≥ 42	الاستطالة القصوى طولياً عرضياً
Tear Resistance (Nail – Shank)	Long Wide	EN 12310-1	N N	150 200	مقاومة التمزق طبقاً للمواصفات الاوروبية طولياً عرضياً
Tensile-tear Resistance	Long Wide	ASTM D-5147	N N	550 450	مقاومة التمزق طبقاً للمواصفات الامريكية طولياً عرضياً
Joint tensile strength	Long Wide	EN 12371-1	N/5cm N/5cm	650 500	مقاومة الشد عند اماكن الركوب طولياً عرضياً
Dimensional stability	Long Wide	EN 1107-1	% %	± 0.2 ± 0.1	ثبات الأبعاد طولياً عرضياً
Water absorption		ASTM D-5147	%	0.15 max.	درجة امتصاص الماء
Static puncture resistance		EN 12730:2001	Kg	20	مقاومة الاختراق الاستاتيكى
Dynamic puncture resistance		EN 2691:2006	mm	1750	مقاومة الاختراق الديناميكى
Water impermeability at 100 K pa		EN 1928:2000	-	Absolutely impermeable	مقاومة نفاذية الماء عند ١٠٠ كيلو بسكال
Impermeability to water vapor		EN 1931	μ	80,000	نفاذية بخار الماء
Ageing due to U.V. radiation		EN 1296	-	Pass	مقاومة التقادم للاشعة فوق البنفسجية
Resistance to thermal ageing		EN 1296	-	No signs of deterioration after the test	مقاومة التقادم الحرارى
Adhesion to concrete		EN 13596	N/cm²	40	الالتصاق بالاسطح الخرسانية
Thermal conductivity		ASTM C-177	Kcal/mh °c	0.12	الموصلية الحرارية
Dielectric constant (k)		ASTM D-150	-	2.5	قيمة الثابت الكهربائى
Dielectric rigidity		-	Kv/mm	14	صلابة العزل الكهربائى
Average Granule loss for Mineral Slated Finish		ASTM D-4977	gm/m²	Less than 200	متوسط قيمة الفقد للحبيبات فى حالة الشرائح ذات تشطيب السطح العلوى بالحصوة الأردواز

NOTES:

- Above results are based on 4mm membrane.
- Tolerance within 20% of the above results for mechanical characteristics complies with the tolerance specification of (ASTM, EN).
- Due to constant product improvements, MODERN company reserves the right to change above values without advance notice.

Storage:

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

APPLICATION INSTRUCTIONS:

- BITUMODE membranes are installed by propane torch welding method, loose laid or fully bonded to the substrate depending on system requirements.
- While unloading from truck the rolls shall by no means allowed to fall or be thrown down from the truck.
- To avoid applying the membrane to corners with 90 ° angle, sand cement cant strip 5x5 cm should be executed at horizontal - vertical intersections.
- Surface to be waterproofed should be clean, dry, free from dust and smooth, in case of irregular surface a sand cement screed is recommended.
- Before laying BITUMODE membranes, surface should be primed with cold applied bituminous primer (NIROL – S) or (NIROL – W).
- Membrane is unrolled and placed in aligned position.
- Each roll should overlap the next by 10cm side laps and 15cm staggered end laps.
- Then, membrane should be re-rolled about half of its length without changing its orientation.
- Using a propane gas torch the membrane is un-rolled again slowly while applying the flame to the entire exposed lower face (For fully bonded system) - until the plastic cover film burns off and the bituminous mass starts melting, thus creating a heat weld between the membrane and the substrate.
- Then, torching of the seams takes place by heating the contact line at side and end laps by torch from above, pressing the upper membrane on to the lower one using a trowel, the torch has to be carefully used avoiding to keep the flame on the same point for too long.
- For sloping roofs start laying the membrane from the lower edge with longitudinal direction of rolls perpendicular to slope direction, side lap 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.

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