

# BITUSHAPE - P

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

### What is BITUSHAPE - P?

Produced by the Modern Waterproofing Company, BITUSHAPE-P is a line of polymer-modified bitumen waterproofing membrane of the highest quality.

BITUSHAPE-P is modified by APP and APAO, thus guaranteeing superior performance under various conditions.

**BITUSHAPE - P** is reinforced with Spun bond Non-woven Polyester (P) which provides high mechanical properties.

### Uses

**BITUSHAPE - 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.

**BITUSHAPE - P** can be applied in:

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

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

### Advantages

**BITUSHAPE - P** has been designed with special regard to providing clients with an excellent and versatile product.

Advantages of **BITUSHAPE – P** include:

- Easy to apply (by torch)
- High mechanical properties
- Absolute impermeability to water pressure
- 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 BITUSHAPE is individually coded with a label containing all necessary information about the roll. This is intended to ensure tractability 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).

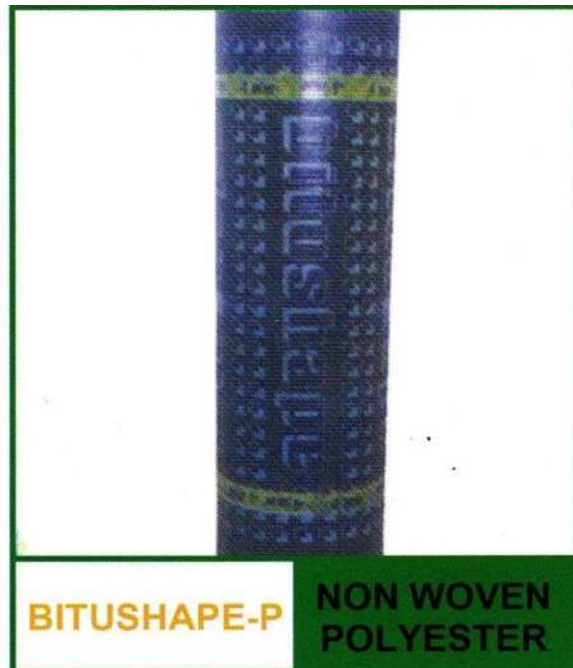
Upper surface finish choices include:

- 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 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.



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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                | 4, 4.5, 5                                | الوزن لتشطيب السطح الحصوة   |
| Softening Point (Ring & Ball)                  | ASTM D-36     | °c                | ≥ 150                                    | درجة اللبونة (اختبار الحلقة و الكرة)  |
| Penetration at 25 °c                           | ASTM D-5      | dmm               | 15 to 25                                 | عند 25° مئوية   |
| 60 °c  |               | dmm               | 60 to 80                                 | عند 60° مئوية   |
| Cold Flexibility                               | EN 1109       | °c                | 0  | المرونة عند درجات الحرارة المنخفضة  |
| Heat Resistance                                | EN 1110       | °c                | 120                                      | الثبات عند درجات الحرارة العالية  |
| Reinforcement                                  |               | gm/m <sup>2</sup> | Non-woven Polyester                      | التسليح   |
| Tensile strength                               | EN 12311-1    | N/5cm             | 750                                      | طولياً  |
|  |               | N/5cm             | 600                                      | عرضياً  |
| Elongation at break                            | EN 12311-1    | %                 | ≥ 40                                     | طولياً  |
|  |               | %                 | ≥ 42                                     | عرضياً  |
| Tear Resistance                                | EN 12310-1    | N                 | 150                                      | طولياً  |
| (Nail – Shank)                                 |               | N                 | 200                                      | عرضياً  |
| Tensile-tear Resistance                        | ASTM D-5147   | N                 | 550                                      | طولياً  |
|  |               | N                 | 450                                      | عرضياً  |
| Joint tensile strength                         | ASTM D-5147   | N                 | 650                                      | طولياً  |
|  |               | N                 | 500                                      | عرضياً  |
| Dimensional stability                          | EN 1107-1     | %                 | ± 0.2                                    | طولياً  |
|  |               | %                 | ± 0.1                                    | عرضياً  |
| Water absorption                               | ASTM D-5147   | %                 | 0.15 max.                                | درجة امتصاص الماء   |
| Static puncture resistance                     | EN 12730:2000 |                   | L4                                       | مقاومة الاختراق الاستاتيكي  |
| Dynamic puncture resistance                    | EN 12691      | -                 | I4                                       | مقاومة الاختراق الديناميكي  |
| Water impermeability at 100 K pa               | EN 1928:2000  | -                 | Absolutely impermeable                   | مقاومة نفاذية الماء عند 100 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 للأشعة فوق البنفسجية   |
| Resistance to thermal ageing                   | EN 1296       | -                 | No signs of deterioration after the test | مقاومة التقادم الحرارى  |
| Adhesion to concrete                           | EN 13596      | N/cm              | 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 الكهربائي   |
| Dielectric rigidity                            | -             | Kv/mm             | 14                                       | صلابة العزل الكهربائي   |
| Average Granule loss for Mineral Slated Finish | ASTM D-4977   | gm/m <sup>2</sup> | Less than 200                            | متوسط قيمة الفقد للحبيبات في 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:

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

### APPLICATION INSTRUCTIONS:

- BITUSHAPE 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 °C 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 BITUSHAPE 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 MAUAL GUIDE, where you can find construction detail drawings

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MEMBER

