



SINCE 1934

TECHNObit

TECHNOLOGY OF INSULATING MATERIALS



TURBO 5000

Mineral

G/E GREY MINERAL

W/E WHITE MINERAL

R/E RED MINERAL

N/E GREEN MINERAL

APP modified waterproofing membrane
with non-Woven Reinforced Polyester

The Wise Choice



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Description

Turbo 5000 mineral is a plastomeric waterproofing membrane manufactured in an advanced continuous calendaring process by saturating and coating a synthetic carrier a waterproofing compound made of special grade of bitumen, modified with APP polymers. While the modifiers enhance the thermal, mechanical, and aging properties of membrane compound, the mechanical characteristics of Turbo 5000 mineral is produced using the non-woven continuous filament spun-bond Polyester carrier which acts as the reinforcement that provides the membrane with its particular tensile strength, tear resistance, puncture resistance and elongation properties.

The upper surface of **Turbo 5000** mineral is covered with grey /green/white/red mineral slates, whereas the lower face is laminated with a thermo-fusible polyolethylene film.

Major Features

- **Good U.V. resistance.**
- **Improved chemical resistance to acidic and alkaline solutions.**
- **Enhanced thermal resistance under a wide range of temperature fluctuation,**
- **Adequate isotropic mechanical properties.**

Uses

Turbo 5000 mineral membranes are used in general purposes as general purpose waterproofing membranes in applications subject to moderate mechanical stresses in single or upper layer in multi-layer systems for a variety of waterproofing requirements. Turbo 5000 mineral membranes are particularly recommended for the following applications:

- **Roofing or re-roofing works for sloped and flat protected roofs.**
- **Waterproofing of wet areas, mechanical rooms and terraces.**
- **Waterproofing of underground structures**

Method of Application

Turbo 5000 mineral membranes are applied by using a propane torch or by mechanical fastening. The substrate surface must be clean, dry, smooth, and free of any irregularities. According to the surface conditions, a coat of water base primers may be required, prior to the applications of the membranes.

Turbo 5000 mineral can be applied to the substrate fully bonded, semi bonded or loose lay, and the method of adhesion to the substrate shall be decided according to the waterproofing system design. Side laps should be from 15 – 12 cm. For more information on application refer to the **TECHNOBIT** Application Guide.

SURFACE FINISH

The lower surface of **Turbo 5000** mineral is laminated with a Polyolefinic film while the upper surface is covered with one of the following surface finish materials;

- **Turbo 5000 G/E grey mineral**
- **Turbo 5000 W/E white mineral**
- **Turbo 5000 R/E red mineral**
- **Turbo 5000 N/E green mineral**

Storage & Handling

Turbo 5000 mineral rolls should be kept in an upright position in a flat, properly ventilated and sheltered storage area.

Turbo 5000 Mineral

APP modified waterproofing membrane with non-Woven Reinforced Polyester

تربو 5000 مينيرال

شرائح عازلة من البتومين المعدل بال APP مسلحة بألياف البولي إستر غير المنسوج

| Properties | Test | Unit وحدة القياس | Test Method طريقة الإختبار | Typical Values القيم النموذجية | الإختبار | الخصائص | |
|---|------------------------------|--|-------------------------------|-----------------------------------|----------------------------|---|---|
| Dimensional Properties | Thickness | mm | EN-1849-1 | 4 | | السمك | |
| | Width | m | EN-1848-1 | 1 | | العرض | |
| | Length | m | EN-1848-1 | 10 | | الطول | |
| | Straightness | mm | EN-1848-1 | ± 10 | | درجة إستواء السطح (الإستقامة) | |
| Compound Properties | Softening point (R&B) | ° C | ASTM D- 36 | ≥150 | | درجة اللينة | |
| | Penetration @25 °C | dmm | ASTM D-5 | 25(±5) | | درجة الغرز عند 25 ° مئوية | |
| | Penetration @60 °C | dmm | ASTM D-5 | 80(±20) | | درجة الغرز عند 60 ° مئوية | |
| Membrane Properties | Mechanical Properties | Tensile Strength (MAX) | | | | مقاومة الشد القصوى | |
| | | Longitudinal | N/5cm | EN-12311-1 | 750 | طولياً | |
| | | Transverse | N/5cm | EN-12311-1 | 550 | عرضياً | |
| | | Elongation @ Break | | | | أقصى معدل للإستطالة | |
| | | Longitudinal | % | EN-12311-1 | 40 | طولياً | |
| | | Transverse | % | EN-12311-1 | 45 | عرضياً | |
| | | Tearing Strength (Nail-Shank) | | | | مقاومة التمزق | |
| | | Longitudinal | N | EN-12310-1 | ≥300 | طولياً | |
| | | Transverse | N | EN-12310-1 | ≥250 | عرضياً | |
| | | Tensile-Tear Resistance | | | | مقاومة التمزق - بطريقة الشد | |
| | | Longitudinal | N | ASTM D- 5147 . D 4073 | ≥400 | طولياً | |
| | | Transverse | N | ASTM D- 5147 . D 4073 | ≥300 | عرضياً | |
| | Resistance to static loading | KG | EN12730 | 15 | مقاومة الإختراق الإستاتيكي | | |
| | Resistance to Impact loading | mm | EN12691 | 1000 | مقاومة الإختراق الديناميكي | | |
| | Thermal Properties | Flow resistance @ Elevated Temperature | ° C | ASTM D-5147, EN-1110 | 120(±10) | | الثبات عند درجات الحرارة العالية |
| | | Cold Temperature Flexibility | ° C | ASTM D-5147, EN-1109 | 0 to -2 | | المرونة عند درجات الحرارة المنخفضة |
| | | Dimensional Stability | | | | | ثبات الأبعاد |
| | | Longitudinal | % | EN-1107 | -0.4 | طولياً | |
| | Transverse | % | EN-1107 | 0.4 | عرضياً | | |
| | Miscellaneous Properties | Tightness Water | 60 Kpa | EN-1928:2000 | Pass | | مقاومة نفاذية الماء |
| Water Absorption | | % | ASTM D-5147, UNI 8202/22 | ≤ 0.15 | | درجة امتصاص الماء | |
| Vapour Permeability | | μ | UNI 8202/23 , EN1931 | 40000 | | نفاذية بخار الماء | |
| Fatigue resistance on cracks | | 500 cycles | | UNI 8202/13 | - | | مقاومة الكلال فوق الشقوق |
| | | 200 cycles | | | Passed | | |
| Joints Tensile Strength | | | | | | | مقاومة الشد عند مناطق التراكب |
| | | Longitudinal | N/5cm | EN-12317, UNI 8202/30 | Equal to membrane | طولياً | |
| Transverse | | N/5cm | EN-12317, UNI 8202/30 | Equal to membrane | عرضياً | | |
| Thermal Ageing in air (in oven 28 days at 70 ± 2°C) | | - | | EN1296, UNI 8202 /26 | Passed | | الإهتراء نتيجة للتعرض لدرجات الحرارة المختلفة (28 يوماً عند درجة حرارة 70 ± 2 °م) |
| Ageing Due To Atmospheric Agents (Q.U.V Test) | | - | | ASTM G 53UNI 8202/29 | Passed | | الإهتراء نتيجة للعوامل المناخية |
| Fatigue resistance at Joints | | 500 cycles | | UNI 8202/32 | - | | مقاومة الكلال عند الفواصل |
| | | 200 cycles | | | Passed | | |
| Average Loss of Slates | % | | EN-12039 | 30 | | متوسط الفاقد من حبيبات المنيرال | |
| Adhesion To Concrete (Torch Applied) | N/5cm | | EN-12316 | 20 | | قوة الالتصاق بالأسطح الخرسانية (تسخين بالبانشوري) | |