

MASTERPREN[®] THE

(Formerly known as FLAGON Geo P)

TPO liner for water retaining structures

Description

MASTERPREN THE is a synthetic liner of TPO modified polyolefin, with fibre reinforced composite, in two-colour version (green/black), obtained by coextrusion. This allows production of a single layer liner with different physical – Chemical properties on the two sides. The upper green layer, exposed, is characterised by a very high resistance to weathering and ultra violet rays, whereas the lower black layer is resistant to puncturing and to roots.

Uses

MASTERPREN THE can be applied in the following circumstances:

- Water containment structures open to the elements
- Artificial lakes and water features
- Canal and water transportation structures
- Landscaped areas, gardens and golf courses

Advantages

- It has superior mechanical characteristics and has an extremely high resistance to weathering UV light
- High mechanical properties and resistance to puncturing
- Dimensional stability
- Resistance to root penetration
- Good resistance to microbial attack
- Can be applied to a compacted soil base with a geotextile separation
- Long life expectancy
- Will not rot

Specification Clause

The synthetic liner shall be of TPO modified polyolefin, with fibre reinforced composite, in two-colour (green/black), obtained by co-extrusion, which allows to produce in a single layer a liner with different physical-chemical properties on the two sides. The liner must have minimum density of 1.05 gm/cm³; minimum tensile strength of 10 MPa & minimum elongation at break of 550% when tested to UNI EN ISO 528-3. The liner must minimum tear resistance of 45 N/mm when tested to ISO 34 fig 2. The liner shall have upper green layer with high resistance to UV light and weathering while the lower black layer shall be provide high resistance to puncturing and to roots. The liner shall have signal layer of less then 20% of the materials mass. The liner must be laid by BASF approved installer.

Application procedure

Usually applied by a Specialist Applicator. Please contact BASF Construction Chemicals for specific application assistance.

Watertight Systems & Engineered Solutions

BASF Construction Chemicals provides systems and engineered solutions, to suit the structure, at the design and construction stages, to ensure water tightness. Various products and elements which form an integral part of a system are manufactured and approved by BASF. The following ranges of products are available;

- Masterpren range – Preformed membranes
- Masterflex range – Active and passive joint treatment
- Masterseal range – Liquid applied membranes and protective coatings
- Masterflow range – High performance grouts
- Emaco and Concesive ranges – Repair materials

Packaging and roll sizes

MASTERPREN THE is supplied in various dimensions which are detailed below:

Thickness (mm)	1.2	1.5	1.8	2.0	2.5
Width (m)	2.10	2.10	2.10	2.10	2.10
Length (m)	25	20	20	20	20
Colour	Green / Black**				
**on request available in black colour					

***Physical / Chemical Properties**

Thickness, UNI EN 1849-2	1.2 mm	1.5 mm	1.8 mm	2.0 mm	2.5 mm
Weight, UNI EN 1849-2	1.26 kg/m ²	1.58 kg/m ²	1.89 kg/m ²	2.10 kg/m ²	2.63 kg/m ²
Tensile strength DIN EN ISO 527-03 (dumb-bell test specimen) Average production value Standard deviation	≥ 10N/mm ² L 14.20 T 14.94 L 0.3 T 0.4	≥ 10N/mm ² L 14.20 T 14.94 L 0.3 T 0.4	≥ 10N/mm ² L 14.20 T 14.94 L 0.3 T 0.4	≥ 10N/mm ² L 14.20 T 14.94 L 0.3 T 0.4	≥ 10N/mm ² L 14.20 T 14.94 L 0.3 T 0.4
Elongation to break DIN EN ISO 527-03 (dumb-bell test specimen) Average production value Standard deviation	≥ 550% L 715 T 732 L 13.4 T 12.8	≥ 550% L 715 T 732 L 13.4 T 12.8	≥ 550% L 715 T 732 L 13.4 T 12.8	≥ 550% L 715 T 732 L 13.4 T 12.8	≥ 550% L 715 T 732 L 13.4 T 12.8
Resistance to impact strength DIN 16726-5.12	≥400 mm	≥700 mm	≥900 mm	≥1100 mm	≥1600 mm
Cold bending, UNI EN 495-5	≤ -35°C	≤ -35°C	≤ -35°C	≤ -35°C	≤ -35°C
Hydrostatic pressure resistance (6 hours at 0.5 MPa) UNI EN1928 met. B	Waterproof	waterproof	waterproof	waterproof	waterproof
Root resistance DIN 4062	No penetration	No penetration	No penetration	No penetration	No penetration
Tear resistance, ISO 34 specimen fig. 2	≥ 45 MPa	≥ 45 MPa	≥ 45 MPa	≥ 45 MPa	≥ 45 MPa
Resistance to static punching (CBR), UNI EN ISO 12236	≥ 750 N	≥ 1000 N	≥ 1200 N	≥ 1350 N	≥ 1700 N
Resistance to oxidation, tensile strength variation, UNI EN 14575	< 25%	< 25%	< 25%	< 25%	< 25%
Resistance to weathering (12000 hours), tensile strength variation, UNI EN 12224	< 25%	< 25%	< 25%	< 25%	< 25%
Resistance to leaching (UNI EN 1445 method A and B)					
tensile strength variation	< 25%	< 25%	< 25%	< 25%	< 25%
loss in mass	< 5%	< 5%	< 5%	< 5%	< 5%

* Properties listed are only for guidance and are not a guarantee of performance

Storage

Store out of direct sunlight, clear of the ground and on pallets.

Note

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local BASF Construction Chemicals representative.

BASF reserves the right to have the true cause of any liability determined by accepted test methods.

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