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# GeoTech

## EPDM Based Geomembran



**GeoTech EPDM geomembrane** is a highly flexible elastomeric polymer formed by the synthesis of ethylene, propylene and a small amount of diene-monomer followed by the addition of carbon and the treatment of various oils and binders.

EPDM preserves its physical properties for many years. Rubber is produced from EPDM-based synthetic elastomer. It has superior resistance to UV rays and ozone effect compared to its counterparts. It does not lose any of its properties in sudden temperature changes between -40°C and +120°C.



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It is resistant to plant roots, salinity in soil and water and many chemicals. Thanks to its high elongation feature, it can be applied in dilated structures without the need for additional precautions. Aging tests have shown that it can remain at the application site for 30 years without showing any signs of deterioration. The success of EPDM is due to its longevity, climatic durability, flexibility, etc. due to its superior physical properties.

EPDM membranes offer light and easy application on both new roofs and existing roof applications. Irrigation ponds, dams, water channels, fire ponds, water treatment plants, building floors, foundation walls, playgrounds, etc. It has many application areas.

## Fields of Application and Use

GeoTech EPDM is applied by combining the strips on the roof or terrace or by laying the pre-assembled / prepared EPDM Membrane as panels, in the size of the surface to be insulated.

It is used in the following areas.

- Building foundations
- Basement floors
- Roofs – Terraces
- Swimming pool and Production pools
- Dam bodies
- Ponds – Water tanks
- Water reservoirs
- Irrigation channels
- Waste landfills
- Irrigation channels

## Technical Information

Considering the diversity of usage areas of geomembranes, it should contain many features.

- They must be manufactured from EPDM rubber for accelerated oxidation effect due to high and low ambient temperatures, UV exposure or repeated mechanical stress.
- It is resistant to contamination of water with harmful substances due to the formation of bacteria and fungi.
- It is resistant to all kinds of stress caused by environmental effects.
- It is resistant to continuous wetting and drying cycles.
- It is resistant to continuous freezing and thawing cycles.
- It has an incredibly high liquid impermeability.
- It is highly resistant to stress and cracking.
- It has the same breaking and elongation values as a result of the welding process.

## Packaging and Storage

The materials are shipped in rolls of 1.6 – 2.1 m width and 20-25 m length.

The materials should be stored on flat ground and indoors. Stored products should be kept away from direct sunlight, heat and sources of ignition.

If PVC cover rolls need to be stored outdoors for a long time, they should be covered to protect them from sunlight.

Smoking should not be allowed within the storage area.

## Advantages

- It is durable by virtue of the special resin comprising of antioxidant and carbon black mixture.
- It features high resistance and elongation values.
- It is resistant against chemical impacts.
- It features high UV resistance by virtue of the carbon black content.
- By virtue of the special welding method, it enables performance of air pressure, abrasion and peeling tests from its joints.
- The large roll size enables rapid and practical implementation opportunity for large-scale projects.
- It is applicable at high oblique areas with products having rough surfaces on single side or both sides.
- Materials with lower density (LLDPE, VLDPE) can also be produced for utilization options at different applications.

## TECHNICAL SPECIFICATIONS

|                                 | 0.50mm                    | 0.75mm                    | 1.00mm                    | 1.20mm                    | 1.50mm                    | 2.00mm                    | Test Metod        |
|---------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------------|
| Visible Defects                 | Pass                      | Pass                      | Pass                      | Pass                      | Pass                      | Pass                      | EN 1850-2         |
| Tensile Resistance              | Min 8 MPa                 | Min 8 MPa                 | Min 8 MPa                 | Min 8 MPa                 | Min 8 MPa                 | Min 8 MPa                 | EN 12311-1        |
| Elongation at Break             | Min % 300                 | Min % 300                 | Min % 300                 | Min % 300                 | Min % 300                 | Min % 300                 | EN 12311-2        |
| Density                         | Min 1,10 g/m <sup>3</sup> | Min 1,10 g/m <sup>3</sup> | Min 1,10 g/m <sup>3</sup> | Min 1,10 g/m <sup>3</sup> | Min 1,10 g/m <sup>3</sup> | Min 1,10 g/m <sup>3</sup> | EN 1849-2         |
| Thickness                       | Min 0,50mm                | Min 0,50mm                | Min 0,50mm                | Min 0,50mm                | Min 0,50mm                | Min 0,50mm                | EN 1849-2         |
| Widht                           | 1200mm                    | 1200mm                    | 1200mm                    | 1200mm                    | 1200mm                    | 1200mm                    | EN 1848-2         |
| Lenght                          | 25mt (+0,05)              | 25mt (+0,05)              | 25mt (+0,05)              | 25mt (+0,05)              | 25mt (+0,05)              | 25mt (+0,05)              | EN 1848-2         |
| Water Tightness to Luquid Water | Pass                      | Pass                      | Pass                      | Pass                      | Pass                      | Pass                      | EN 1928 Method-B  |
| Resistance to Static Loading    | ≥ 20kg                    | ≥ 20kg                    | ≥ 20kg                    | ≥ 20kg                    | ≥ 20kg                    | ≥ 20kg                    | EN 12730 Method B |
| Impact Resistance               | ≥1000mm                   | ≥1000mm                   | ≥1000mm                   | ≥1000mm                   | ≥1000mm                   | ≥1000mm                   | EN 12691          |
| Joint Peel Resistance           | ≥100 N/50 mm              | ≥100 N/50 mm              | ≥100 N/50 mm              | ≥100 N/50 mm              | ≥100 N/50 mm              | ≥100 N/50 mm              | EN 12316-2        |
| Tear Resistance                 | Min 220 N                 | Min 220 N                 | Min 220 N                 | Min 220 N                 | Min 220 N                 | Min 220 N                 | EN 12310-2        |
| Foldability at low-high temp.   | -40°C /+120°C             | -40°C /+120°C             | -40°C /+120°C             | -40°C /+120°C             | -40°C /+120°C             | -40°C /+120°C             | EN 495-5          |
| UV Exposure                     | Pass                      | Pass                      | Pass                      | Pass                      | Pass                      | Pass                      | EN 1297           |
| Resistance to ozone             | Pass                      | Pass                      | Pass                      | Pass                      | Pass                      | Pass                      | EN 1844           |
| Water vapour properties         | 0,45                      | 0,45                      | 0,45                      | 0,45                      | 0,45                      | 0,45                      | EN 1931           |
| Reaction to fire                | E                         | E                         | E                         | E                         | E                         | E                         | EN 13501-1        |