

MONARFLEX Solutions and details

Connections, joints, penetrations, openings... For the difficult places of the membrane application has Monarflex solutions to provide the tight, strong and functional installation. The MONARFLEX geomembranes are all manufactured in a width of up to 4,00 metre. For bigger dimensions it is necessary to connect the membranes for the required format. In general, for the connection of the membranes we can use welding, butyl tape gluing and butile mass pressing depending on utilization, water pressure or moisture influence etc.

Welding and Prewelding

In case of the large dimensional membrane requirement there is possibility to weld the membranes together with the welding machines either hot air or extrusion type directly on the site. Both of them realized by the authorized professional welding operator brings tight and strong connection. When project requires guaranteed tightness, Monarflex could prepare the pre-welded panel according to the customer wish. Membrane is welded according approved sketch in our indoor production facility, checked by our quality department, then folded, packed as a bundle and sent to the requested place.



Butyl tape and mass connecting

For projects, where the requirements for the size and stronghold are smaller and where it is necessary to avoid of the moisture penetration into the interior, we recommend to use butyl tape products (with different widths, thickness and length) or butyl mass.



Details & accessories

Penetrations, un-typical connections and other critical details can be tight sealed with Monarflex accessories that secures the same properties as the membrane itself. Monarflex in cooperation with Icopal offers wide range of the accessories for the typical and un-typical details.

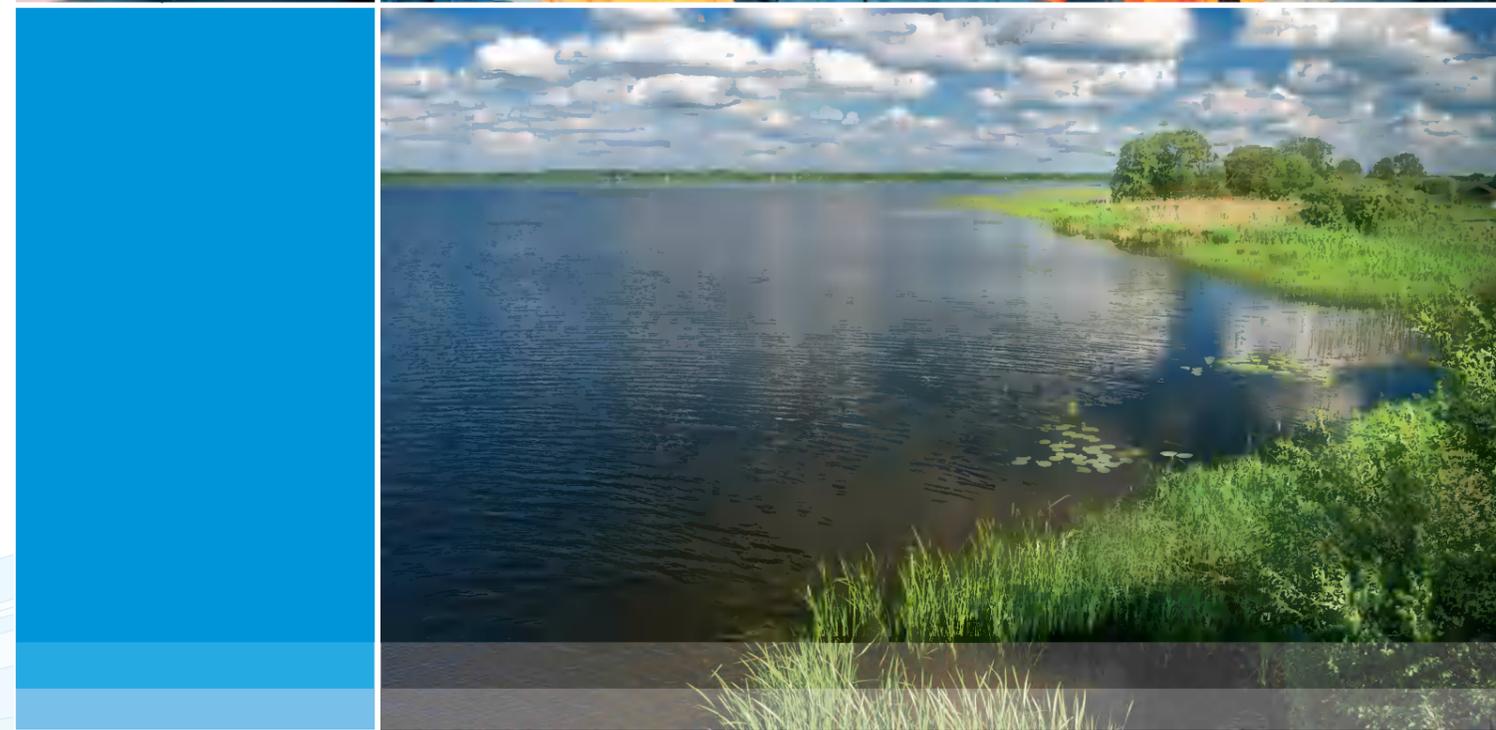


MONARFLEX
 Monarflex has for many years been one of the worlds leading manufacturers of polyethylene reinforced and non-reinforced sheeting and breather membranes used in the building and construction industry. As part of the Icopal Group, Monarflex belongs to a professional family with a strong presence throughout Europe. Icopal has 35 production sites using state of the art production technology and 95 offices with committed teams holding unique track records in innovation and customer satisfactions. The benefit for you as a customer is that you can always seek guidance and information in your own language from an Icopal office nearby. We are able to minimize delivery time through local stocking in your area.

MONARFLEX s.r.o. Tel: +421 36 756 3829 Quality System
 Továrnská 1, 934 03 Štúrovo Fax: +421 36 756 3959 according to
 SLOVAKIA www.monarflex.com ISO 9001



GROUND MEMBRANES



Geo and gas membranes

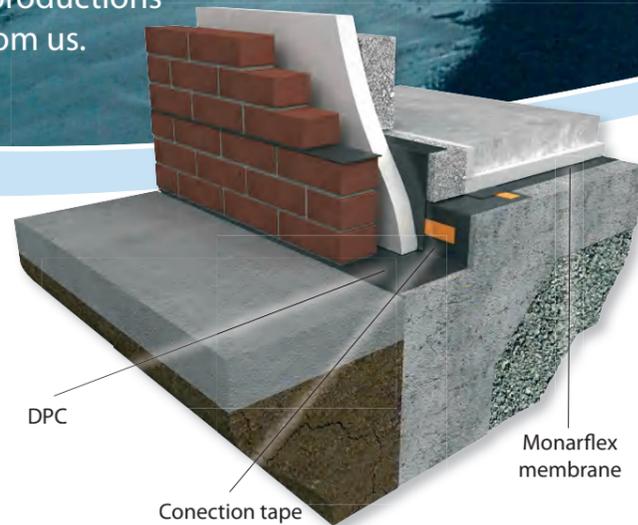
MONARFLEX® introduces the LDPE geomembrane production program to provide wide scale of services. Project stage consultancy, technical solutions, recommendations prewelded special size productions and site inspections are the added value from us.

MONARFLEX® Ground membranes

MONARFLEX® Geo-membranes are used in civil engineering works either for separation of different layers of material, for preventing fluids like water, chemicals or the gases in undermining the structure of the construction.

Geo-membranes can be used for:

- separation layer for the structure of roads, bridges, tunnels, railways etc.
- protection of the ground water from percolation from landfills.
- environmental protection from chemicals from petrol stations and chemical industries — as a secondary layer.
- sealing of fertilizer tanks, water reservoirs, waste water lakes, rain water lagoons
- landfill capping and vertical barriers
- gas membranes, radon protection membranes



DPC

Monarflex membrane

Connection tape

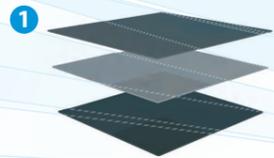
Why choose LDPE membrane

To work with Monarflex LDPE ground membranes brings several advantages:

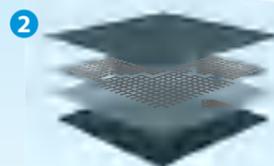
- Ease of installation
- Good chemical resistance
- Good mechanical performance
- Reinforced Monarflex geomembranes are unique as they come in 4m width
- Flexible, which saves installation time
- Large prewelded sections provide flexibility on site

MONARFLEX® geomembranes and waterproofing

MONARFLEX® Blackline membranes are composed by several layers of low density polyethylene (LDPE) ensuring a flexible and puncture resistant membrane. MONARFLEX® Gridline is reinforced membrane by the polyester grid that makes the membrane stronger, more durable and walkable during construction period. Blackline and Gridline is very easy to work with and maintain its flexibility even at low temperatures. Both membranes are a geo and moisture barrier to be used over the foundation of houses and buildings.



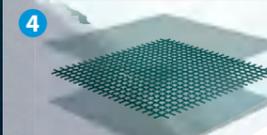
BLACKLINE	thickness [mm]	weight [g/m ²]	tensile strength	Sd value	water vapour transmission	Elongation %	Tear resistance
Blackline 500	0,5	465	7,8kN/m	100m	2,0x10 ⁻⁹ kg/m ² .s	500 %	166 N
Blackline 750	0,75	700	11,7kN/m	150m	1,5x10 ⁻⁹ kg/m ² .s	500 %	300 N
Blackline 1000	1	925	15,0kN/m	200m	1,0x10 ⁻⁹ kg/m ² .s	550 %	400 N
Blackline 1500	1,5	1400	23,5kN/m	>200m	1,0x10 ⁻⁹ kg/m ² .s	550 %	400 N



GRIDLINE	thickness [mm]	weight [g/m ²]	tensile strength	Sd value	water vapour transmission	Elongation %	Tear resistance
Gridline 500	0,5	495	7,5kN/m	100	2,5x10 ⁻⁹ kg/m ² .s	15-20 %	188 N
Gridline 750	0,75	725	8,9kN/m	150	2,0x10 ⁻⁹ kg/m ² .s	15-20 %	300 N
Gridline 1000	1	950	15,0kN/m	>150	1,5x10 ⁻⁹ kg/m ² .s	15-20 %	300 N



GAUGE	thickness [mm]	weight [g/m ²]	tensile strength	Sd value	water vapour transmission
Gauge 1200	0,3	265	3,3kN/m	120	3,5x10 ⁻⁹ kg/m ² .s
Gauge 2000	0,55	460	6,0kN/m	160	2,9x10 ⁻⁹ kg/m ² .s



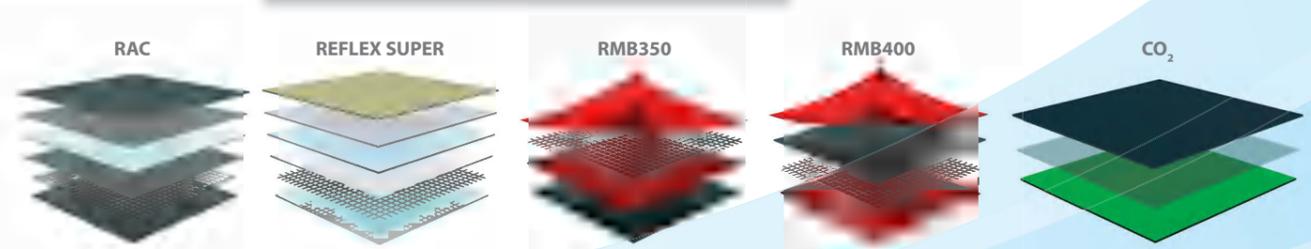
ULTRA	thickness [mm]	weight [g/m ²]	tensile strength	Sd value	water vapour transmission
Ultra 250	0,25	265	5,6kN/m	130	3,5x10 ⁻⁹ kg/m ² .s
Ultra 300	0,3	305	6,0kN/m	160	2,9x10 ⁻⁹ kg/m ² .s

Radon and Gas Protection

The most commonly occur gases for which protection is required are: methane, carbon dioxide (CO₂) and radon. Accumulation of gases that penetrating into the building areas could reach dangerous concentration and bring risk of negative influence on human health. Gases use to penetrate into the building via the easiest way how to prevent the incursion of the gases into the interior is the installation of the mechanical barrier. The membrane will cover entire area of the building in contact with the soil. Membranes with aluminium foil which is well protected with PE film and reinforced grid were developed for especially for installation on contaminated ground.



Radon penetration into the interior—typical gas penetration into the object via the cracks, connectios, walls, penetrans and gaps.



	thickness [mm]	weight [g/m ²]	tensile strength	Sd value	water vapour flow rate	radon transmittance
RAC	0,8	800	15,0kN/m	400	6,0x10 ⁻⁹ kg/m ² .s	< 1x10 ⁻⁹ m/s
REFLEX SUPER	0,6	440	11,0kN/m	400	6,0x10 ⁻⁹ kg/m ² .s	< 1x10 ⁻⁹ m/s
RMB 350	0,35	355	11,0kN/m	100	3,0x10 ⁻⁹ kg/m ² .s	< 20x10 ⁻⁹ m/s
RMB 400	0,4	409	11,0kN/m	>100	3,0x10 ⁻⁹ kg/m ² .s	< 20x10 ⁻⁹ m/s

	thickness [mm]	weight [g/m ²]	tensile strength	Sd value	water vapour flow rate	CO ₂ diff. resistance
CO ₂	0,5	465	6,5kN/m	>120	5,0x10 ⁻⁹ kg/m ² .s	283m