



DATA SHEET No. ICO1832
Rev. 09/09

Monarflex
Geomembranes



PRODUCT DATA SHEET

Monarflex RAC

Reinforced Polyethylene Gas Membrane

Application

Monarflex RAC (Resistant Against Chemicals) is an extremely robust material and is part of Icopal's Monarflex gas control systems. It may be used loose-laid with ground supported or suspended slabs and is satisfactory for use as a DPM or DPC and when properly sealed and detailed to restrict the ingress of ground gases. Monarflex RAC is recommended for use in situations of medium to high concentrations of radon gas, or where methane, carbon dioxide and volatile hydrocarbons are present.

Description

Monarflex RAC membrane is developed specifically for installation on contaminated ground to prevent gases from entering the house. A well protected aluminium foil serves as an efficient gas barrier and the reinforcement secure that traffic on the membranes will not lead to puncture. The composition of the membrane with 6 independent layers, makes it a perfect gas barrier for projects with rough conditions where the membrane will be exposed to heavy traffic from equipment during installation. Concrete can be poured directly into the membrane.

Performance and Properties

Roll Length	25m
Roll Width	2m
Weight	800gm ²
Thickness	0.8mm
Tensile Strength	800N/50mm
Tear Resistance	>400N
Monarflex Extrusion Weld Strength	320N
Monobond Tape Strength	57N
Elongation	15%
Moisture Vapour Transmission	<0.03gm ⁻² 24hr ⁻¹
Water Vapour Resistance	>20520MNsg ⁻¹
Radon Transmittance	<1x10 ⁻⁹ ms ⁻¹
Radon Permeability	<0.4x10 ⁻¹² m ² s ⁻¹
Methane Transmittance	<0.005cm ³ hm ² atm

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Installation Details

Ground Bearing Slabs:

Monarflex RAC may be laid over or under the slab. When laid below slab Monarflex RAC should be placed on top of a gas permeable layer, such as hardcore blinded with sand. When placed above slab, the concrete should be dense, smooth and free from any projections which may damage the membrane. Monarflex RAC should then be covered with a screed or other suitable protective layer.

Suspended Floors:

Monarflex RAC should be laid over the floor slab, which should be free of debris and any projections which may damage the membrane. It should be covered with a screed or other suitable protective layer.

Monarflex RAC should be installed and fixed in accordance with the manufacturer's instructions.

Jointing

Installation of the gas barrier should be carried out by professionals. For welding of the gas membranes on site, Monarflex recommends the Monarflex Extrusion Welding Machine. To form joints between adjacent sheets of Monarflex RAC lap the membrane by a minimum of 150mm. In situations where volatile hydrocarbons, methane or carbon dioxide are present, the membrane should be extrusion welded at all laps and joints where possible. Consult Monarflex Geomembranes Ltd for advice. Alternatively the seal can be achieved with a strip of 70mm wide Monobond tape for methane, carbon dioxide and radon, but cannot be used with volatile hydrocarbons.

Penetrations

Where service ducts or pipes penetrate the membrane, gas tight joints are effected using extrusion welding or Monobond tape, along with top hat units with retention clips.

Complex junctions around penetrations such as, steel stanchions and concrete columns may be detailed and sealed by using a fully bonded membrane such as Monarseal self adhesive gas resisting membrane with an overlap of 150mm on each surface.

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Detail work should be completed first. Once completed, Monarflex RAC may be laid and overlapped and sealed in accordance with the manufacturer's recommendations. The membrane should be checked to ensure an effective bond and seal.

Steel, concrete and masonry surfaces should be primed with Xtra-Seal Quick Drying Primer prior to the application of the fully bonded membrane.

Quality Assurance

Monarflex RAC is manufactured under a Quality Management System approved to ISO 9001:2000 by BSI Quality Assurance.

Test Standards & Certificates

Monarflex RAC membrane is manufactured and CE marked according to the EN 13967 standard.

Technical Approvals

- DNV Certificate 1162-CPD-0254
- BBA Certificate 00/3668

Typical Specification

Monarflex RAC as manufactured by Monarflex Geomembranes Ltd, PO Box 6318, Leighton Buzzard LU7 6AN. The gas membrane is to be installed and sealed in accordance with the manufacturer's instructions.

NBS Specification (available separately)

Monarflex RAC gas and damp-proof membrane is specified using the following:

Clauses: J40

Product: Monarflex RAC membrane

Manufacturer: Monarflex Geomembranes Ltd, PO Box 6318, Leighton Buzzard LU7 6AN.

Tel: 08444 123 175 Fax: 01525 384 477.

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Technical Services

Specialist advice and design guidance on all matters relating to Monarflex RAC, including CAD detailing for all gas and damp-proofing requirements, is freely available from our Technical Department at the address below.