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Issue 01			

Monarflex® RAC

Gas Protection Systems

Introduction

Monarflex® RAC is part of the Necoflex RAM™ - Radon, Air and Moisture Protection System, and when correctly installed and detailed in the floor construction protects the structure and occupants by providing an effective barrier to the passage of radon gas, air and moisture into the building from the underlying soil.

It is a loose-laid membrane and may be installed below or above a ground-bearing slab, or on top of a suspended concrete floor. Monarflex® RAC is also suitable for use as a damp-proof membrane.

Standard

Monarflex® RAC has been independently site and laboratory tested by the National Standards Authority of Ireland and awarded certificate number 09/0328.



Description

Monarflex® RAC is manufactured from four layers of virgin low-density polyethylene (LDPE) with a 12 x 12mm multi-filament polyester (1670 dtex) reinforcing grid between to give high strength and tear resistance. The membrane also incorporates a 12 µm aluminium foil for low permeability to gases. The top surface is grey-coloured and ribbed, while the underside is grey with a smooth finish.

Intended Use

Monarflex® RAC is intended for use as a loose-laid gas and damp-proof membrane in solid concrete ground floors not subject to hydrostatic pressure to protect structures against moisture from the ground and restrict the passage of gases into the building.

Considerations

Installation of Monarflex® radon resisting membranes must be in accordance with the recommendations of 'IS 325: Part 2:1995' and 'BS 8102: 1990'. Additional guidance on the use of damp proof membrane materials is given in 'BS 8000: Part 4:1989 Workmanship on building sites – Code of practice for waterproofing'.

The integrity of a radon resisting membrane must be maintained during installation. Monarflex® RAC is one of several Monarflex® Radon Resisting Membranes available. They have varying degrees of resistance to puncture and tearing. Specific guidance on membrane selection is contained in NSAI Agrément Certificate 09/0328.

Properties

Roll Width	2 m
Roll Length	25 m
Colour	Grey
Weight/unit area	800 g·m ⁻²
Membrane Thickness	0.8 mm
Water Vapour Resistance	20'520 MN·s·g ⁻¹
Equivalent air thickness	S _d > 1500 m

Durability

Monarflex® RAC is manufactured to last the lifetime of the construction provided it is correctly installed and not damaged by subsequent building operations.

Compatibility

Monarflex® RAC membranes are fully compatible with the range of Icopal damp-proof courses and membranes.

Jointing

Installation of the gas barrier should be carried out by professionals. To form joints between adjacent sheets of Monarflex® RAC lap the membrane by a minimum of 150mm.

In situations where methane, carbon dioxide or radon is present, the membrane should be extrusion welded at all laps and joints where possible. Alternatively the seal can be achieved using a continuous strip of 70mm wide Monobond RT™ tape.

Installation Details

Ground Bearing Slabs: Monarflex® RAC may be laid over or under the concrete slab. When laid below slab Monarflex® RAC should be placed on top of a gas permeable layer, such as hardcore blinded with well compacted sand. When placed above slab, the surface should be 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 and then covered with a screed or other suitable protective layer.

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

Type A
EN 13967

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1162-CPD-0254



Ref: IC02867

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Application

Where service ducts or pipes penetrate the membrane, joints are effected using Monobond RT™ sealant tape and top hat units with retention clips. Alternatively, the Easi-Pour™ self-leveling liquid sealant may be utilised.

Complex junctions around penetrations such as, steel stanchions and concrete columns may be detailed and sealed by using a fully bonded membrane such as Xtra-Load® GRM or Monarseal GRX self adhesive, bituminous membranes with an overlap of 150mm on each surface.

Detailing work should ideally be completed first to limit foot traffic across the membrane. Once completed, Monarflex® RAC may be laid and overlapped and sealed with Monobond RT™ sealant tape. The membrane should be rolled down firmly to ensure an effective bond and seal.

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

Repair

Any damage must be repaired using patches of Monarflex® RAC, extending a minimum 150mm from the puncture and continuously sealed with Monobond RT™ tape.

Typical Specification

The gas/damp-proof membrane to be Monarflex® RAC, as supplied by Necoflex Ltd. Unit 3, Orion Business Campus, Northwest Business Park, Blanchardstown, Dublin 15. Tel: +353 (0) 1 8023333; Fax: +353 (0) 1 8036060. The membrane is to be installed and sealed in accordance to the manufacturer's instructions.



NOTE: This information is given in good faith being based on the latest knowledge known to Icopal Limited. Whilst every effort has been made to ensure the contents of the publication are current while going to press, customers are advised that products, techniques and Codes of Practice are under constant review and liable to change without notice. Up to date information is available from our Technical Services Department on request.

Responsibility cannot be accepted for the application of products, and no claims can be considered, where the manufacturer's instructions have not been followed. The user should not assume, based on information provided in this sheet, that the product is suitable for any abnormal use.

All products are sold subject to our standard conditions of sale, available on request.

NBS Specification

Monarflex® RAC is specified using the following:

Clause: J40/140

Product: Monarflex RAC

Supplier: Necoflex Ltd. Unit 3, Orion Business Campus, Northwest Business Park, Blanchardstown, Dublin 15.



Quality Assurance

Monarflex® RAC membranes are supplied under a Quality Management System approved to ISO 9001: 2000 by BSI Quality Assurance.



QMS: Q5556

Delivery and Storage

Rolls are wrapped individually in shrink-wrap polythene. Each roll bears a product description label.

Rolls should be stored on their side, under cover and on a flat, level surface, and protected from mechanical damage and heat sources. During storage exposure to direct sunlight is to be avoided.

Health and Safety

Health and safety data sheets are available for all materials. Please contact Necoflex Limited for further information.

Technical Services

Specialist advice and design guidance on all matters relating to Monarflex® RAC is freely available from Necoflex at the address below.

Availability

Item Code	Description	Roll Size
3003381	Monarflex RAC	2 m x 25 m