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Issue 01		



Monarplan FM

Single Layer Roof Waterproofing Systems



Introduction

Monarplan is a flexible PVC-P single ply membrane offering excellent characteristics of strength, elongation and weathering making it ideal for new build or refurbishment projects. Membranes are reinforced and are available with or without a fleece backing providing scope for all methods of application and offering specifiers confidence in performance and unlimited freedom in design.

Standard

Monarplan FM has been independently site and laboratory tested by the British Board of Agrément and awarded BBA certificate number 10/4739.



Description

Monarplan FM membranes are polyester reinforced, flexible, polyvinyl chloride (PVC) single-ply roof waterproofing membranes, manufactured by calendaring. A mixture of polymer compounds extruded to achieve a consistent homogenous sheet, are brought together in two layers to encapsulate a polyester, non wick, mesh reinforcement.

Both the upper and lower layers of the compound are of the same high quality ensuring that optimum weld strength is consistently achieved. Overlapping sheets are welded together to form a homogeneous lap using hot-air equipment.

Intended Use

Monarplan FM membrane is intended for use as an exposed membrane in mechanically fastened systems. It may also be used with Monarplan GF Fleeceback membrane as the detailing sheet.

Properties

Roll Width	1.5 m		
Membrane Thickness (mm)	1.2	1.5	1.8
Roll Length	20 m	15 m	15 m
Roll Weight	47 kg	44 kg	53 kg
Colour Availability ⁽¹⁾	Light Grey (RAL 7001) Anthracite (RAL 7015)		

(1) Standard colour. Other colours available to minimum special order: Turquoise (RAL 5018); White (RAL 9010); Blue (RAL 5005); Stone Red (RAL 3011); Green (RAL 6004).

Compatibility

Monarplan roof membranes are **not** compatible with other plastic materials, such as expanded and extruded polystyrene, and are affected by direct contact with commonly used roofing materials such as bitumen, asphalt or tar, or products containing them.

A suitable separation layer, such as the Icopal SLP300 geotextile fleece should be used over incompatible substrates to prevent contact between it and the membrane.

Durability

Monarplan PVC is resistant to weathering, chemical oxidation and UV degradation. Monarplan PVC membranes have a life expectancy in excess of 30 years, demonstrating superior durability and system service life performance.



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Fire Performance

Monarplan FM has been tested to BS 476-3 (national class) and achieved an EXT.F.AB rating.

Installation Details

Monarplan FM systems rely on the use of screw fasteners and washers installed at pre-determined centres within the overlap to attach the roofing system to the structural deck.

The fasteners are required to penetrate the structural deck to a minimum distance which is dependent upon substrate type. Fixing centres are determined following completion of a wind uplift calculation, carried out during the initial design stage.

Jointing

Adjoining sheets of Monarplan FM are fused together by hot air welding. The weld should be a minimum of 40mm wide.

Typically for the main area of the roof an automatic welding machine is used providing clean and consistent welds whilst providing maximum control over both temperature and speed. The integrity of each weld should be checked manually with a seam probe, or an electronic integrity test may be carried out.

Surface Preparation

Airborne dust and debris blown into the lap areas can contaminate the weld. Windy conditions may dictate stopping work until conditions improve. Contaminated laps should be cleaned prior to hot air welding.

Membrane Application

Prior to and during membrane installation, inspect and correct the substrate; i.e. voids or gaps between insulation boards, uneven or step-off conditions, insulation plates that will fall under the laps and any other surface irregularities that can cause voids in the weld. Position sheets to allow for minimum 50mm side and end laps, in the case of the mechanically fastened system, the side lap should extend a minimum 50mm past the fastening plates.

The membrane should be attached using appropriate Icopal Screw Fasteners and Icopal Tubular Washers or Pressure Plates, and positioned in the overlap between adjoining sheets.

Refer to Icopal Technical Services Department for further information.

Exercise caution when walking on wet membrane as they are slippery when wet.

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

Monarplan FM is specified using the following:

Clause: J42/110, J42/120, J42/130

Product: Monarplan FM Reinforced Membrane

Manufacturer: Icopal Ltd. Barton Dock Road, Stretford, Manchester, M32 0YL. Tel: 0161 865 4444.



Quality Assurance

Monarplan FM membranes are supplied under a Quality Management System approved to *ISO 9001: 2000* by BSI Quality Assurance.



QMS: Q5556

Delivery and Storage

The membranes are delivered to site in rolls packed on pallets. Store and protect materials from mechanical damage and shelter from rain and sun. Cover with a light-coloured, breathable tarpaulin. Exercise caution and do not exceed the allowable live load of the structure. Keep the materials in unopened packaging prior to use, reseal any damaged packing.

Technical Services

Specialist advice and design guidance on all matters relating to Monarplan systems is freely available from our Technical Department at the address below.

Availability

Item Code	Description	Roll Size (m)	Colour
3006307	Monarplan FM 1.2	1.5 x 20	Light Grey
3006449	Monarplan FM 1.2	1.5 x 20	Anthracite
3006308	Monarplan FM 1.5	1.5 x 15	Light Grey
3006450	Monarplan FM 1.5	1.5 x 15	Anthracite
3006309	Monarplan FM 1.8	1.5 x 15	Light Grey
3006451	Monarplan FM 1.8	1.5 x 15	Anthracite