



**Monarfin®**  
Durable FPO waterproofing systems





Durable - > decades of experience

Fast application

Flexible methods of application

High reflection values

Easy to use

# Monarfin<sup>®</sup>

## High performance FPO

waterproofing systems  
designed to meet **today's**  
**standards**

**The Icopal Group continues to invest in the development and manufacture of synthetic single ply technology with the introduction of FPO waterproofing membranes under the brand name Monarfin. Manufactured from flexible polyolefins, Monarfin combines excellent physical product characteristics with superior quality and handling capabilities.**

Monarfin incorporates a reinforcement which is encapsulated between two layers of flexible polyolefin membrane. The homogeneous membrane created offers excellent mechanical properties whilst maintaining flexibility in use. Monarfin membranes are designed for flat, curved and low pitched roofs. Advanced polymerisation technology combines the durability and wearing properties associated with FPO membranes with excellent heat welding characteristics. Compatible with a wide range of materials and good chemical resistance, Monarfin can provide the ideal choice for existing and new roofs and can be mechanically fixed, fully adhered or loose laid and ballasted. Monarfin membranes have been tested for fire performance according local requirements.

### Durable

Excess materials generated during the manufacturing process are ground into small pellets and recycled. Monarfin membranes do not contain liquid plasticizers and further to this, it is understood that Monarfin membranes can also be recycled at the end of their long useful life, eliminating the environmental impacts associated with landfill.

Monarfin provides exceptional weather resistance and protection against all temperature extremes. Monarfin is UV resistant and remains virtually unchanged throughout its serviceable life. Accelerated age testing completed on the Monarfin membranes provide an anticipated life expectancy in excess of 20 years.

The Icopal Group has decades of experience, when it comes to producing FPO roofs. And these roofs that were created a long time ago (for instance a roof installed in Goirle in 1998) still look as new nowadays.



### Easy and quick installation

Monarfin is fit for almost every type of roof system: mechanically fixed, fully adhered, inverted roof system and warm ballasted roof system. This versatility ensures a lot of freedom whilst designing the roof construction. Regardless the installation method, with Monarfin you can count on a quick – hence cost reducing – installation. The material is welded with hot air, so the installation process is also safe. Monarfin can be used throughout the whole year! Because of this Monarfin is seen as very user friendly.

### Compatibility

Monarfin roof membranes can be installed on all major roof deck types such as plywood, timber boards, profiled metal, concrete and cementitious screeds and is not affected by direct contact with commonly used roofing materials such as old bitumen, asphalt, polystyrene or rubber. This makes Monarfin the ideal membrane for refurbishing existing roofs.

### Security in Application

Adjoining sheets of Monarfin are fused together by hot air welding. Monarfin exhibits a good “welding window” allowing perfect welds to be produced over a broad temperature range and in several weather conditions making the membrane very user friendly.

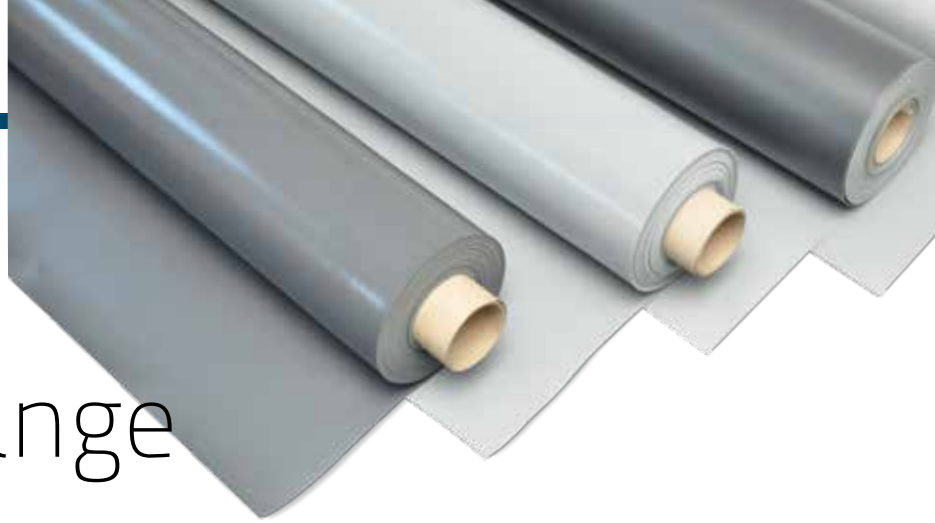
### High reflection values

Monarfin is available in a special reflective color. This finish reflects the heat from the sun, which cools the roof surface and the space underneath. The cooling effect is indicated with a SRI (Solar Reflectance Index) value. Monarfin SRI white has a high indicative SRI value of more than 100.

An FPO cool roof has several advantages that separates the membrane from traditional waterproofing products:

- Save your money reducing the energy needed;
- Add value to your building;
- Increase the lifespan of waterproofing;
- Help the environment by reducing the urban heat island effect.

# Monarfin® Product Range

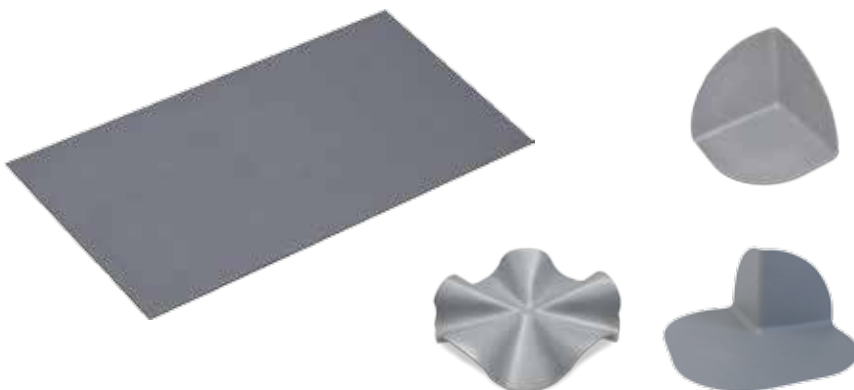


The Monarfin range has been designed to ensure total compatibility and ease of application playing a vital role in achieving the total integrity of the waterproofing system. With Monarfin W you easily weld an anti-slip walkway on Monarfin roof membrane. Monarfin D is an un-reinforced FPO membrane for details to be formed on-site. Together with other accessories it forms a complete assortment. Membranes and accessories are available in grey, anthracite and SRI-white as standard. Separate production information sheets on all products are available upon request.

## Monarfin® Waterproofing Membranes

Name	Thickness mm	Width cm	Length m
Monarfin FM Grey	1,2	106/150/212	20
Monarfin FM Grey	1,5	106/150/212	15
Monarfin GF Grey	1,5	212	15
Monarfin G Grey	1,5	212	15
Monarfin D Grey	1,5	140	15
Monarfin FM SRI-White	1,2	106/150/212	20
Monarfin FM SRI-White	1,5	106/150/212	15
Monarfin D SRI-White	1,5	140	15
Monarfin FM Anthracite	1,5	150	15
Monarfin D Anthracite	1,5	140	15

*Other thicknesses (1,8 and 2,0), widths and colours available at request*



# The presence of Monarfin® throughout Europe

Monarfin membranes have been applied all over Europe. No matter what climate, Monarfin will stand the test of time.



Osnabrück, Germany



Cottingham, England



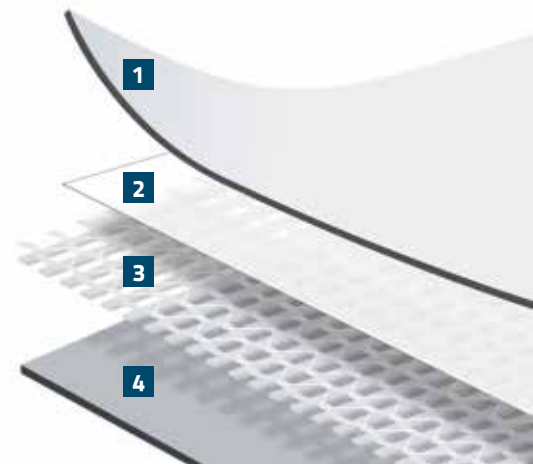
Groningen, the Netherlands

# Product **composition**

## Composition

Monarfin membranes have a composition that ensures the waterproofing is UV stable and colours are available, like for cool roof projects SRI-White. Because of the composition, all local standards are met and certificates concerning fire and all other necessary technical characteristics are available. Because of this, Icopal can provide you with a complete package of country specific classifications..

- 1 UV resistant thermoplastic FPO top surface
- 2 Glass fleece (optional)
- 3 Tough scrim reinforcing grid
- 4 Thermoplastic FPO bottom layer



# Methods of **application**

**With today's construction trends of highly intricate and complex structures and the requirement for higher thermal insulation values, only membranes which aspire to the highest quality standards and possess unquestionable technical properties, will be considered in the design process. The versatility of Monarfin ensures the designer total freedom and security when specifying the roof waterproofing system.**

## Mechanically Fastened System

Mechanically fixed systems are often favoured above timber or metal decks where the exposure of the fastener on the underside of the structure is not a consideration. This method of application involves the use of thermally broken fasteners fixed at pre-determined centres and is a fast and cost effective method of installing the single ply membrane which is less dependent upon amicable weather conditions.

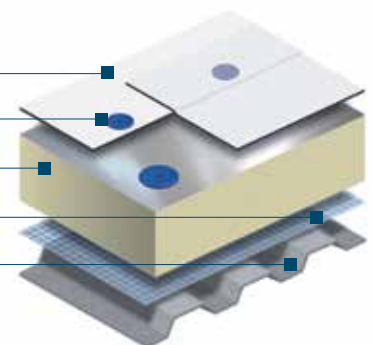
Monarfin® FM membrane

Fasteners

Thermal insulation

Icopal vapour control layer

Structural deck

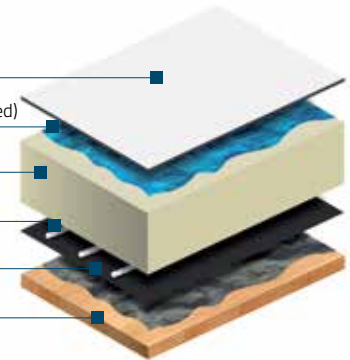


### Adhered System

Fully or partly adhered systems are more commonly used above concrete substrates where the process of installing mechanical fixings is invasive and labour intensive. Adhered systems are reliant upon suitable weather conditions (which should be considered) however, complex geometries and pitched surfaces can be accommodated with great success. Adhered membranes can also provide a superior surface finish.

#### Monarfin® GF

- Icopal fleeceback adhesive (fully/partly bonded)
- Thermal insulation
- Icopal insulation adhesive
- Icopal vapour control layer
- Structural deck



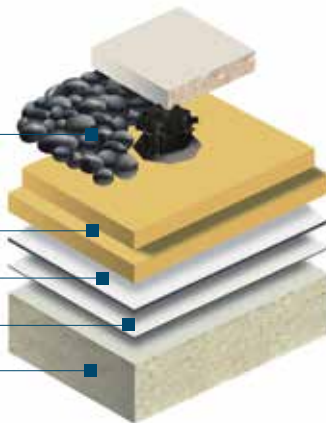
Paving on supports/round washed ballast

Thermal insulation

#### Monarfin® G

Icopal protection layer

Structural concrete deck



### Inverted Roof System

Inverted roof systems offer an excellent solution for situations where access or recreation are a priority. Ballasted systems also provide maximum resistance against membrane damage, UV degradation, thermal shock, fire or noise. Standard Monarfin membranes can be used in buried systems and do not require substitution for alternative grades.

### Warm Ballasted Roof System

The Monarfin membrane is loose-laid and welded together at the overlaps prior to the application of the ballast which holds the membrane in place. This method offers maximum restraint to wind uplift and fast application times, while providing protection from mechanical and solar/UV damage.

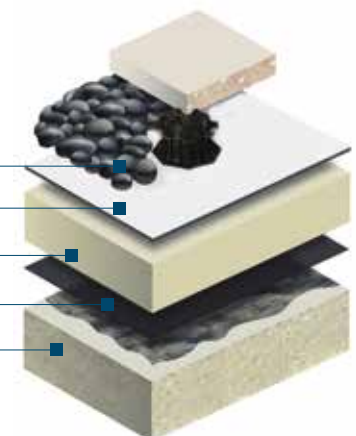
Paving on supports/round washed ballast

#### Monarfin® G

Thermal insulation

Icopal vapour control layer

Structural concrete deck





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