



# A guide to Flat Roof Waterproofing

For any type of flat roofing project SIG Roofing can provide full support including products, accessories, expertise, innovation and advice - we've got you covered.



WHEN THE JOB HAS TO BE DONE RIGHT

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# Covered by experts

**SIG Roofing - the leading flat roofing specialist supplier in the UK**

**Championing fresh approaches and solutions is an essential part of what makes our business tick.**

**Our dedication to new technologies and provision of exceptional customer service, all backed by expert technical support, means we are with you at the forefront of our industry.**



## **Driving innovation**

As the leading flat roofing specialist supplier in the UK, the systems we provide range from those at the cutting edge of modern roofing to the more traditional techniques.

With a rich depth of knowledge underpinning our entire product range, all our tried and trusted specialist solutions are competitively priced and give outstanding value.

## **Working in partnership**

It is both our understanding of roofing and our passion about the solutions we provide that helps us make roofing contractors' lives easier.

Working in partnership with a number of trade associations, including the NFRC, we are proud to be part of the wider community of roofing professionals.

We provide practical training for contractors so clients can be sure the range of specialist solutions we offer is backed by unparalleled expertise.

# Flat roofing systems

Product Category	Products	Materials Cost	Accessories Cost	Installation Speed	Required Components
		→ Low - High →	→ Low - High →	→ Fast - Slow →	
<b>GRP Roofing Systems</b>	GRP 25 Years	→→→→	→→→→	→→→→	 
	GRP 10 Years	→→	→→	→→	
<b>Liquid Coatings</b>	Hydrostop AH-25	→→→→	→	→	
	FIX-R Liquid	→→	→	→	
	Waterproofing	→	→	→	
<b>Single Ply</b>	PIB	→→→→	→	→	
	PVC	→→	→	→	
<b>EPDM</b>	FIX-R EPDM	→→	→	→	
<b>Reinforced Bituminous Membranes</b>	SBS	→→→→	→	→→→	  
	APP	→→	→	→→→→	
	Pour & Roll	→→	→→→	→→→→	
	Shed Felt	→	→	→→→→	
<b>Asphalt</b>	Permaphalt	→→→→	→	→→→	  
	Hot Melt	→→→→	→	→→→	
	Mastic Asphalt	→→	→	→→→	
<b>Paints &amp; Solutions</b>	Acrylic	→	→	→	
	Bituminous Solutions	→	→	→	
	FIX-R Classic Liquid 10	→→→	→→→	→→→	

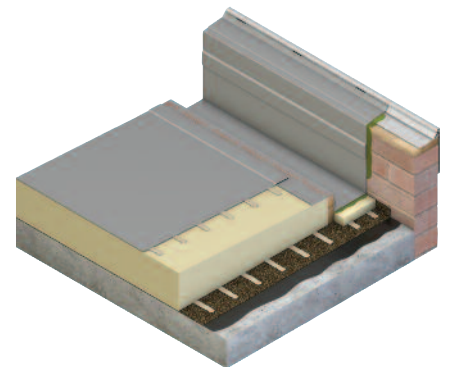
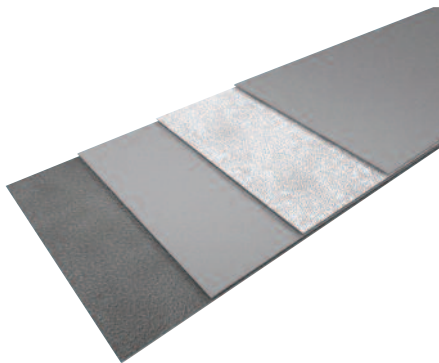
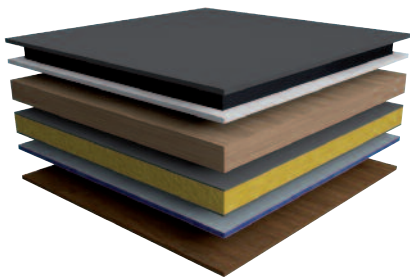
 = Gas & Gas Torch  
  = Sheathing Felt  
  = Keg Bitumen  
  = OSB3  
  = Hot Air Welder  
  = Application Kit  
  = Gas Cylinder

## System build-ups

GRP

LIQUIDS

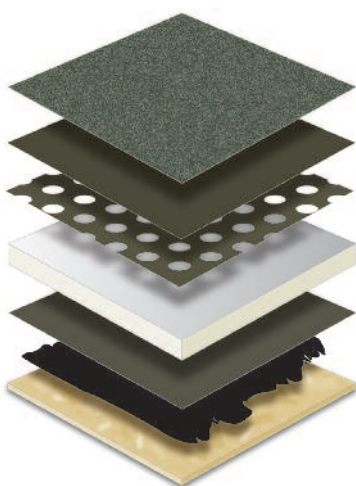
SINGLE PLY & EPDM



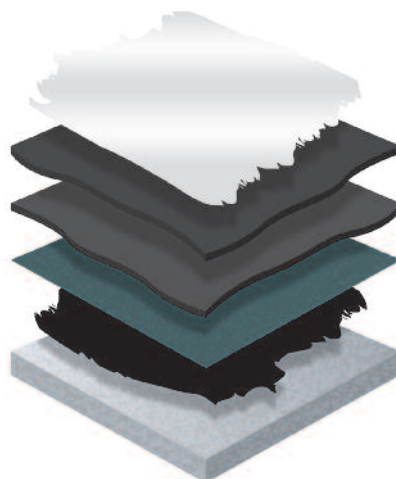
# Product comparisons

	GRP	Liquids	Single Ply	EPDM	Bitumen	Asphalt	Paints
Proven technology	✓	✓	✓	✓	✓	✓	✓
Install in adverse weather			✓	✓	✓	✓	✓
Size of application	Small	Small & Large	Large	Small & Large	Small & Large	Small & Large	Small
Ease of detailing	Easy	Easy	Skilled	Moderate	Moderate	Easy	Easy
Availability	✓	✓	✓	✓	✓	✓ to order	✓
BBA certification	✓	✓ AH-25	✓		✓	✓	
Skill level required for use	Low Skill	Low Skill	Skilled	Low Skill	Fairly Skilled	Skilled	No Skill
Used for new build or retro fit	New	Both	Both	Both	Both	Both	Retro
Heat required			✓ Hot Air		✓	✓	
Licence and insurance needed			✓		✓	✓	
Approved contractor installer scheme	✓ for 20 yr warranty	✓ AH-25	✓			✓	
Can store and reuse		✓	✓	✓	✓		
Warranty available	10 to 25 yr	15 to 25 yr	15 to 25 yr	20 yr	10 to 25 yr	12 yr expectancy	5 to 10 yr
Engineered off site			✓	✓	✓	✓	
Bulky and heavy material			✓	✓	✓	✓	
Odourless		✓	✓	✓			
Longevity	Long	Long	Long	Long	Long	Long	Short

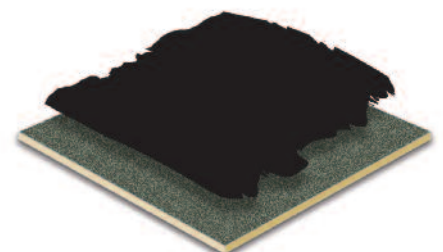
**BITUMEN**



**ASPHALT**



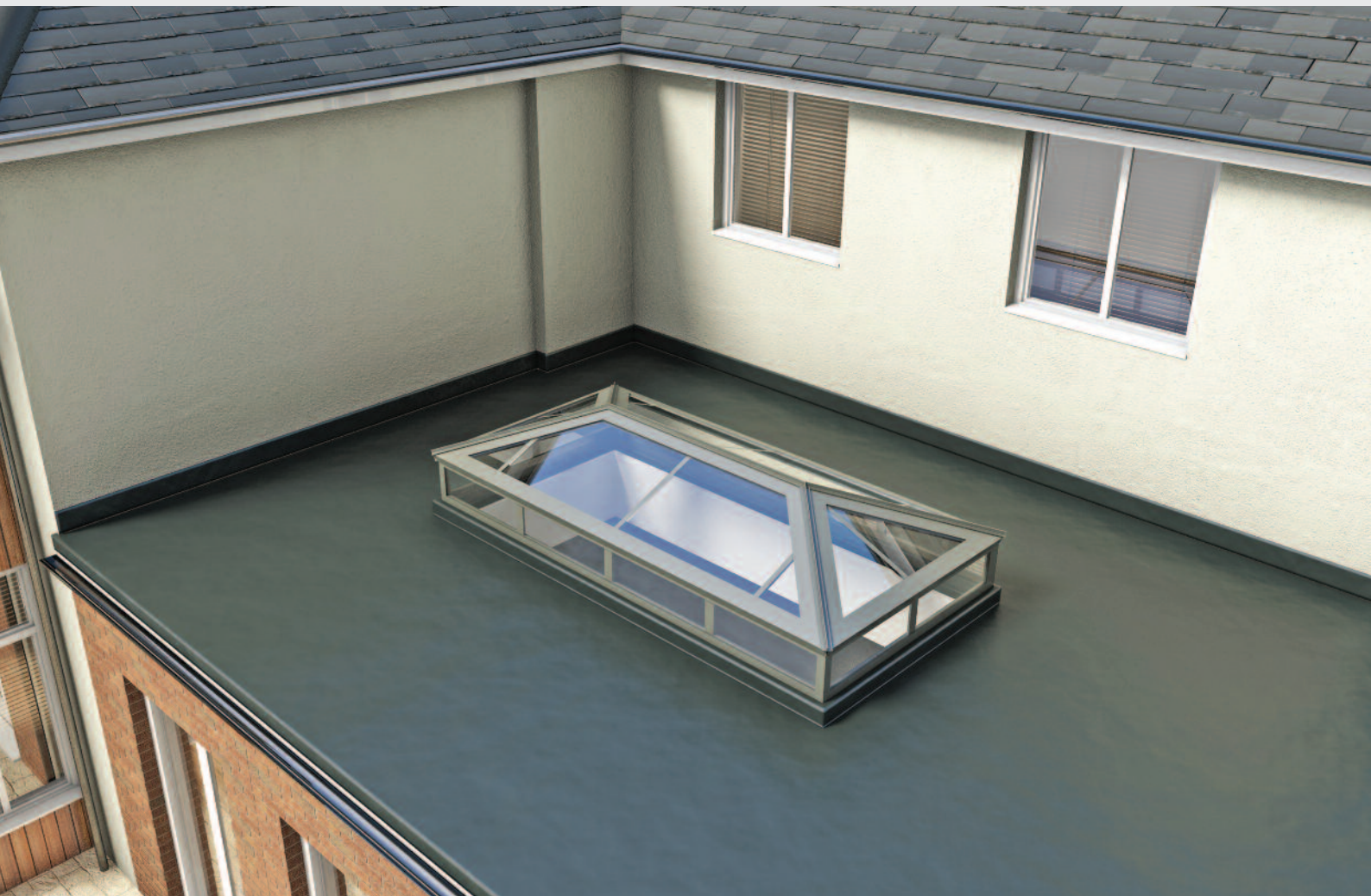
**PAINTS**



# GRP Roofing Systems

**Strong, lightweight,  
long-lasting**

**Originally developed as a replacement for moulded plywood used in aircrafts, GRP (Glass Reinforced Plastic) is a proven technology used on everything from boats and water tanks to ponds and pools, keeping water in as well as out.**



## **System profile**

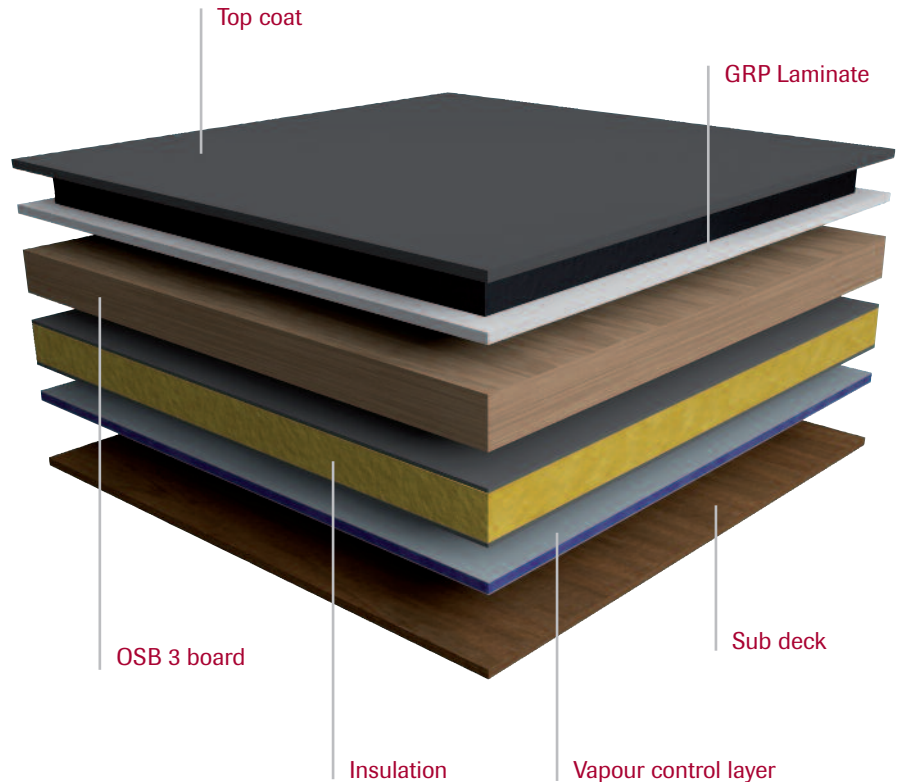
A high-performance composite, GRP is ideal for creating flat roofing systems that are extremely strong, completely waterproof and long-lasting. A modern alternative to traditional materials such as bitumen, felt and lead, as it lasts a lifetime and looks great. Can be finished with a range of trims and pigmented top coats – customers love the results it produces.

## Performance advantages

- Cold applied – eliminating the need for naked flames and heating equipment
- Manufactured with virgin raw materials in the UK to British /ISO quality and environmental standards
- Will form to any shape and can be applied to concrete surfaces and a range of metals when using G4 Primer (please seek advice or test a small application)
- Cures to a hard, very attractive, seamless finish
- Quick and easy to apply by both roller and brush for tack free finish once cured
- Colour change system indicates when catalyst addition to resin has taken place
- Isophthalic topcoat gives superior performance in finish, long-term UV protection and weathering
- Remains watertight and maintenance free for many years
- Proven technology used in boatbuilding
- Wide choice of colour finishes and non slip

## Choose it for...

- New builds
- Walkways
- Roof lights
- Balconies
- Stairways
- Green roofs
- Overlaying/repairs
- Areas with foot traffic



## Consider...

- GRP needs laying on a new dry deck in temperatures not less than 7.5°C (Cold weather resin and catalyst available if required)
- Specialist tools are required, such as a dosimeter for dispensing catalyst, metal consolidating roller and application rollers for the resin and topcoat
- Requires a longer weather window
- Do not apply to wet boards or PVC / nylon substrates

## The SIG Roofing range

CrysticROOF by Scott Bader is a complete, high performance GRP roofing solution suitable for all kinds of complex structures. CrysticROOF consists of all items from resin and topcoat through to chopped strand mat and trims. Everything you need in one place. Scott Bader has been manufacturing in the UK for over 80 years and brings its experience and quality to this range.

## Warranties

CrysticROOF comes with a 10-15 year material warranty. For approved contractors there is the option of a 20-25 year BBA approved product warranty, subject to conditions.

# Liquid Coatings

**Flame free,  
flexible, flawless**

**SIG Roofing's Hydrostop EU AH-25 and FIX-R Liquid Waterproofing are simple to use straight from the bucket. Applied by brush or roller, it is ideal for flame-free application where access is limited or where large amounts of detailing is required.**



## **System profile**

Built up to create a single-ply system, liquid waterproofing is clean and easy to apply, creating a tough, seamless membrane suitable for foot traffic. Incredibly versatile, it is suitable for any size and type of roof, whether for roof repair work or new build and gives excellent results on all types of surface.



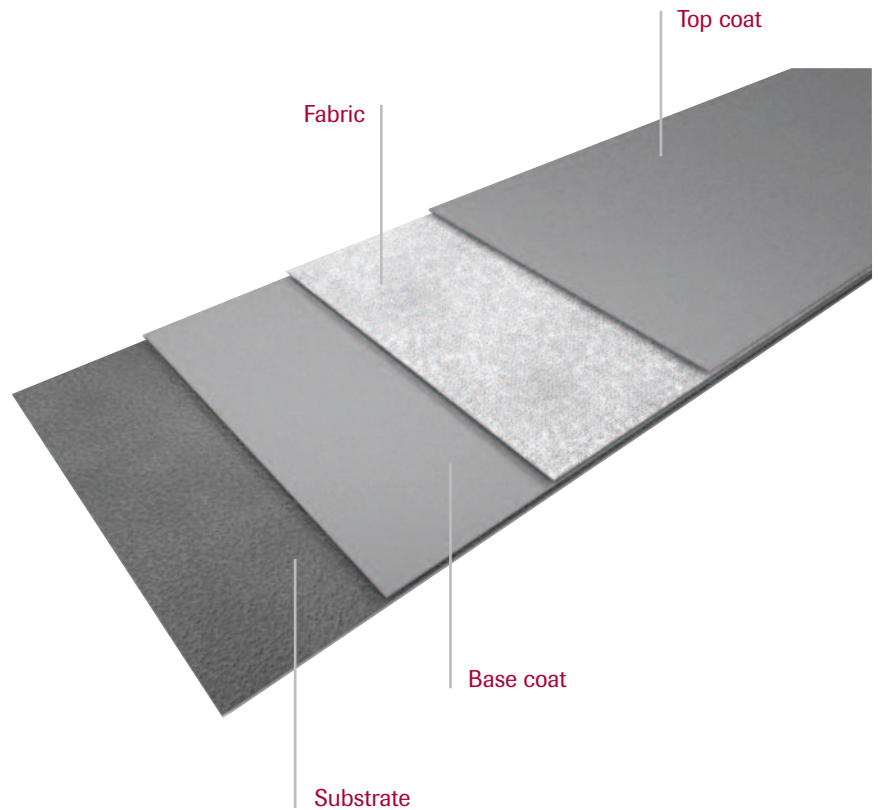
## Performance advantages

- Cost effective wet-on-wet application
- Minimum wastage – unused product can be stored and reused\*
- Water repellent on application
- Ready to use, single liquid component
- Fully reinforced with polyester fabric
- Can be applied all year round above 0°C
- Can be recoated
- Strong adhesion to most conventional substrates
- Excellent elasticity and tensile strength
- AH-25 is root resistant – ideal for 'green roof' projects
- Resistant to standing water
- No shrinkage - 100% solids
- UV stable
- Vapour permeable
- Virtually odourless
- Non hazardous - solvent-free
- Extremely low VOCs
- Extendable Warranty

\*sealed and then stored between 4°C - 32°C

## Choose it for...

- Plywood and timber
- Brickwork and concrete
- Corrugated metal and cement fibre roofs
- Insulation and recovery board
- Lead roofing or flashings
- Existing single ply
- Asbestos
- Asphalt or existing felt roofs



## Consider...

- You will need a good weather window

## The SIG Roofing range

Our FIX-R Liquid Waterproofing and Hydrostop AH-25 systems are suitable for any size of roof, are non-hazardous, are clean, low odour and easy to apply. This product is ideal for:

- New build, repair or refurbishment projects
- Flat roofs, balconies, terraces, walkways
- Complex detailing, up-stands, penetrations and terminations
- Recoating failed single ply roofs
- FIX-R Liquid Waterproofing
- Hydrostop AH-25

## Warranties

Liquid coatings come with a range of warranties from 15 years up to 25 years for contractors who have been trained on the Hydrostop AH-25.

# Single Ply

Quick, clean, stylish

**SIG Roofing are specialist suppliers of the world's most advanced single ply roofing membranes. All our brands create an impervious layer that is quick and clean to install with minimal environmental impact.**



## System profile

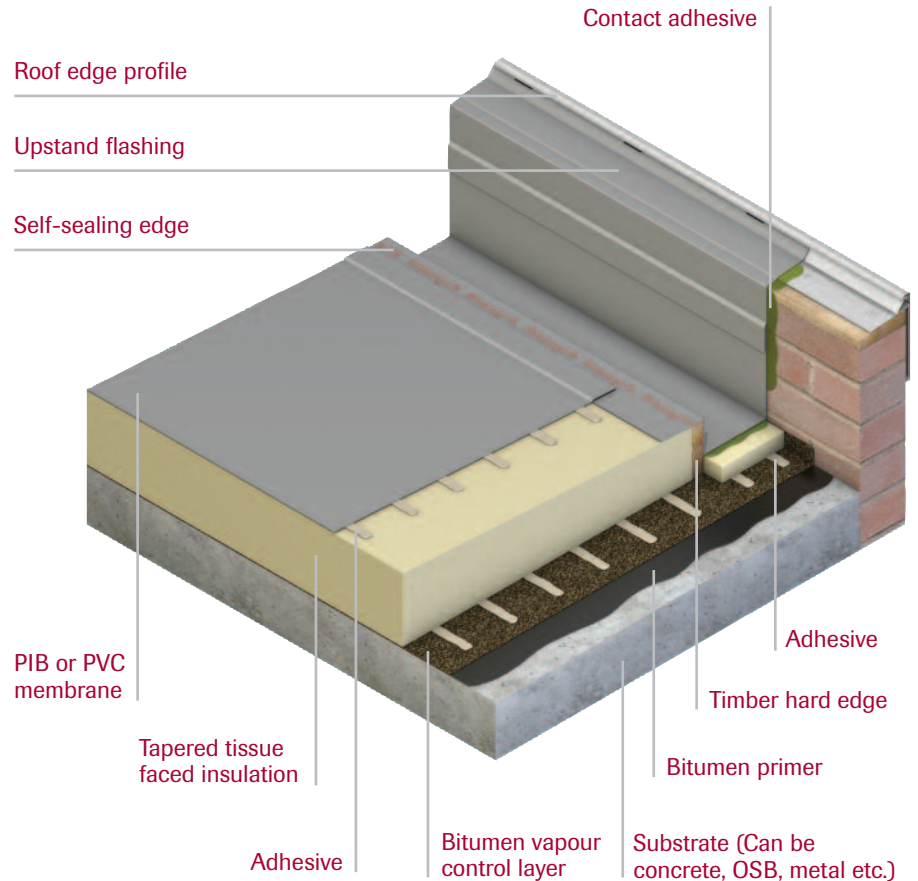
Formed by laying and joining strong, flexible sheets to create a continuous waterproof barrier, single ply is applied cold and can be mechanically fixed, bonded or ballasted. The system build up should include insulation either flat and / or cut to falls. There are two types of single ply in our range:

- **PIB – made from synthetic rubber it can be installed directly over bituminous membranes and requires no hot work**
- **PVC – reinforced with polyester or glass fibre providing excellent strength, elongation and weathering characteristics**

Sheets are either self-sealing or can be hot-air welded. Our team is always on hand to advise the best solution for your build.

## Performance advantages

- Quick and clean installation. Perfect for covering large areas
- Cold applied and safe installation with no need for naked flames
- Low environmental impact
- Rhepanol PIB has a full Life Cycle Assessment meeting DIN EN ISO 14040 and no significant environmental impact at any stage
- Long life spans of over 30 years
- Highly flexible and elastic requiring little or no maintenance
- Can overlay existing roofs saving money and the environment
- Superb finishes give a clean, attractive look
- Can be fitted in most weather conditions
- Our approved contractor scheme ensures contractors are fully trained and supported - giving customers peace of mind



## Choose it for...

- Installing directly over existing bituminous roofs - no need to remove and dispose of the original felt system
- New builds
- Refurbishments
- Green roofs

## Consider...

- Skilled installation process – all necessary training provided by SIG on our trade association and product manufacturer approved courses
- Relatively higher initial costs for the client but highly durable and long lasting

## The SIG Roofing range

- FDT Rhepanol PIB
- FDT Rhepanol fk
- FDT Rhepanol hg
- FDT Rhenofol PVC
- Armourplan PVC

## Warranties

All our warranties are independent certifications that take into account the condition of existing works, historical evidence of performance (over 50 years in some cases), the overall compatibility of the specification and British Board of Agrément (BBA) certificate of life expectancy. BBA for Rhepanol shows extended service life of 40 years.

Depending on the product, its thickness and application warranties range from 10-20 years.

On IKO Armourplan (PVC), on jobs over 250m<sup>2</sup>, a workmanship warranty can be arranged.

# EPDM

**Simple, Reliable, Strong**

**Originally produced for the commercial flat roofing market, EPDM has now become a suitable solution for domestic as well as commercial flat roofing projects. FIX-R EPDM membrane is strong, lightweight, easily installed and a great solution for flat roof renovation and new flat roof installations.**

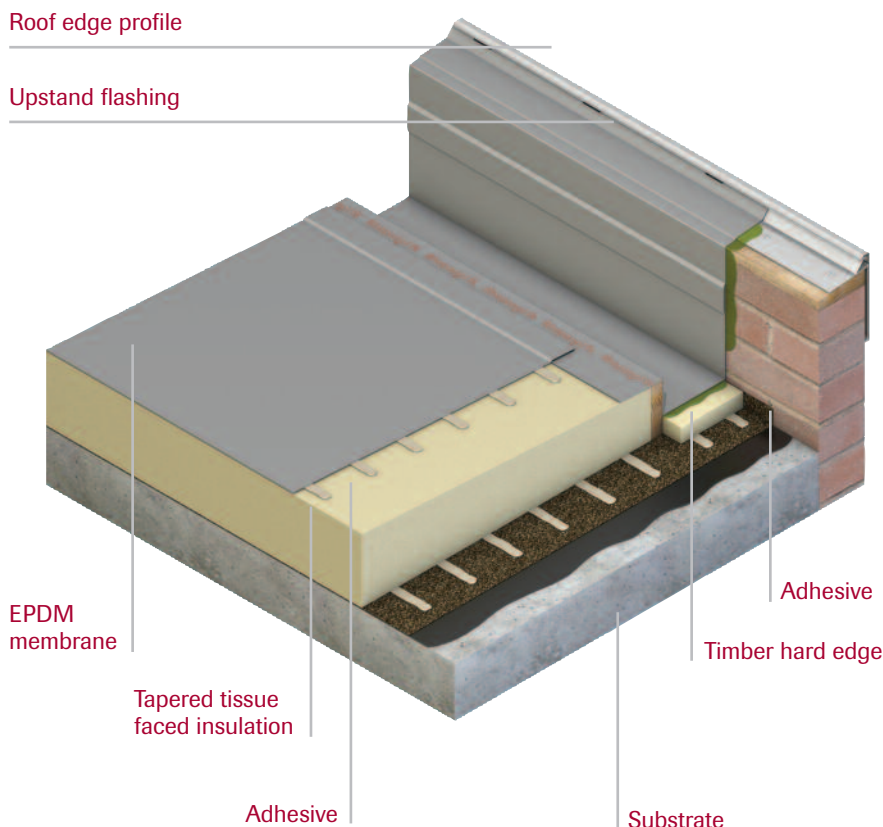


## **System profile**

FIX-R EPDM roofing membranes are non-reinforced Ethylene Propylene Diene Terpolymer (EPDM) based elastomeric which creates a uniform roof covering. FIX-R EPDM membranes are competitively priced, and may be used for new single ply roof construction and re-roofing applications. All membranes are dusted and are available as part of our cut to measure service, as well as in standard widths of up to 15m (50') and lengths of up to 30.5m (100') and thicknesses of 1.2mm and 1.5mm which achieve a Broof T4 fire rating.

## Performance advantages

- Membrane widths of 3.05m, 4.57m, 6.1m, 7.63m & 9.15m
- Choice of thicknesses 1.20mm & 1.50mm
- Cut to size service available
- Economical
- Unmatched weatherability – resistance to ozone, UV radiation and extremes of temperature
- Highly flexible
- Pressure Sensitive (P.S.) accessories available for virtually any penetration or detail
- Little or no maintenance roofing system
- Faster installation reduces labour costs



## Choose it for...

- Small or large flat roofs
- Refurbishment jobs
- New Build
- Commercial flat roofing projects
- Intensive or extensive green roof systems

## Consider...

- For cold weather splicing below 5°C, a hot-air gun should be used to heat the primed area of the bottom membrane. Care should be taken to avoid burning or blistering the membrane
- Pressure Sensitive (P.S.) Accessories should not be exposed to prolonged jobsite storage temperatures in excess of 90°F (32°C), otherwise the shelf life may be affected
- Ponded water, snow, frost and ice must be removed from the roof surface before installation of the membrane

## The SIG Roofing range

- FIX-R EPDM 1.20mm & 1.50mm thick membranes
- FIX-R Roof Deck Adhesive (WBA)
- FIX-R Bonding Adhesive
- FIX-R EPDM Primer
- FIX-R 76mm Pressure Sensitive (P.S.) Secure Tape
- FIX-R 152mm Pressure Sensitive (P.S.) Cover Strip
- FIX-R 228mm Pressure Sensitive (P.S.) Uncured Flashing Tape
- FIX-R Pressure Sensitive (P.S.) Pipe Seals
- FIX-R Pressure Sensitive (P.S.) RUSS Strip
- Seam Fastening Plates
- 75-175mm Plastisol Steel Edge Trim & Termination Bars
- PVC Perimeter Trims
- RB Trim Fasteners
- Roof Outlets
- Water Cut-Off Mastic & Lap Sealant

## Warranties

FIX-R EPDM roofing membranes have a 20 year warranty.

# Reinforced Bituminous Membranes

Tried, tested, tough

Bituminous waterproofing systems are a proven technology used over thousands of years. With a wide range of products available it's a flexible option that suits most applications.

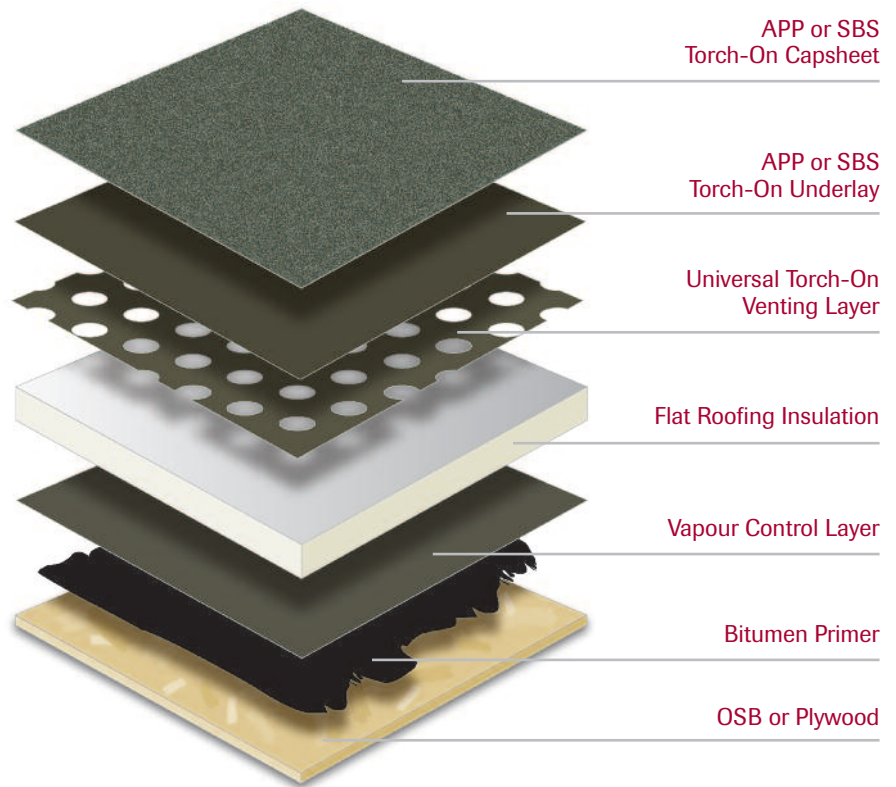


## System profile

Combining bitumen with additives such as styrene butadiene styrene (SBS) or atactic polypropylene (APP) and a carrier such as fibreglass or polyester produces a waterproof material on a roll. With new membranes providing increased resistance to aging and weathering they continue to be suitable for all roof sizes, easy to install and low in cost.

## Performance advantages

- Can be the ideal choice for tailoring the build up to the project criteria – particularly when adopting products that utilise the latest technologies. APP offers toughness, can be applied in a range of temperatures and gives easier application while SBS is better able to deal with weather stresses and temperature fluctuations.
- A variety of new bituminous membranes are now available and offer application advantages over the traditional fibre based felts.
- Pour and roll – the traditional approach requiring bitumen heated to over 200°C
- Torch-on – underside is treated with thermofusible bitumen, heated with a propane torch as it's rolled and applied hot, so no bonding bitumen is required
- Self-adhesive – no need for heating, backing strips away



SIGNature Cap Sheet is a new, high-performance torch-on system with specially formulated fire retardant coating.

Highly robust, SIGNature Cap Sheet provides a AA fire rating as standard, meeting Building Regulations and eliminating the need for additional fire surface protection. Fast to install, SIGNature Cap Sheet comes in a variety of colours.

- Rapid flow SBS modified bitumen for faster torching
- Rapid melt sacrificial backing and self-films for enhanced torching
- Excellent puncture resistance against foot traffic
- High tensile strength, elongation and wear resistance
- Flexible at temperatures below -10°C

## Choose it for...

- Any flat roof
- Small or large projects

## Consider...

- Traditional pour and roll membranes still require temperatures of over 200°C and heavy heating equipment
- SBS membranes are not as forgiving as APP products if too much heat is applied

## The SIG Roofing range

- SBS Membranes
- APP Membranes
- Self-adhesive Membranes
- Vapour Control Layers
- Pour and Roll Felts (3B, 180 Sanded, 250 Green)
- Plus a wide range of insulation, adhesives and primers

## Warranties

Warranties on selected premium products up to 25 years depending on build up and subject to conditions.

# Asphalt

Smooth, seamless, durable

Asphalt is a traditional material that continues to develop with today's technology.



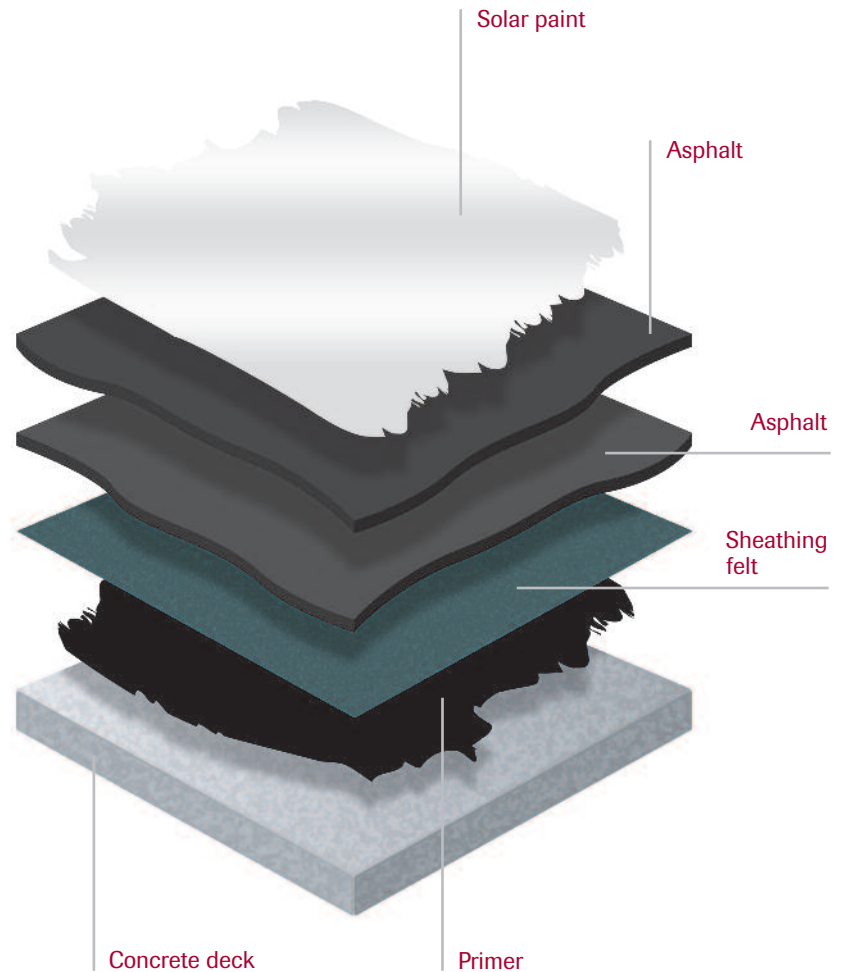
## System profile

Modern mastic asphalt contains graded limestone aggregates bound together with asphaltic cement with highly advanced polymer formulations. It is ideal for waterproofing flat, sloped or curved surfaces and working around pipes, roof lights and other details. Perfect for both new build and refurbishment it is spread by a hand float rather than rolled and can be laid on most types of rigid structure.



## Performance advantages

- Proven technology tested over many years
- Quick and easy to install
- Flexibility means it is suitable for moulding around irregular shapes
- Can combine with thermal insulation to achieve a required U-value
- Different treatments can provide a surface suitable for foot traffic, increase solar reflectivity and give a more decorative finish



## Choose it for...

- Concrete
- Pre-cast concrete deck units
- Timber boarding
- Metal decking

## Consider...

- Asphalt roofing will take occasional maintenance traffic
- Regular foot traffic or use on balconies will require protective treatment

## The SIG Roofing range

Our mastic asphalt range offers a choice of British Standards and BBA approved products including: Permaphalt, the high end polymer modified product used by members of the Mastic Asphalt Council (MAC).

- Mastic Asphalt
- Permaphalt Modified Asphalt
- Sheathing Felt

## Warranties

Warranties on selected premium product ranges up to 20 years\* depending on build up and subject to conditions.

\*20 years for MAC members

# Paints & Solutions

## Proven Protection

For cost-effective, all-weather application, our range of non-bituminous and bituminous paints and solutions offer proven long-term protection in even the most demanding conditions.

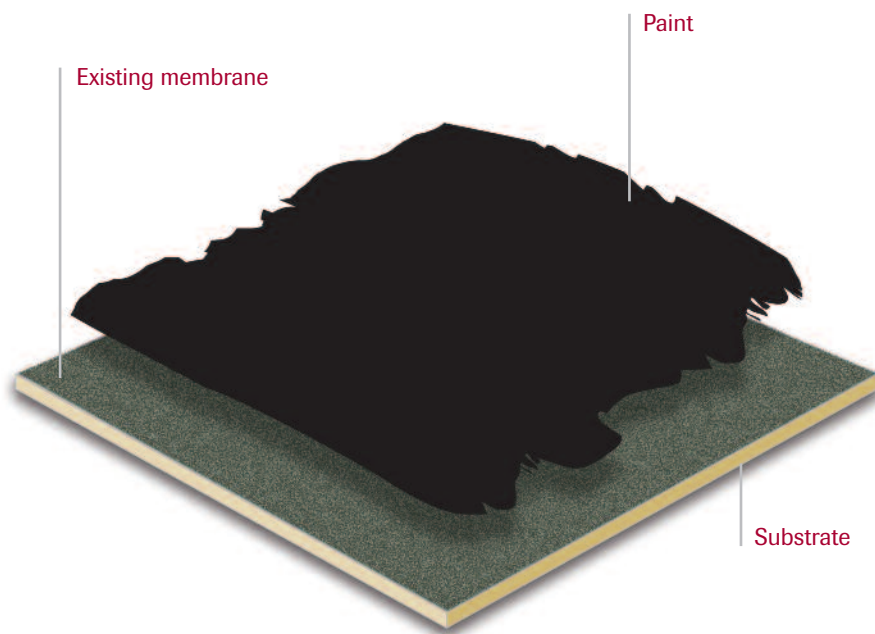


## System profile

Cold applied and exceptional value for money they are ideal for day-to-day maintenance or emergency repairs, prolonging the life of damaged roofs. With FIX-R Classic Liquid 10 being a medium term maintenance system, ideal for overlaying existing roofs.

## Performance advantages

- Cost-effective, giving exceptional value for money
- Suitable for wet weather application
- Unaffected by temperature change
- Gives outstanding adhesion
- Ready to use giving instant waterproof protection
- Provide maximum solar reflectivity if solar reflective paint is used
- Form an incredibly tough, fibre reinforced, seamless, flexible membrane
- Brush applied and easy to install



## Consider...

- Not recommended for use on wood, tanking, fishponds or internal use
- You may need to use a primer or sealer if applying to highly porous surfaces such as concrete, asbestos or where stone chippings have been removed
- Air conditioning should be turned off for 24 hours after application
- Not suitable for foot traffic
- Fix-Rcryn is more appropriate as a short-term measure rather than a long-term solution

## The SIG Roofing range

Our highly advanced systems offer proven protection for all types of roofs and surfaces.

- FIX-Rcryn
- FIX-R Classic Liquid 10
- FIX-R Bitumen Primer
- FIX-R Black Bitumen Paint
- FIX-R Quick Dry Bitumen Primer
- FIX-R Aluminium Paint
- FIX-R Roofing Felt Adhesive
- FIX-R All Weather Roof Coat

## Life Expectancy

Our paints and solutions come with a life expectancy of 5-10 years.

## Choose it for...

- Metal and asbestos roofs
- Sealing seams, fasteners and penetrations
- Box gutters
- Flat roofs
- Flashings and parapets
- Day to day maintenance and emergency repairs
- Priming prior to installation
- Increases UV resistance to reflective coatings



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