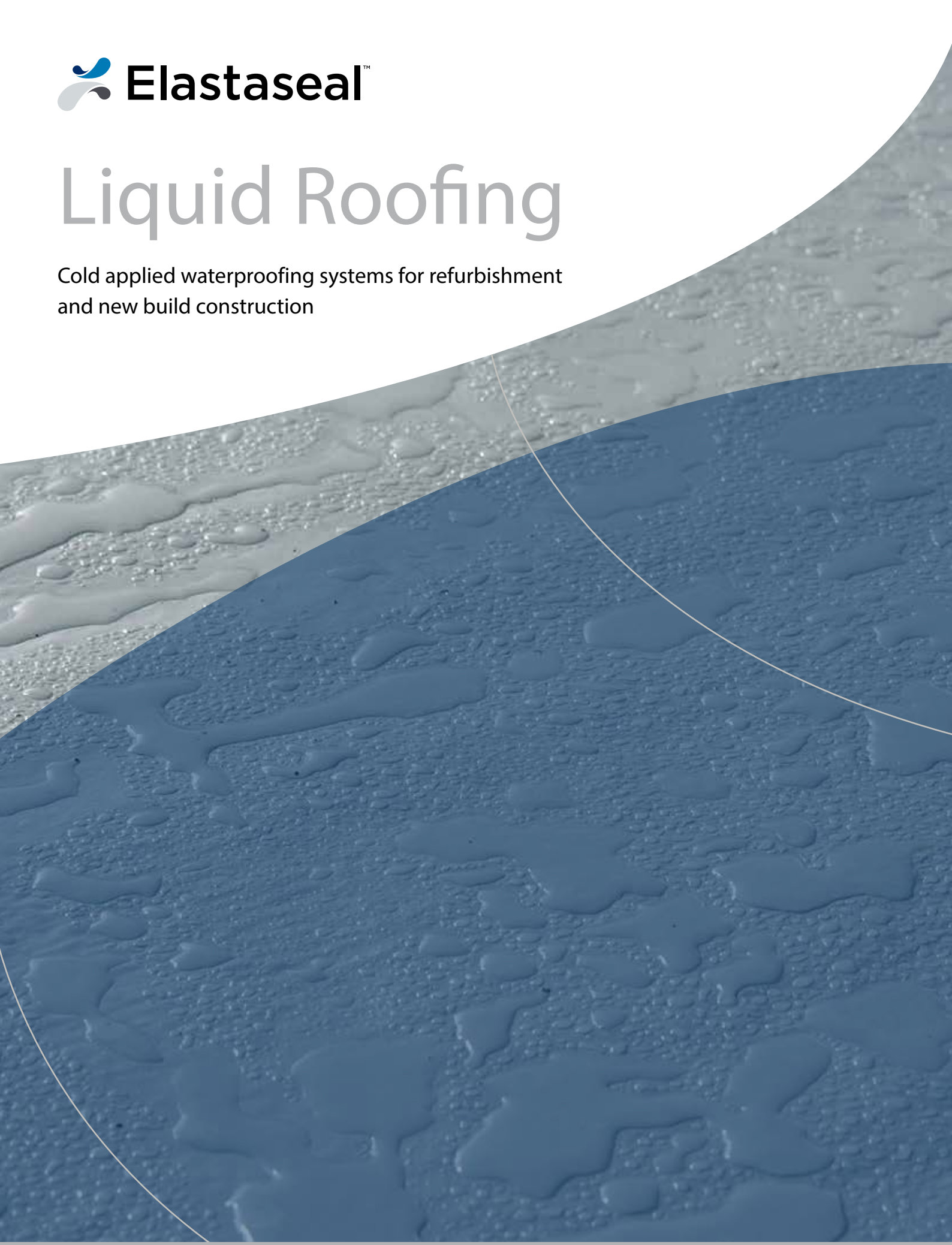
Elastaseal™

Liquid Roofing

Cold applied waterproofing systems for refurbishment and new build construction



TOR COATINGS

www.tor-coatings.com

Liquid roofing is a technology unlike any other. It offers significant advantages over all types of conventional and sheet roofing materials.

What is liquid roofing?

Liquid roofing is the process of applying high technology waterproof coating systems onto roof substrates.

These systems can be applied as new, or over existing roof membranes and are suited to flat, pitched and domed roof designs.

Significantly, there are no hot works involved, meaning a property can remain safely in use whilst the roof is being refurbished.

The completed coating system encapsulates the entire roof seamlessly - including any plant and protrusions - and forms a breathable, waterproof barrier.

Liquid roofing is a highly versatile technology. This brochure shows that it can be used as:-

- A basic waterproofing system
- A warm roof system
- An inverted roof system
- A pitched roof & cladding system

Who we are

Tor Coatings is part of RPM Inc., one of the world's largest protective coatings businesses.

As a leading coatings specialist with almost forty years experience, Tor is renowned for its high performance, cutting edge products and exceptional customer service.

We are UK based and offer a nationwide service.

The liquid roofing specialists

Tor Coatings is a pioneer and market leader in the field of liquid roofing systems. Our range of high performance products has been designed for all types of roofing project, including:

- Flat roof refurbishment
- New build construction
- Pitched roof refurbishment

Our approach

At Tor we don't simply manufacture and market products, we offer tailored solutions to building-related problems. We provide a complete service from survey through to specification and installation - at no additional cost.

We work with everyone involved in a project including property owners, specifiers, architects, main contractors and the roofing contractors themselves.

We provide nationwide coverage through our network of area business managers, who are on hand and ready to provide support and advice whenever you need it. All are highly experienced and members of the Institute of Roofing (IoR). They will be present at every stage of your project to ensure it goes exactly as planned.

They will meet with you to discuss your project and undertake a detailed survey of your roof, noting any issues and defects and ensuring every aspect of the project is clearly understood and properly documented.

They will provide you with a comprehensive written project specification, including CAD detail drawings as required.

Tor specifications explain how every detail of the roof will be tackled and are easy to follow. If you are unsure of any aspect of a specification your Tor area business manager is always on hand to provide additional guidance.

All of the coatings products you'll find in our specifications have been developed and manufactured in the UK. We employ some of the world's leading paint research chemists and our products are third party tested by the British Board of Agrément and proven time and again in many real life scenarios.

We have strategic partnerships with the manufacturers of ancillary products used in our systems (e.g. vapour control layers, thermal insulation, carrier membranes and trims) in order to provide you with a comprehensive roofing offer.

We offer installation via our network of professional contractors, who are registered with our Tor Partners scheme. The aim of the scheme is to provide effective and efficient, quality assured product installation for all of our clients.

Your Tor area business manager will ensure your project is monitored throughout the application process. They will ensure the project specification is followed correctly to ensure the project is delivered as promised.

For added peace of mind, all of our systems are offered with a comprehensive range of warranties. The Tor product warranty comes as standard and our Torguard™ scheme is in place should you require insurance-backed latent defects cover for your scheme.

Flat roof systems

Elastaseal™ is our flagship liquid roof coating system. Its versatility means it can be specified in many different configurations.

Elastaseal™ roof waterproofing system

The Elastaseal™ roof waterproofing system has been developed to solve the problems associated with the long-term waterproofing of flat, pitched and domed roofs.

Elastaseal™ is a high solids, polyurethane coating system. It provides flexible, durable, long-lasting protection for up to 25 years before first full maintenance (depending upon which system is specified). The Elastaseal™ 25 year system has been awarded a British Board of Agrément (BBA) Certificate.

The system provides a cold liquid applied, breathable, seamless membrane, that moves with the roof and allows vapour release from the existing substrate.

Elastaseal™ is suitable for waterproofing many types of traditional roofing materials including felt, asphalt, bitumen, asbestos cement sheet, fibre cement sheet, concrete, single ply membranes and profiled metal sheets.

A zero solvent odour alternative, Elastaseal™ Z (20, 25 and 30 year systems available), can provide a viable solution where paint odours need to be minimised.

Key features and benefits:

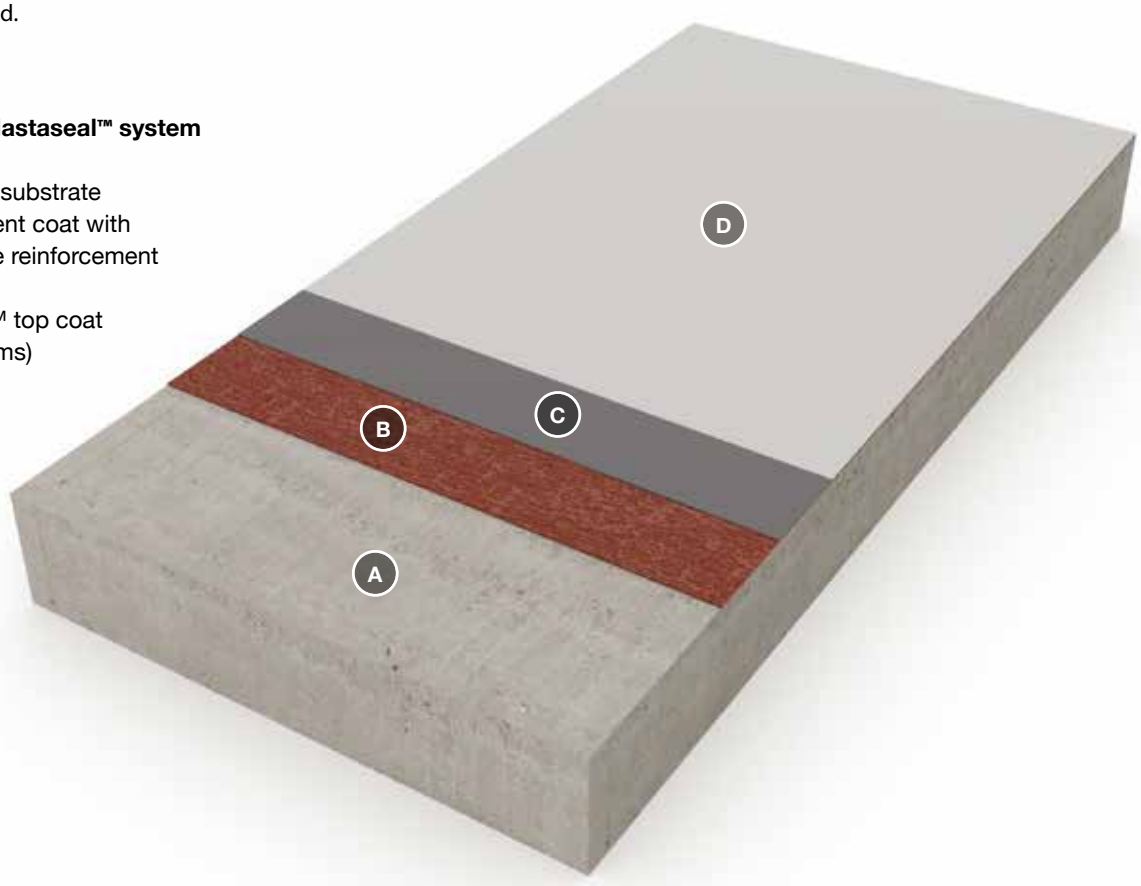
- Cold liquid applied - no hot works on roof
- Safe to install - unobtrusive repairs
- Easy to apply and detail
- Compatible with most existing roof membranes
- No need to remove serviceable existing membranes, minimising landfill waste, and roof is protected during installation
- 10, 15, 20 and 25 year systems available
- Low odour, water-based option (10 and 15 year systems)
- British Board of Agrément (BBA) approved
- Permanently elastomeric and seamless
- Excellent resistance to ponded water
- Fibre reinforced for maximum film strength
- Easy to maintain - excellent through life costings as system can be re-applied at end of serviceable life

Coatings used in Elastaseal™ 25 year systems are approved by the British Board of Agrément.

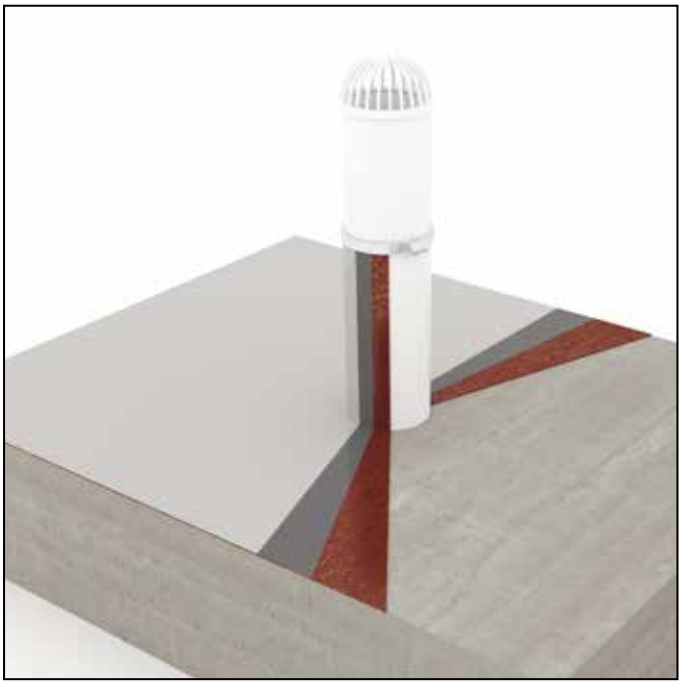
BBA BRITISH BOARD OF AGREMENT CERTIFICATE No. 07/4485

Typical build-up of the Elastaseal™ system

A - Prepared existing roof substrate
B - Elastaseal™ embedment coat with Elastamat™ glass fibre reinforcement
C - Elastaseal™ top coat
D - Additional Elastaseal™ top coat (for 20 year plus systems)



The Elastaseal™ cold liquid applied waterproofing system is ideal for roof refurbishment projects, but equally suited to new build. It is compatible with the majority of existing roof membranes and is an ideal long-term solution to leaking flat roofs. Unlike conventional roofing systems, it forms a completely seamless membrane on the roof and incorporates details with ease. The following visual explains how the Elastaseal™ system is applied to the typical areas of a roof.



Vents and pipes

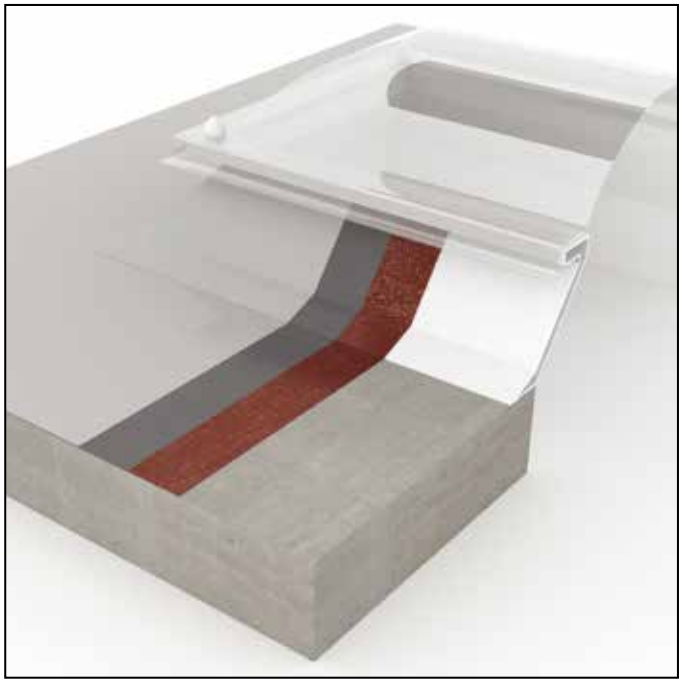
Any penetration through the existing roof membrane is a potential area for water ingress into the building. The Elastaseal™ coating system can be seamlessly applied to pipes and protrusions, protecting against such vulnerabilities.

Rainwater outlets

With conventional sheet and roll roofing systems it is very difficult to detail and waterproof these areas. With Elastaseal™ it's simple - the outlet grille is removed to allow the coating to be applied down into the rainwater outlet, then reinstated.

Parapet walls

To prevent water from entering the building where walls and roofs meet, a chase is conventionally cut in the brickwork into which the coating system is inserted and sealed (an alternative method is to fix and seal a termination bar over the coating termination). Rainwater runs down the wall, via the upstand coating detail and onto the protected roof.



Rooflights

The Elastaseal™ system can seamlessly incorporate rooflights, providing a waterproof, continuous membrane. During installation, rooflights are removed (wherever possible) to allow the coating to be applied to the upstand and opening. A clear protective glaze can also be applied to the rooflight if required.

Elastaseal™ warm roof system

Elastaseal

Typical build-up of the Elastaseal™ warm roof system

A - Prepared existing roof substrate
B - Torvap Vapour control layer*
C - Elastaseal™ FIA (foaming insulation adhesive)
D - Tortherm™ Thermal insulation panel
E - Torvap Carrier membrane
F - Elastaseal™ embedment coat with Elastamat™ glass fibre reinforcement
G - Elastaseal™ top coat
H - Additional Elastaseal™ top coat (for 20 year plus systems)**

* Optional - dependent on existing roof condition
** Elastaseal Z top coat is also available

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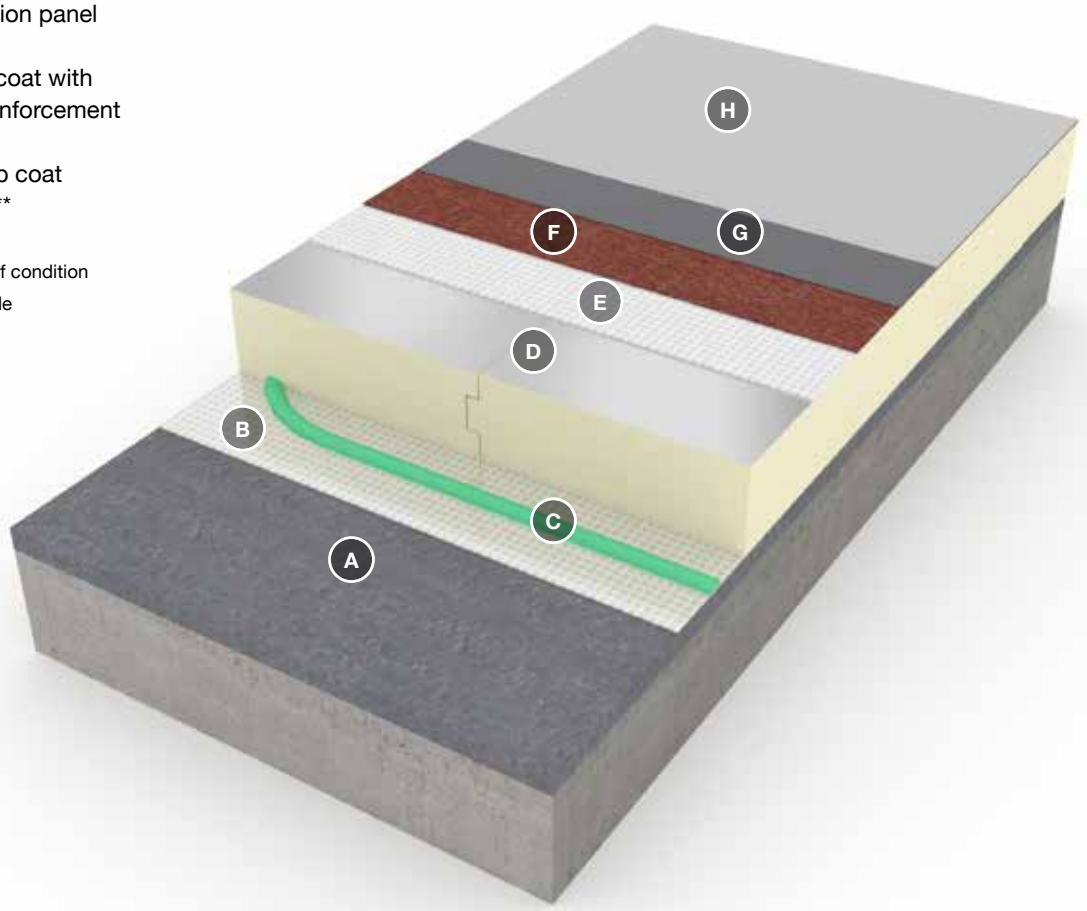


If your roofing project requires a thermal upgrade to comply with Part L of the Building Regulations (Conservation of Heat & Power), then our Elastaseal™ warm roof system delivers the thermal improvements you need and can help reduce your energy bills.

In the construction of this system, thermal insulation material lies immediately beneath the waterproofing system and on top of the roof deck and a special vapour control layer (designed to provide effective condensation control). Once installed the system helps lower energy costs by conserving heat within the building during colder months and also helps reduce energy costs associated with the cooling of buildings during warmer months.

Before the system is specified, a U value calculation is made either from drawings detailing the existing roof build up, or by taking a core sample of the roof. This provides a measure of how well the roof keeps heat inside the building. The resultant value determines the thickness of insulation required and is also used to ensure that condensation will not occur after the installation.

If your flat roof has significant areas where ponded water gathers, you may wish to consider a tapered warm roof scheme. This type of roof design creates falls in the new roof to provide efficient drainage of rainwater from the roof. The falls are created using tapered insulation boards, specially designed for warm deck flat roofing applications.

Elastaseal™ warm roofing systems offer a relatively lightweight installation and are very efficient at generating the thermal values required by Building Regulations.

Key features and benefits:

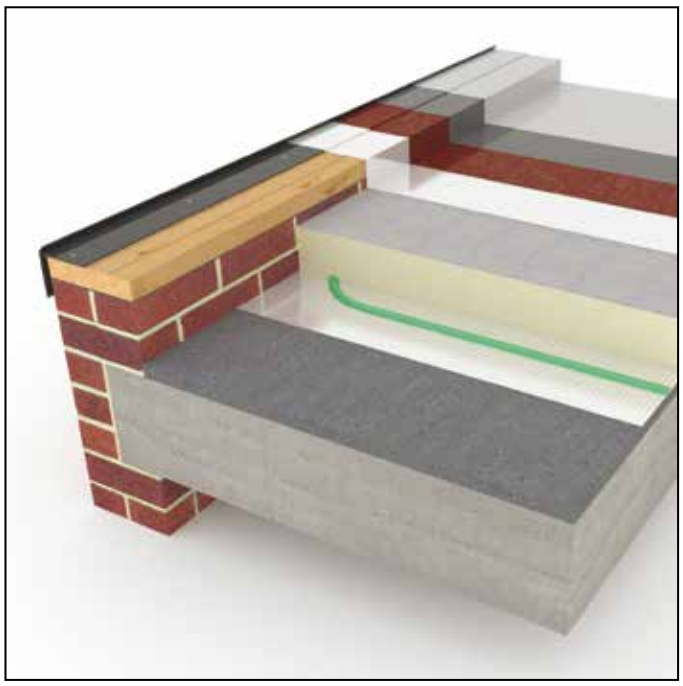
- Cost effective
- Ideal roof refurbishment solution
- Improves thermal efficiency - reduces energy bills
- Relatively low weight loadings
- Provides all of the benefits of the Elastaseal™ system
- Tapered option improves drainage of rainwater
- Minimal disruption to building occupants during installation
- Systems up to 25 year life available

The Elastaseal™ warm roofing system not only provides long term waterproofing, it completely upgrades the thermal performance of the roof delivering compliance with Part L of the Building Regulations (Conservation of Heat & Power). This system offers all of the benefits of Elastaseal™ system and adds a layer of thermal insulation, which can be flat or tapered (laid to falls). The following visual explains how the Elastaseal™ warm roofing system is applied to the different areas of a roof.

Rainwater outlets

To strengthen the edges of the insulation panels around the outlets, treated timber batten frames are fitted.

This allows water to cascade into the outlet and also provides a better detail for maintenance.

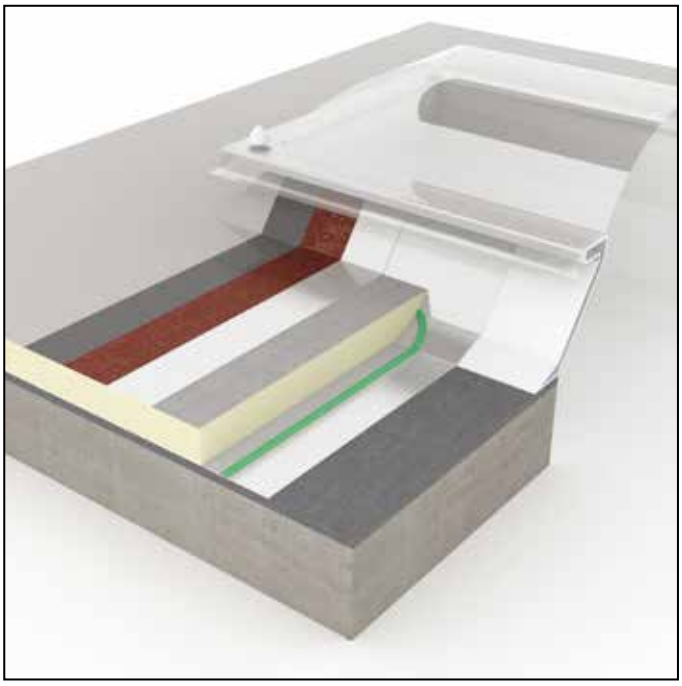


Roof edge trims

Here the insulation is terminated against the wall abutment and, with the aid of a carrier membrane, the waterproofing system is applied across the top of the detail and terminated within the upper lip of the edge trim. The termination is then protected using a flexible mastic sealant.

Parapet walls

The Elastaseal™ waterproofing system is taken a minimum of 150mm above the insulation and either terminated into a precut chase or protected with a termination bar (illustrated above).



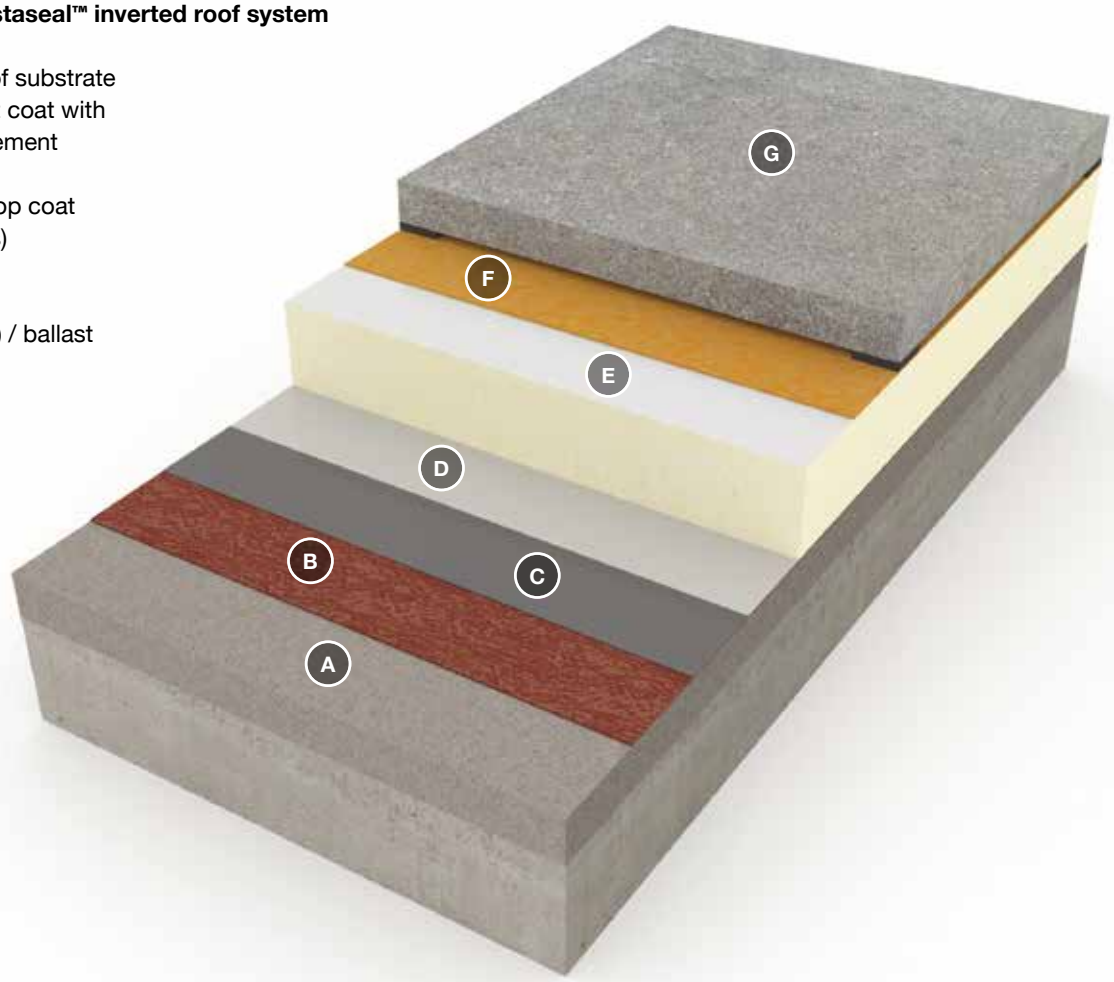
Rooflights

After installing the thermal insulation assembly, the Elastaseal™ waterproofing system is applied as high as possible up the rooflight upstand detail. A clear protective glaze can also be applied to the rooflight if required.

Elastaseal™ inverted roof system

Typical build-up of the Elastaseal™ inverted roof system

A - Prepared and primed roof substrate
B - Elastaseal™ embedment coat with Elastamat™ HD reinforcement
C - Elastaseal™ top coat
D - Additional Elastaseal™ top coat (for 20 year plus systems)
E - Thermal insulation panel
F - Filtration layer
G - Paving (on support pads) / ballast



In this construction the thermal insulation is applied on top of the waterproofing membrane. This type of system is often referred to as a 'protected membrane', or 'upside down' roof. Like the Elastaseal™ warm roof system, the inverted system helps lower energy costs by reducing heat loss from the roof.

The Elastaseal™ system provides a waterproofing membrane below the insulation layer and directly over the existing roof substrate. Its seamless nature provides maximum protection and offers significant advantages over sheet systems.

This system is usually finished with paving materials to provide an attractive appearance. This solution is ideal for roof terraces and balconies and will withstand heavy foot traffic. Alternatively, inverted roofs can be utilised with seedum banks to create green roofs or roof gardens.

The system also fully upgrades the thermal performance of the roof, which means building owners can comply with Part L of the Building Regulations (Conservation of Heat & Power).

Key features and benefits:

- Allows creative use of roof space e.g. terraces and roof gardens
- Systems up to 25 year life available
- Use of paving provides an attractive appearance
- Green roofs help with rainwater attenuation
- Comprises high performance insulation, and can easily achieve required U-values.
- Tough flexible roofing membrane
- Provides all of the benefits of the Elastaseal™ system
- Ideal for new build and refurbishment

Coatings used in Elastaseal™ 25 year systems are approved by the British Board of Agrément.

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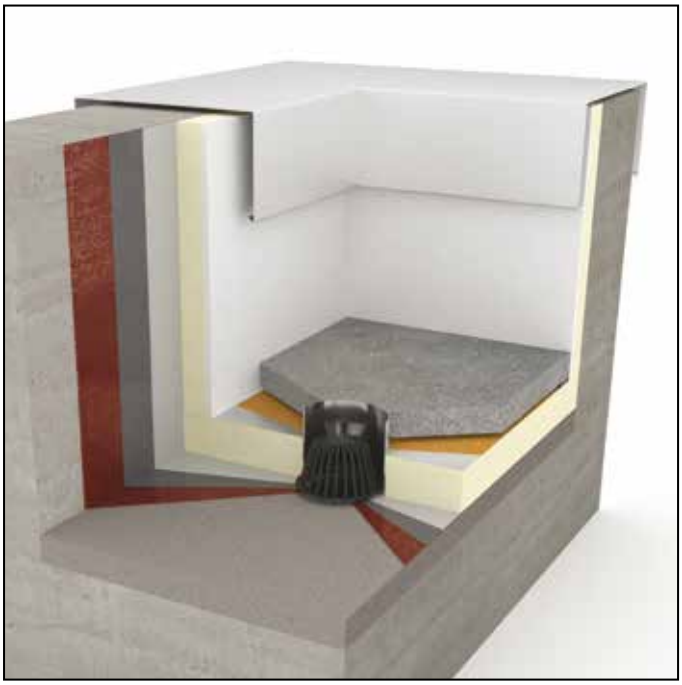
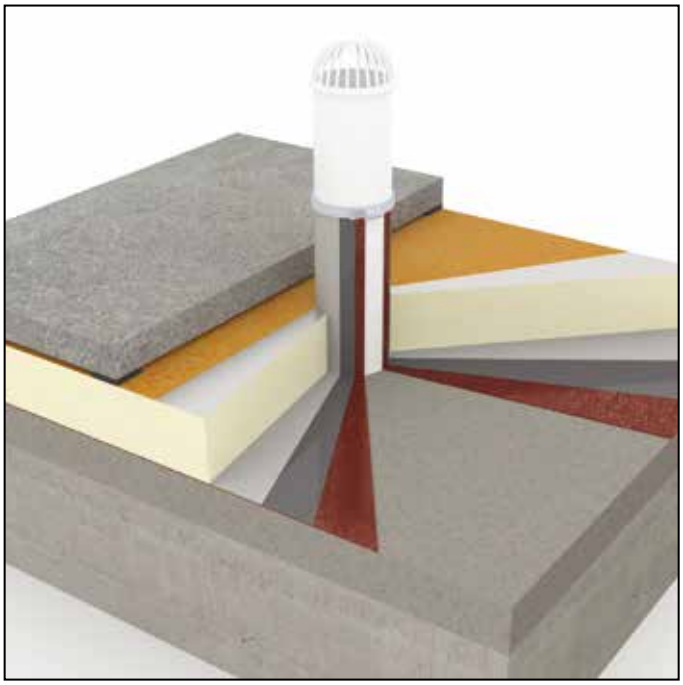
The Elastaseal™ inverted roof system completely upgrades the thermal performance of the roof - delivering compliance with Part L of the Building Regulations (Conservation of Heat & Power) - whilst providing long-term waterproofing and creative scope to dramatically improve the appearance of the roof by the introduction of paving or grass. It can be used to create roof gardens and terraces and is also suitable for private balconies. It is ideal for new-build applications but equally suited to refurbishment.



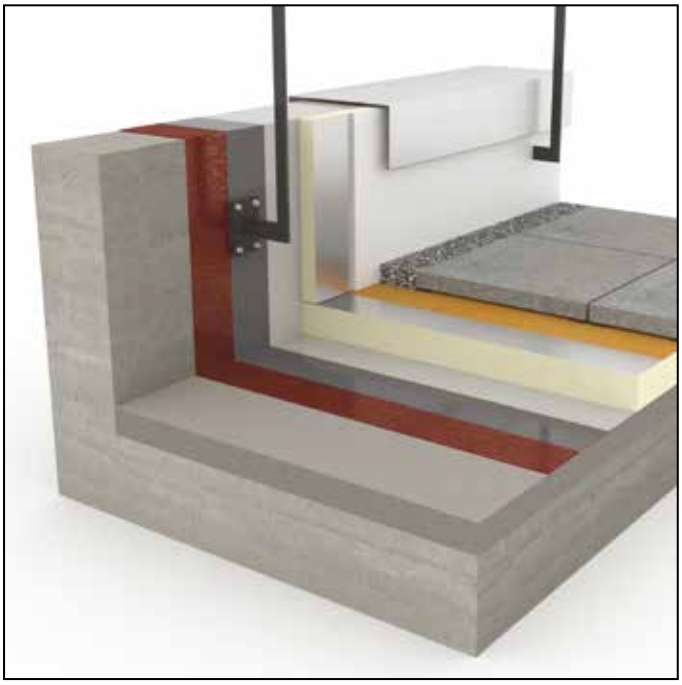
Rainwater outlets

Where the roofing system meets rainwater outlets a stainless steel guard is fitted around the rainwater outlet cover. The thermal insulation and paving is shaped and offered up to the guard. Alternatively, ballast can be used to fill in the gap details.



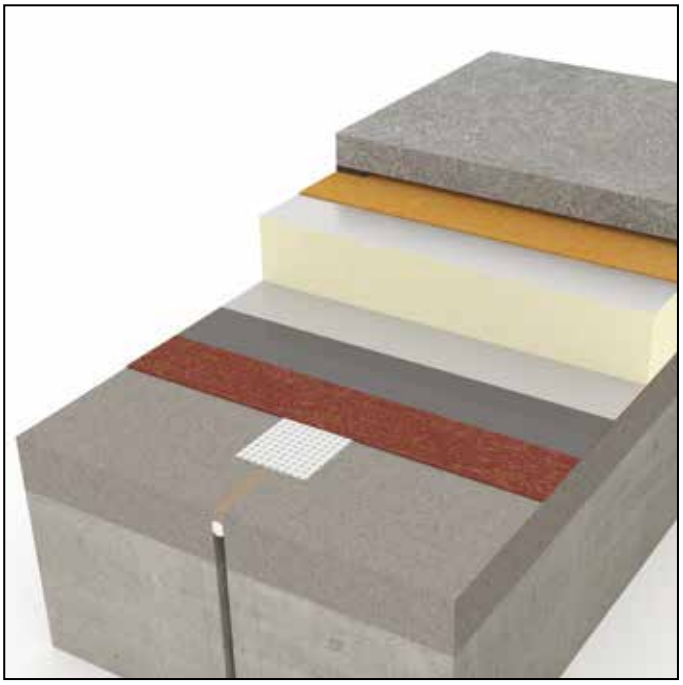
Vents and pipes

The Elastaseal™ waterproofing system is continued up the pipe to give a termination of at least 150mm above the finished height of the overall assembly. A clip / tie is fitted to the pipe around the coating termination. This is then finished with a flexible sealant.



Parapet walls

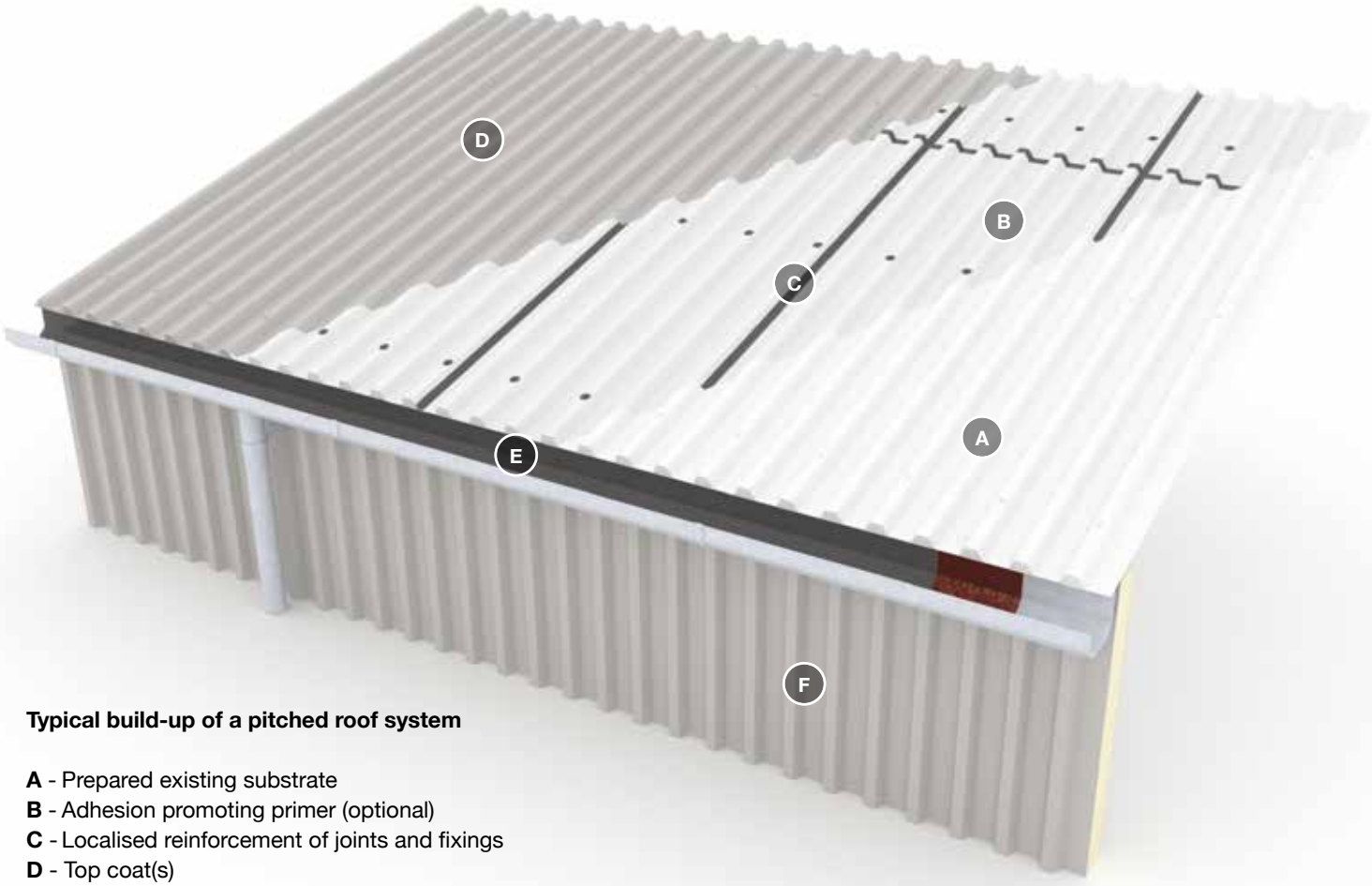
The Elastaseal™ waterproofing system is taken a minimum of 150mm above the overall assembly and either terminated into a precut chase or protected with a termination bar.



Expansion joints

Prior to application of the Elastaseal™ system, the gap of the expansion joint is sealed by the insertion of a backer rod followed by application of a flexible mastic sealant. To allow for movement, a bridging tape (nominally 50-100mm wide) is applied along the line of the joint.

Pitched roof systems



Typical build-up of a pitched roof system

A - Prepared existing substrate
B - Adhesion promoting primer (optional)
C - Localised reinforcement of joints and fixings
D - Top coat(s)
E - Gutter waterproofing system
F - Vertical cladding coating systems also available

Waterproofing systems for pitched roofs

Raincoat™ Roof (10 year system)
Elastaseal™ (15-25 year systems)

Our waterproofing systems are suitable for refurbishing many types of traditional roofing materials, including felt, asbestos cement / fibre cement sheeting, profiled metal sheets, PVC plastisol, PVF2 and other factory coil coated substrates.

Our systems are designed to tackle the vulnerable areas of pitched roofs, which are typically concentrated around the joints and fixings. Accordingly, these areas are treated with localised additional reinforcements before the system top coats are applied.

Once installed our systems provide a seamless waterproof coating over the existing roof. They deliver flexible, durable, lasting protection from 10-25 years.

Key features and benefits of waterproofing systems:

- Cold liquid applied – no hot works
- Can be used over most pitched roof types
- Safe and easy to apply – unobtrusive repairs
- 10-25 year systems available
- Cost effective alternative to re-roofing
- Seamless and flexible membrane
- Easy to maintain and excellent through life costings
- Improves the appearance of the building
- UV stable

Waterproofing system for gutters

The Elastaseal™ system can also be used to waterproof Finlock (modular concrete), valley, galvanised steel and Mansard gutters.

Once applied the Elastaseal™ system provides a joint free, seamless and smooth waterproof barrier, offering long term protection to the gutter and allowing water to run away freely.

Sectors & case studies

We work in a wide variety of sectors, solving similar roof-related issues for our clients. We provide site specific, tailored solutions designed to deliver benefits including long term waterproofing and thermal efficiency. Here are a selection of projects we've undertaken across a range of market sectors.

Industrial

Blue chip engineering business, Derby

The client had a combined roof area in excess of 3000m^2 to refurbish. The existing asphalt roofing membrane had failed in a number of areas and water was entering the building. The roof was waterproofed with the Elastaseal™ system, which was also used to encapsulate the Georgian wire rooflights.

Commercial and FM

Top Shop, Bromley

The existing asphalt roof membrane of this high street retail unit had failed. The client required a solution that would not involve temporary closure of the unit. The Elastaseal™ system was specified because it could fix the roof issues and be applied while the store below remained fully operational.

Education

Durham University

This leaking roof had a significant amount of fixed, mounted plant that ruled out refurbishment using conventional materials such as felt. The Elastaseal™ system was used to seamlessly encapsulate every detail of the roof and plant, providing long term waterproofing without disruption.

Healthcare

Burnley General Hospital

An Elastaseal™ warm (built up) roofing system was installed as a solution to a leaking flat roof problem. Not only did the solution put an end to the roof leaks, it improved the thermal performance of the roof - by the introduction of insulation - and ensured Building Regulations requirements were met.

Social Housing

Bradford Court, Manchester

Leaks through the existing asphalt roof of this high rise housing block had rendered several top floor flats inhabitable, resulting in loss of revenue for the social landlord. Elastaseal™ provided a long term solution that allowed all of the plant and equipment on the roof to be encapsulated in order to stem the leaks.

Food and Beverage

Coors Brewery, Tadcaster

The roof of the Tower Brewery, in Tadcaster was a chocolate brown coloured GRP membrane. This was at an advanced stage of weathering and leaking in a number of places. The Elastaseal™ cold liquid-applied, roof coating system was applied over the existing membrane, delivering a long term waterproofing solution.

Providing Practical Solutions

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Our nationwide team of area business managers is at your disposal. We pride ourselves on our ability to provide practical solutions to your building-related problems.

Why not give us a challenge?

TOR COATINGS

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