# Delta Roof Guard

## Cold Applied Liquid Waterproofing

BROOF(t4)


BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 21/5864

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**All pictures shown are for illustration purposes only. Actual product label may vary.

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NBS Source
Manufacturer Partner

NBS Source

# Delta Roof Guard – Cold Applied Liquid Waterproofing

**Cold applied waterproofing systems for refurbishment and new build construction.**

As with all Delta products, no one knows protection like we know protection.

We've learnt how to protect buildings from the most extreme conditions imaginable all over the world. Quality is consistent because of our unparalleled manufacturing and quality control processes.

We pride ourselves on specifying the right waterproofing solution for the right application. Whether you require a Type C System, External Drainage System or Cold Liquid Applied Waterproofing System. From Green Roofs, Blue Roofs to Flat Roofs or a combination of all, we can provide you and your project with the most suitable and sustainable of waterproofing solutions.

Delta Roof Guard is the ultimate solution in cold liquid applied waterproofing.

Cold Liquid waterproofing is fast becoming a popular choice due to its simplicity of installation, offering a continuous, seamless, and versatile approach to waterproofing.

Drawing from experience and existing design language, Delta Roof Guard has been developed to offer solutions in bridging two aspects of waterproofing design under one umbrella.

Delta Roof Guard will improve the integration of external and internal waterproofing design ensuring:

- Protection to the deck surfaces
- Prevention of water ingress to the space below, and
- Prevention of water ingress to adjacent structures.

Cold liquid applied waterproofing has become an increasingly popular flat-roofing solution for building owners, designers, and contractors. Likewise, the construction of podium decks, terraces and balconies and extending these beyond the building line has also increased in popularity. This increasing demand does not just sit within the residential market but includes public and commercial structures, along with the demand for better-quality construction.

# A DELTA SOLUTION

BS 8102:2009 (Code of Practice for Protection of Below Ground Structures Against Water from the Ground) recommends that every Design Team should incorporate a Waterproofing Design Specialist.

Delta Membrane Systems Limited has a dedicated team of Waterproofing Design Specialists. Our trusted Technical Team offer knowledge and experience and can provide expertise in structural waterproofing. As a Waterproofing Specialist Manufacturer, we work with architects, surveyors, contractors, and engineers alike to provide a design service which complies with BS 8102:2009 and offers the highest level of technical expertise and assurance.

**BELOW GROUND WATERPROOFING SOLUTIONS FOR:**

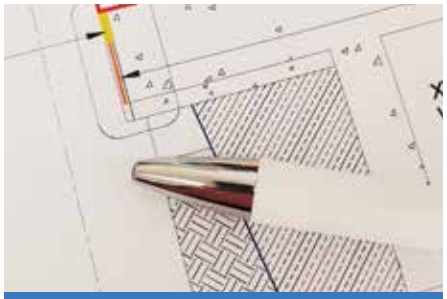
- Residential Buildings
- Commercial Buildings
- Retail Units and Warehouses
- Leisure Facilities
- Archives/Libraries/Vaults
- Hospitals
- Schools
- Underground Rail Stations and Tunnelling
- Underground Car Parking areas
- Listed Buildings
- Heritage Buildings
- Insulated Formwork Construction (ICF)

# OVERVIEW

Delta Membrane Systems Limited provides a full range of waterproofing solutions suitable for all new, retrofit and refurbishment construction. With over 125 years of manufacturing experience Delta is an impeccable partner on every project. Our skills have been mastered through experience in the waterproofing industry. Delta's trusted Technical Team will help from concept to completion. Our hands on approach and knowledge are what sets us apart.

## DESIGN SUPPORT

- Architecture knowledge
- Concept and waterproofing solutions
- Advice on design and best practice
- Custom solutions, as each project has unique requirements
- Qualified CSSW staff (named on the Waterproofing Design Register)



## SPECIFICATION SUPPORT

- Detailed drawings including CAD
- Watertight and locking down structure concepts
- Specifications
- BIM
- NBS Plus
- NBS Chorus
- RIBA Product Selector
- Barbour Product Index

## SITE SUPPORT

- Training and guidance offered at every step
- Technical Team attendance at site meetings
- Knowledge and experience
- Troubleshooting solutions

# COLD LIQUID APPLIED WATERPROOFING ROOFING

**What is Cold Liquid Applied Roofing**

Cold applied roof systems refer to roofs that are adhered with a flexible, durable, long-lasting liquid polyurethane product that doesn't need to be heated prior to its application. These products can be used directly from the delivery container and applied using a brush, spray, or roller, depending on the viscosity of the product.

Cold applied roofing systems were introduced largely in response to projects where traditional kettle-melted asphalt could not be used or where a flame to heat up the felt layer is not suitable.

Unlike the cold process expected, liquid roofing involves applying a liquid-based coating to a roof, which when cured forms a rubber-like elastomeric waterproof membrane. This coating can be reinforced with a secondary material to provide additional tensile strength.

Because these membranes are applied as a liquid, they are monolithic (seamless) and are typically considered self-flashing.

Liquid roofing is especially cost-effective and ideal for roofing refurbishment, repair, new-build, balconies, terraces, whilst not forgetting complex roofs, whilst also being an excellent choice for roofs with difficult detailing.

**What is Cold Liquid Applied Waterproofing Roofing?**

Delta Roof Guard cold applied liquid waterproofing systems are engineered to provide a fast curing, flexible, elastomeric solution for roofs, podium decks, terraces, balconies, walkways, and car parks.

Delta Roof Guard CP and QC practically bonds directly to substrates, providing a seamless, UV-stable membrane that does not delaminate. Due to its flexible nature Delta Roof Guard follows the contours of any roof shape allowing for intricate detailing. Once cured, Delta Roof Guard achieves a seamless finish with no joints or breaks. Offering rapid curing even in winter months.

Delta Roof Guard also comes with a comprehensive range of primers, all able to aid the adhesion of the liquid applied membrane system to the relevant substrates.

Delta Roof Guard cold liquid waterproofing is lightweight, has great elasticity, meaning that it will absorb structural movements, whilst compensating for shrinkage or expansion due to changes in temperature. The ease and speed of application makes Delta Roof Guard Cold Liquid Waterproofing the perfect partner for complex roofing projects.

# WHAT ARE THE BENEFITS?

There are many different types of materials that can be used to waterproof roofs, podium decks, terraces, balconies, walkways, and car parks. The choice of waterproofing solution will depend on the project requirements, such as service life, durability, whether there will be movement within the structure, installation requirements, maintenance of the system along with whether the construction is new or a refurbishment.

Cold liquid applied waterproofing has become an increasingly popular flat-roofing solution for building owners, designers, and contractors.

Delta Roof Guard cold applied liquid waterproofing systems are engineered to provide a fast curing, flexible, elastomeric solution.

Delta Roof Guard is ideal for projects where there is a restriction of hot works. Seamless in nature, with a fast speed of application, Delta Roof Guard is an ideal choice for roofs with multiple penetrations or limited spaces such as balconies.

This cost-effective cold liquid water proofer is suitable for new or existing roof projects without the requirement for mechanical restraint, welding, or torching, negating any fire risk during application.

**Why Delta Roof Guard Cold Applied Waterproofing Systems?**

- Excellent adhesion to all kinds of substrates
- Chemical resistant
- High resistance to extreme temperatures
- Fire resistant
- Completely seamless waterproofing
- No heat or special equipment required

The installation requirements will be dependable on the material choice and manufacturers' advice.

## Delta Roof Guard is BBA certified and holds $^{B}$ROOF(t4).

# PROJECTS

There are many different approaches to structural waterproofing. The construction methods will in part contribute to the specification of types of waterproofing systems and may also determine the overall structural waterproofing strategy.

**Structural waterproofing falls into 3 categories:**
Type A – Barrier Protection
Type B - Structurally Integral Protection
Type C – Drained Protection

**With 3 grades:**
Grade 1 – Some water seepage and damp are tolerable depending on the intended use
Grade 2 – No water penetration is acceptable
Grade 3 – No dampness or water penetration is acceptable and dehumidification

Residential/Commercial Basements

Car Parks

Museums and Heritage

Hospitals

Schools

Hotels

Infrastructure Projects

Railway and Tunnelling

Libraries

# BRITISH STANDARDS

**BRITISH STANDARDS**

A standard is an agreed way of doing something. It could be about making a product, managing a process, delivering a service, or supplying materials – standards can cover a huge range of activities undertaken by organisations and used by their customers.

**WHAT DOES A STANDARD DO?**

Standards are knowledge. They are powerful tools that can help drive innovation and increase productivity. Standards within the Construction Industry enhance consumer protection and confidence.

**THE BENEFITS OF USING BRITISH STANDARDS BS 6229:2018, NHBC Chapter 7.1:2010, BS 8102:2009**

BS 6229:2018 (Code of Practice for Flat Roofs with Continuously Supported Flexible Waterproof Coverings) describes best current practice in the design, construction, care, and maintenance of roofs with a flat or curved surface, at a pitch not greater than 10 degrees to the horizontal, with a continuously supported flexible waterproof covering. The supporting structure is either dense and heavy (such as a concrete slab), or consists of framing members supporting a lightweight deck of metal or of timber-based material.

BS 8102:2009 (Code of Practice for Protection of Below Ground Structures Against Water from the Ground) gives recommendations and provides guidance on methods of dealing with and preventing the entry of water from surrounding ground into a structure below ground level.

**IT COVERS THE USE OF:**

a) Waterproofing barrier materials applied to the structure
b) Structurally integral watertight construction
c) Drained cavity construction.

It also covers the evaluation of groundwater conditions, risk assessment and options for drainage outside the structure. It applies to structures which extend below ground level and those on sloping sites.


## NHBC CHAPTER 7.1 AND CHAPTER 5.4 OFFER A CHOICE OF STRATEGIES:

- Design Standards
- Statutory Requirements
- Load Bearing Structure
- Principles of Design
- Structural Deck
- Thermal Insulation and Vapour Control Layers
- Waterproofing and Surface Finishes
- Rainwater Drainage
- Guarding to Balconies
- Access for Maintenance
- Provision of Information

# WATERPROOFING DESIGN

**WHAT IS A WATERPROOFING DESIGN SPECIALIST?**

A Waterproofing Design Specialist provides expertise in structural waterproofing. Identifying a Waterproofing Design Specialist can be difficult and daunting. A Waterproofing Design Specialist should have:

- CSSW as a minimum standard of qualification
- Be able to list the principal considerations for a robust waterproofing design
- Offer knowledge on waterproofing systems available
- An in-depth understanding of BS8102:2009 and its requirements
- Desk top study & risk assessment knowledge – these should form part of any Designers Report and Waterproofing Design
- An understanding of sources of water (such as how it flows through the soil and interacts with the structures).
- Structural knowledge
- Knowledge of Ground Gases
- Geotechnical knowledge (to be able to understand the implications of a soil report)
- The ability to produce a Design Report, Method Statements and Waterproof Design drawings.
- With the right products and systems, these long-lasting balconies and terraces can be designed and installed for year-round enjoyment.

# DESIGN AND BUILD PHILOSOPHY

Structural waterproofing is a term that describes methods used to prevent groundwater entering buildings and structures that are constructed below ground level.

Essential, for the success of any project involving below ground structures are strategies for dealing with and preventing ground water entry at the very earliest stages of the planning and design processes.

BS 8102:2009 and BS 6229:2018 should be used as reference to achieve a minimum level of expected waterproofing quality and compliance with Building Regulations.

For new structures, it is recommended that the structural design, waterproofing design, and construction processes are considered together.

Successful waterproofing design lies with choosing the most appropriate combinations of structure and waterproofing system to achieve pre-determined performance levels and criteria.  To design out risk of failure due to less than adequate workmanship, damage, or defects on site it is also important to consider practicality and ease of installation, the phasing of the construction process and the scope for testing and certifying during construction.

**Design considerations should include:**

- Type and form of construction
- Site Inspection
- Design compliance
- Structural movement
- Drainage arrangements
- Type of surface
- Concrete surface condition
- Moisture
- Temperature
- Contaminates
- Surface preparation prior (such as treatments, coatings, and laitance)

# FIRE PERFORMANCE REQUIREMENTS - FLAT ROOFS

Fire Performance requirements for Flat Roofs

On the 30th of August 2019, changes were made to Building Regulations in relation to Flat Roofs which incorporated the new edition of 'Fire Safety-Approved Document B' (AD B). This new edition which came into force has several changes in relation to flat roofs.

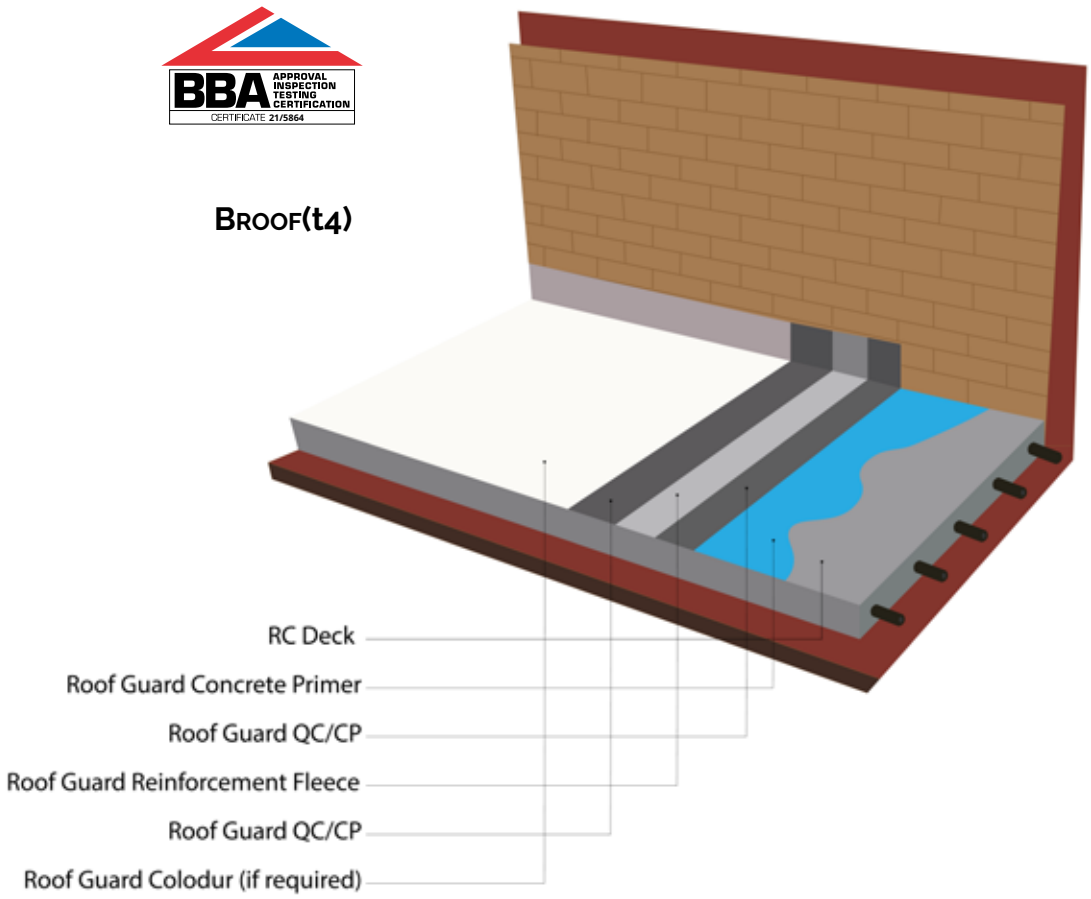
Building Regulations Part B (Fire Safety) part B4 covers the requirement for external walls and roof of a building or structure to adequately resist the spread of fire over the walls and roof of the structure, and between one building to another. Roof coverings can be found within Section 10 which includes layering of material. With reference to flat roofs, expected covering will usually consist of the deck, a vapour control layer, insulation, waterproofing membrane(s), and any other layers and areas.

The principal amendment of the AB D edition is in relation to external fire performance of roofs. This is no longer the national classification system BS 476-3:2004, but the European Classification System BS EN 13501-5. The European Class Ratings comes with five ratings: $^{B}$ROOF(t4), $^{C}$ROOF(t4), $^{D}$ROOF(t4), $^{E}$ROOF(t4) and $^{F}$ROOF(t4).

European Class Ratings EN 13501-5:

To simplify fire standards across Europe for External Fire Performance, the roofing industry has embraced a change from BS 476-3:2004 (test and classification) to TS 1187 (which is subject to becoming BS EN 1187 in the future). The new BS EN 13501-5 classification which has been introduced in the new 'Fire Safety-Approved Document B' (AD B) 2019 edition standardised into one European test which is identifiable within the EU.

TS 1187 has four tests for roof covering systems: t1 which is applicable to Germany, t2 which is applicable to Scandinavia, t3 which is applicable to France and t4 which is applicable to the UK building sector (Republic of Ireland included). The results from testing under TS 1187 with BS EN 13501-5 classification are given as European Class ratings $^{B}$ROOF(t4), $^{C}$ROOF(t4), $^{D}$ROOF(t4), $^{E}$ROOF(t4) and $^{F}$ROOF(t4). The below table gives an explanation as to how these ratings are achieved.



# FIRE PERFORMANCE REQUIREMENTS - FLAT ROOFS

It should also be noted that classifications are for all types of roof systems.

The classification determines proximity of the roof to boundaries of adjacent buildings. Advantages of the BROOF(t4) classification is using a roofing system which complies to the BROOF(t4) classification no minimum distance is required between structures.

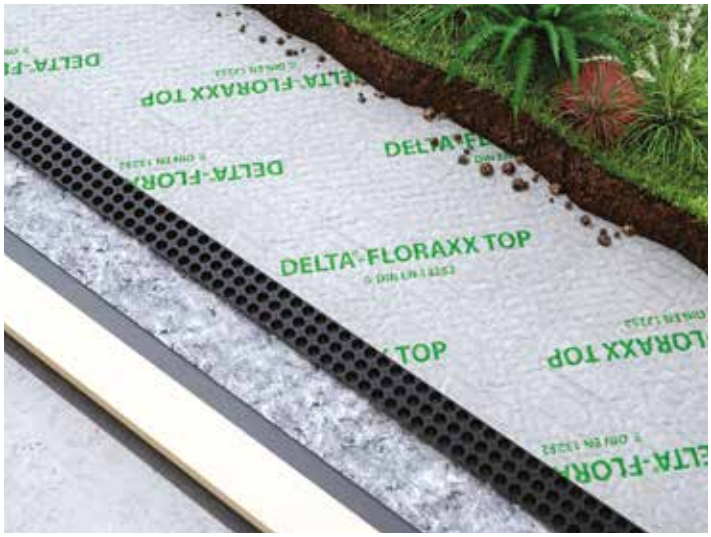
Lower external fire classifications require adjacent buildings and/or structures to be further in proximity.

To meet Building Regulations for fire, installers will be required to prove that the system has a valid test certificate.

Third party testing facilities such as the BRE have established through extensive fire testing on a worst-case scenario basis (timber decking), resolving the requirement for testing on concrete and steel decks.

| National Class | European Class | Minimum distance from any relevant boundary (England) | Minimum distance from any point on relevant boundary (Scotland) |
|---|---|---|---|
| AA, AB, AC | BROOF (t4) | Unrestricted and can be used anywhere on the roof | Low Vulnerability (<6m) |
| BA, BB, BC | CROOF (t4) | At least 6m of the boundary | Medium Vulnerability (6-24m) |
| CA, CB or CC | DROOF (t4) | At least 6, 12 or 20m of the boundary depending on the building type and use | Medium Vulnerability (6-24m) |
| AD, BD or CD | EROOF (t4) | At least 6, 12 or 20m of the boundary depending on the building type and use | High Vulnerability (>24m) |
| DA, DB, DC or DD | FROOF (t4) | At least 20m of the boundary depending on the building type and use | High Vulnerability (>24m) |

# DELTA ROOF GUARD SYSTEM




# APPLICATION

**Application**

All materials in the Delta Roof Guard System are easily applied with a roller. Primers can be applied using an airless machine.

**Recommended Environmental Conditions**

Support temperature should be between 5˚C and rising. At higher temperatures, specific precautionary measures must be taken. Please follow manufacturer advice. Air temperature must be 3˚C and rising above dew point. High moisture conditions can lead to bubble formation under the membrane surface. In cold weather, or when curing time should be shorter, accelerators can be used. More information is available upon request.

**Cleaning and Maintenance**

All maintenance work must be carried out regularly on the treated roofs according to the intended use. This work includes the following tasks:

- Leaf removal
- Grass, dirt, moss, and other vegetation removal
- Keeping storm water system in good working order
- Ensure gratings are in place, to prevent gutter obstructions
- Check proper condition of several structures (flashing, seams retaining walls, etc.)
- Verification of possible damages due to improper use

**Cleaning of Tools**

Clean all tools and equipment immediately after use. Hardened/cured material can only be removed mechanically. Wash hands and skin with soapy water.

**Storage**

All materials must be stored undercover and storage areas must be kept between 5°C and 25°C.

Materials should never be exposed to freezing conditions or excessive temperature changes. Once opened, containers should be used completely. Typical due date for Delta Roof Guard CP is one year after its manufacturing date.

**Environmental Precautions**

Empty containers must be handled with the same precautions as if they were full. Treat empty containers as hazardous waste and transfer them to an authorized waste manager. If the containers still have some material left, do not mix with other products before considering the risk of potentially dangerous reactions. Never mix in volumes larger than 5 litres to prevent a dangerous heat reaction.

# DELTA ROOF GUARD QC

**A rapid curing one-component, liquid waterproofing membrane which is laid in a 2-layer system, enabling Delta Roof Guard Glass Fibre Reinforcement to be embedded in the base layer. Offering a faster curing time, as the 2-layer system will allow for inspection of the base layer prior to application of the top coat.**

Delta Roof Guard QC (Quick Cure) is a one component liquid semi-thixotropic waterproofing composition, after polymerization gives an elastomeric, cold-applied polyurethane membrane. The membrane cures in a continuous and elastic form, as a totally adhered layer. This waterproofing layer guarantees total water tightness and withstands building movements.

This is a two-layer system, where the base coat is applied and while wet, the Delta Roof Guard Fibre reinforcement is embedded in the base coat.

When the base coat has cured, inspect base coat for pin holes. If any repairs are required they must be fixed at this stage.

## TECHNICAL DATA

| | |
|---|---|
| Chemical Description | Single component aromatic polyurethane |
| Physical State | Liquid |
| Packaging | Metal container: 25kg |
| Non-Volatile Content (%) | 43% |
| Flash Point | 26°C |
| Available Colours | Grey<br>Colour is unstable under sunlight. This discolouration takes place also in the treated Delta Roof Guard CP membrane (grey turns to green). This change does not impair the membranes mechanical properties. |
| Density | 0.99 g/cm3 (20°C) |
| Viscosity Approximate, Brookfield | 20°C, s62, 100 rpm: 5 mPa.s |
| VOC Content | 572g/L, 57% |
| Storage | Keep at a temperature between 35°C, away from ignition sources and moisture |
| Use Before | 12 months after manufacturing date |


## Application

- Suitable for cold or warm roof construction
- Balconies and terraces
- Podium decks
- Car parks
- Infrastructure
- Walkways
- Ideal for new construction and refurbishment projects

## Benefits

- $^{B}$ROOF(t4)
- BBA Approved
- Quick installation times – offering cost savings
- Avoid inherent risks associated with hot works
- Seamless applications - no joints or fixings
- Exceptionally fast curing
- Compatible with a wide range of substrates
- Easy to maintain
- Minimal on-site disruption
- Green Roof Approved

## Specifications

- BS 8102:2009 Type C Drained Protection
- J40 (Clause 290) Flexible Sheet Tanking/Damp Proofing
- J31 Liquid Applied Waterproof Coatings/130 Roof Coatings
- J31/10 Warm Deck Roof Coating
- J31/110 Cold Deck Roof Coating
- J31/120 Warm Deck Roof Coating
- J31/130 Inverted Roof Coating
- J31/5 Cold Deck Roof Coating
- J41 – Reinforced Bitumen Roof Coating

# DELTA ROOF GUARD QC

## TECHNICAL DATA

| | |
|---|---|
| Final Appearance | Solid elastomeric membrane |
| Colour | According to specification |
| Hardness (Shore) | 65-70 A (ISO 868) |
| Density | 1.3g/cm3 |
| Tear Strength | 14 N/mm (ISO 34-1, Method B) |
| Water Vapour Permeability | μ>1000 (EN1931)<br>20g/m2 day |
| Abrasion | 14.3mg (Taber, 1000 cycles, CS-10, UNE 48250) |
| Mechanical Properties | Maximum elongation 617%<br>Tensile stress: 4.1 mPa<br>(EN-ISO 527-3) |

| Elongation (%) | Stress (mPa) |
|---|---|
| 100 | 2.0 |
| 200 | 2.8 |
| 300 | 3.0 |
| 400 | 3.4 |

### Mixing and Application Guidelines

Stir and homogenise the product before use. Some of the contents settle during storage and must be redispersed. Allow some minutes to release air bubbles. Stirring should be done at low speed, avoiding mechanical means to prevent bubbles. If needed, the product may be thinned with up to 5% of Delta Roof Guard PU Solvent, as a viscosity adjustment. Never use universal or unknown solvents (e.g. white spirit or alcohols) Apply by roller or brush. Once opened, contents should be used. Unused product will cure in drum.

### Curing Time

Curing time is dependent on the environmental conditions. Curing rate increases with temperature and humidity rises. The following table gives a rough estimation of the curing time under diverse conditions for a 1 mm coat.

| Temperature | RH(%) | Dry to touch (h) |
|---|---|---|
| 7 | 50 | 4 |
| 27 | 60 | 1 |

# DELTA ROOF GUARD CP

**An extremely durable one component liquid waterproof membrane with fast cure times achieved with addition of Roof Guard Super Accelerant, completely cold applied and suitable for use on most substrates.**

Delta Roof Guard CP is a two part cold applied liquid polyurea waterproof membrane. The membrane cures in a continuous and elastic form, as a totally adhered layer. This waterproofing layer guarantees total water tightness and withstands building movements.

## TECHNICAL DATA

### Information on the final product

| | Component A | Component B |
|---|---|---|
| Chemical Description | Polyisocyanate prepolymer | Polyamine mixture |
| Physical State | Liquid | Liquid |
| Packaging | Metal container 25kg | Metal container 1.5kg |
| Non-Volatile Content (%) | Approx 85% | 43% |
| Flash Point | 45°C | 26°C |
| Available Colours | Red | Clear yellow |
| Density | 1.3g/cm3 (20°C) | 0.99 g/cm3 (20°C) |
| Viscosity Approximate, Brookfield | Temperature / Viscosity (mPa.s) | 5 mPa.s (20°C) |
| | 10 / 20,000-30,000 | |
| | 20 / 6,000-10,000 | |
| | 30 / 1,000-1,500 | |
| VOC class as per 2004/42/EC | 184 g/L (15%) | 572 g/L (57%) |
| A/B Ratio | A=100 | B=6 by weight |
| | A=100 | B=8 by volume |
| Colour | Dark grey | |
| Pot Life | Temperature (°C) | Pot Life (min) |
| | 5 | 180 |
| | 23 | 60 |
| | 35 | 30 |
| Storage | Keep between 5°C and 3°C (recommended) | |
| Use Before | 12 months after manufacture (Note: 9 months if component A is white or black pigmented) provided it is kept in its sealed container. | |


## Application

- Suitable for cold or warm roof construction
- Balconies and terraces
- Podium decks
- Car parks
- Infrastructure
- Walkways
- Ideal for new construction and refurbishment projects
- Suitable for green roofs

## Benefits

- BROOF(t4)
- BBA Approved
- Quick installation times – offering cost savings
- Avoid inherent risks associated with hot works
- Seamless applications - no joints or fixings
- Exceptionally fast curing
- Compatible with a wide range of substrates
- Root resistant
- Minimal on-site disruption
- Wet on wet application (2 layers laid as one)
- Fast curing

## Specifications

- BS 8102:2009 Type C Drained Protection
- J40 (Clause 290) Flexible Sheet Tanking/Damp Proofing
- J31 Liquid Applied Waterproof Coatings/130 Roof Coatings
- J31/10 Warm Deck Roof Coating
- J31/110 Cold Deck Roof Coating
- J31/120 Warm Deck Roof Coating
- J31/130 Inverted Roof Coating
- J31/5 Cold Deck Roof Coating
- J41 – Reinforced Bitumen Roof Coating

# DELTA ROOF GUARD CP

## TECHNICAL DATA

### Information on the final product

| | |
|---|---|
| Final State | Solid elastomeric membrane |
| Colour | Standard colour is dark grey. Note: Colour changes very fast under sunlight (yellowing). For example, grey turns into green. This change does not impair the membrane mechanical properties. |
| Hardness (Shore) | 75 A<br>(ISO 868) |
| Mechanical Properties | 1 Elongation (EN-ISO 527-3): 600%<br>Tensile strength (EN-ISO 527-3): 5.7 mPa<br>Tear strength (ISO 34-1 method B): 34 N/mm |
| Tear Strength | 14 N/mm (ISO 34-1, Method B) |
| Water Vapour Permeability | μ>2000, 14g/m2 day, (EN 1931) |
| Chemical Resistance | Permanent contact<br>(0=worst, 5=best) |

**Curing Time**

Curing time is dependent on the environmental conditions. Curing rate increases with temperature and humidity rises. The following table gives a rough estimation of the curing time under diverse conditions for a 1 mm coat.

| Temperature | RH(%) | Dry to touch (h) |
|---|---|---|
| 16 | 50 | 3 |
| 20 | 50 | 2.5 |

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 21/5864

# DELTA ROOF GUARD SUPER-ACCELERANT

**A high performance, single component, moisture instigated polyurethane when added to Delta Roof Guard CP dramatically reduces cure time. This moisture instigated reaction utilises atmospheric and substrate moisture to mechanically instigate faster curing, reducing risk of damage by rain, drift, slopes, etc.**

The Moisture-Cured Delta Roof Guard CP can require under certain conditions, a faster curing process because of job constraints or low temperature or air humidity. Delta Super-Accelerant PU dramatically reduces the curing time with no loss of relevant properties. Delta Roof Guard Super-Accelerant PU obtains a surface skin in a short time, reducing risk of damage by rain, drift, slopes, etc., and it can be put into service after a few hours, with less residual tacking effect.

## TECHNICAL DATA

| | |
|---|---|
| Chemical Description | Catalyst solution in organic solvent |
| Physical State | Liquid |
| Packaging | Metal container: 1.5kg |
| Non-Volatile Content (%) | 43% |
| Flash Point | 26°C |
| Colour | Clear yellow |
| Density | 0.99 g/cm3 (20°C) |
| Viscosity Approximate, Brookfield | 20°C, s62, 100 rpm: 5 mPa.s |
| VOC Content | 572g/L, 57% |
| Storage | Keep at temperatures between 35°C away from ignition sources and moisture. |
| Use Before | 12 months after manufacturing date |


### Application

- Suitable for cold or warm roof construction
- Balconies and terraces
- Podium decks
- Car parks
- Infrastructure
- Walkways
- Ideal for new construction and refurbishment projects

### Benefits

- $^{B}$ROOF(t4)
- BBA Approved
- Dramatically reduces cure time of Delta Roof Guard QC
- Moisture instigated chemical reaction
- Reduces risk of damage by rain, drift, slopes, etc
- Minimises application failure
- Compatible with a variety of roof surfaces
- Quick installation time

### Specifications

- BS 8102:2009 Type C Drained Protection
- J40 (Clause 290) Flexible Sheet Tanking/Damp Proofing
- J31 Liquid Applied Waterproof Coatings/130 Roof Coatings
- J31/10 Warm Deck Roof Coating
- J31/110 Cold Deck Roof Coating
- J31/120 Warm Deck Roof Coating
- J31/130 Inverted Roof Coating
- J31/5 Cold Deck Roof Coating
- J41 – Reinforced Bitumen Roof Coating

# DELTA ROOF GUARD SUPER-ACCELERANT

| CONDITIONS (°C) | DRY TO TOUCH (hr) |
|---|---|
| 35°C, 30% rh | 1.5 hr (with no Delta Roof Guard Super-Accelerant PU: >10h) |
| 23°C, 40% rh | 3 hr (with no Delta Roof Guard Super-Accelerant PU: >10h) |
| 5°C, 60% rh | 3 hr (with no Delta Roof Guard Super-Accelerant PU: >10h) |

| TEMPERATURE (°C) | POT LIFE (min) |
|---|---|
| 5 | 180 |
| 23 | 60 |
| 35 | 30 |

**Pot Life**

Addition of Delta Roof Guard Super-Accelerant PU reduces the normal Delta Roof Guard CP pot life. The following is an approximate:

**Safety**

Delta Roof Guard Super-Accelerant PU contains flammable solvents. Always follow the instructions provided in the Material Safety Data Sheet and take the precautions provided. This product is to be used only by industrial or professional users. It is not suitable for DIY-type uses.

**Environmental Precautions**

Empty containers must be handled, taking the same precautions as if they were full. Containers must be considered as hazardous waste, to be transferred to an authorised waste manager. If there is some residual product in the containers, do not ix it with other substances without checking for possible dangerous reactions.

# DELTA ROOF GUARD GENERAL PRIMER

**A single component polyurethane resin primer for improving the adhesion of Delta Roof Guard CP and QC systems to various substrates such as dry old: concrete, masonry, bitumen roofing and asphalt.**

Flexible aromatic, one-component, moisture cure polyurethane resin for sealing and priming bituminous supports. This resin cures by air moisture giving a flexible coating. It is an excellent polyurethane primer for re-coating old bituminous layers with polyurea or polyurethane waterproofing systems.

## TECHNICAL DATA

### Information on the final product

| | | |
|---|---|---|
| Chemical Description | Moisture-cured, monocomponent polyurethane resin, in organic solvent | |
| Physical State | Liquid | |
| Packaging | Metal container: 4kg, 20kg | |
| Non-Volatile Content (%) | 69% | |
| Flash Point | 36°C (ASTM D 93) | |
| Available Colours | Slightly yellow | |
| Density | 1.0g/cm3 (25°C) | |
| Viscosity Approximate, Brookfield | Temperature | Viscosity (mPa.s) |
| | 10 | 800 |
| | 20 | 350 |
| | 30 | 270 |
| VOC (g/L i %)<br>VOC Class as per 200/4/42/EC | 300g/L<br>31% by weight<br>Product subclass: h 2 Consolidating primers solvent based<br>Phase II from 01/01/2010 on: 500g/L | |
| Pot Life | 2 hours (1kg, 25°C, 60% rh) | |


## Application

- Suitable for cold or warm roof construction
- Balconies and terraces
- Podium decks
- Car parks
- Infrastructure
- Walkways
- Ideal for new construction and refurbishment projects

## Benefits

- $^{B}$ROOF(t4)
- Flexible coating
- Polyurethane primer for re-coating old bituminous layers
- Minimises adhesion failure
- Strengthens and seals ready for application of Delta Roof Guard CP or QC
- Quick installation times
- Compatible with a wide range of substrates
- Dry old: concrete, masonry, bitumen roofing and asphalt.

## Specifications

- BS 8102:2009 Type C Drained Protection
- J40 (Clause 290) Flexible Sheet Tanking/Damp Proofing
- J31 Liquid Applied Waterproof Coatings/130 Roof Coatings
- J31/10 Warm Deck Roof Coating
- J31/110 Cold Deck Roof Coating
- J31/120 Warm Deck Roof Coating
- J31/130 Inverted Roof Coating
- J31/5 Cold Deck Roof Coating
- J41 – Reinforced Bitumen Roof Coating

# DELTA ROOF GUARD GENERAL PRIMER

## TECHNICAL DATA

| | |
|---|---|
| Storage | Keep below 25°C in a dry place, away from heat and ignition sources. |
| Use Before | Use before 12 months after manufacturing |
| **Information on the final product** | |
| Final State | Solid film |
| Colour | Colourless to slightly yellow |
| Hardness (Shore) | 65A (ISO 868) |
| Mechanical Properties | Elongation at break: 300%<br>Tensile strength: 4.1 mPa |
| Adhesion Strength | Concrete: 4.4 mPa |
| VOC Content | 572g/L, 57% |
| UV Resistance | Delta Roof Guard General Primer is an aromatic PU-based product. It will turn to yellow when exposed to sunlight but without impairment of its mechanical properties. |
| Thermal Resistance | Stable up to 80°C |

### Application

Can be applied by brush, roller or by airless spraying equipment. Although not strictly necessary, it is recommended to use all the contents of the can. If not, ensure the remaining is kept tightly sealed after use.

It can be applied as such, but often in a first coat, it is diluted up to 5% with Delta Roof Guard PU Solvent. Do not use other solvents for dilution. Usual amounts applied range from 100 to 300g/m2.

### Curing Time

Curing time depends strongly on ambient conditions. The higher the temperature and humidity, the faster Delta Roof Guard General Primer cures. The following table gives approximate values of curing time for 500g/m2 wet films.

| Conditions | Dry to touch (h) |
|---|---|
| 16°C, 50% rh | 4 |
| 20°C, 50% rh | 3.5 |

### Reapplication

It is possible to apply a second coat or to resume job with the following coating from the moment when it is dry to touch up to 48 hours afterwards. It is important to ensure all the solvent has disappeared, in order to avoid bubble development under the sealer surface.

# DELTA ROOF GUARD CONCRETE PRIMER

**A two part water based epoxy primer (humidity primer) is a highly effective penetrative resin, which provides a sound, solid base prior to the application of Delta Roof Guard QC or Roof Guard CP. Delta Roof Guard Concrete Primer will improve adhesion to damp: wood and concrete substrates.**


Moist surfaces are troublesome when treated with any synthetic resin, both because of immediate adhesion difficulties and problems arising afterwards because of the upward water pressure.

In many cases, material, and time constraints force applicators to work on less-than-optimal support conditions, and a moisture-addressed product is needed in order to:

- Improves adhesion
- Avoid blistering due to the water pressure from below (support saturation)
- Avoid air bubbles, due to the water vapour pressure which cannot be released (mostly encountered in elastic membrane treatments)
- Incompatibility of the support with one-component, moisture-cured polyurethane resins

Delta Roof Guard Concrete Primer is the best solution as a primer for waterproofing or flooring polyurethane application on supports when moisture content is between 4-12%. This product is not useful where ground water has a pressure greater than 1,5 N/mm2.

Delta Roof Guard Concrete Primer is a 2-component, water-based epoxy resin. Components, once mixed, are totally compatible with moist supports, and the resulting polymerized product is a crystalline material with high adhesion and tensile strength. It effectively blocks residual moisture flow and prevent blistering of the polyurethane coating applied on top.

This product is useful for any kind of waterproofing project, involving polyurethane sealing, such as:

- Roof and wall refurbishments
- Waterproofing treatment of tanks and other water management facilities
- Floorings in moisture-affected environments

**Curing Time**

Data for a 500g/m2 application. High temperature and low humidity favour the drying process. High humidity conditions make the initial milky film to remain white and sticky.

| Conditions | Dry to touch (h) |
|---|---|
| 16°C, 50% rh | 8 |
| 20°C, 50% rh | 7 |

## Application

- Roof and wall refurbishments
- Waterproofing treatment of tanks and other water management facilities
- Floorings in moisture-affected environments

## Benefits

- A 2-component, water-based epoxy resin.
- It effectively blocks residual moisture flow and prevent blistering of the polyurethane coating applied on top

## Specifications

- Type C Drained Protection in accordance with BS 8102:2009

# DELTA ROOF GUARD CONCRETE PRIMER

## TECHNICAL DATA

### Information on the final product

| | Component A | Component B |
|---|---|---|
| Chemical Description | Epoxy resin | Aqueous polyamine |
| Physical State | Liquid | Liquid |
| Packaging | Metal container 5.2kg | Metal container 12.8kg |

### Information on the final product

| | Component A | | Component B | |
|---|---|---|---|---|
| Non-Volatile Content (%) | Approx. 100% | | 31% | |
| Flash Point | >100°C | | >100°C | |
| Density | Temperature | Viscosity (mPa.s) | Temperature | Viscosity (mPa.s) |
| | 25 | 1.14 | 25 | 105 |
| Viscosity Approximate Values, Brookfield | Temperature | Viscosity (mPa.s) | Temperature | Viscosity (mPa.s) |
| | 35 | 70 | 35 | 170 |
| | 25 | 150 | 25 | 280 |
| | 15 | 300 | 15 | 500 |

**Mixing**

Stir and homogenise thoroughly components A and B together using a low-speed stirrer. When mixed correctly, the product will have a **whitish, milky dispersion**. The milky white layer when cured will become a **colourless film**. Cure time can be between 7 - 8 hours, depending on temperature, humidity, and thickness.

**Application**

Apply 200 to 500g/m2, by brush or roller. Higher quantities may lead to white/translucent areas and poor appearance. On very absorbent substrates, dilution is allowed. Use 10 to 20% water. On hot surfaces (e.g. recently exposed to sun), moist the surface before starting application. Application in excess can lead to resin retraction upon water evaporation. Do not exceed the recommended application quantities. If some white spots appear after curing, they must be removed before application of following coats.

Please note, that the moisture content of the damp wood/concrete must be no more than between 4-12%.

# DELTA ROOF GUARD METAL PRIMER/ACTIVATOR

**A single component polyurethane resin primer for improving the adhesion of Delta Roof Guard Primers, CP and QC systems to various substrates such as metal, single ply PVC, EDPM and GRP surfaces.**

In most recent circumstances, polyurethane resins, thanks to their chemical cross linking (as opposed to their physical curing water based products), provide excellent adhesion to substrates. However, the very high water cohesion of these polymers may contribute to a lack of adhesion and eventual failure on difficult substrates, such as metals or non-porous ceramics. Some supports tend to offer more resistance to adhesion than others:

- Metals
- Glass
- Single ply PVC
- EDPM
- GRP
- Old/Polished Concrete
- Stainless Steel

## TECHNICAL DATA

| | |
|---|---|
| Chemical Description | Adhesion promoter additive solution |
| Physical State | Liquid |
| Packaging | Metal container: 4kg, 20kg |
| Non-Volatile Content (%) | 1% |
| Flash Point | 26°C |
| Available Colours | Yellow |
| Density | 0.8g/cm3 (20°C) |
| Viscosity Approximate, Brookfield | 3 mPa.s |
| VOC Content | 860g/L |
| Storage | 12 months after manufacturing date |
| Use Before | Keep at a temperature between 5°C and 30°C, away from heat and moisture |
| Colour | Colourless |


### Application

- Activator for difficult substrates
- Suitable for cold or warm roof construction
- Balconies and terraces
- Podium decks
- Car parks
- Infrastructure
- Walkways
- Ideal for new construction and refurbishment projects

### Benefits

- $^{B}$ROOF(t4)
- BBA Approved
- Flexible coating
- Excellent adhesion for difficult substrates
- Minimises adhesion failure
- Strengthens and seals ready for application of Delta Roof Guard CP or QC
- Quick installation times
- Compatible with a wide range of substrates

### Specifications

- BS 8102:2009 Type C Drained Protection
- J40 (Clause 290) Flexible Sheet Tanking/Damp Proofing
- J31 Liquid Applied Waterproof Coatings/130 Roof Coatings
- J31/10 Warm Deck Roof Coating
- J31/110 Cold Deck Roof Coating
- J31/120 Warm Deck Roof Coating
- J31/130 Inverted Roof Coating
- J31/5 Cold Deck Roof Coating
- J41 – Reinforced Bitumen Roof Coating

# DELTA ROOF GUARD METAL PRIMER/ACTIVATOR

### Applications

Delta Roof Guard Activator for difficult surfaces/Metal Primer, is used to activate surfaces such as metal, single ply PVC, EDPM, GRP and other difficult substrates.

Delta Roof Guard Activator/Metal Primer allows both in the case of waterproofing membranes, as well as in floorings, adhesives and other polyurethane coatings, to obtain high adhesion "links" between the substrate and the coating on top, so that there is a chemical anchorage between both elements. Even though Delta Roof Guard Activator/Metal Primer is a product that by itself does not offer any film formation or any mechanical properties, (so it is definitely not a product to be used on its own), it does provide extreme adherence in combination with polyurethane single component products. Used to "activate" surfaces prior to use of the Roof Guard General Primer.

**Note: Does not leave form/film or coating when applied. Substrate will appear immediately dry.**

### Applications

Delta Roof Guard Activator for difficult surfaces/Metal Primer, is used to activate surfaces such as metal, single ply PVC, EDPM, GRP and other difficult substrates.

Delta Roof Guard Activator/Metal Primer allows both in the case of waterproofing membranes, as well as in floorings, adhesives and other polyurethane coatings, to obtain high adhesion "links" between the substrate and the coating on top, so that there is a chemical anchorage between both elements. Even though Delta Roof Guard Activator/Metal Primer is a product that by itself does not offer any film formation or any mechanical properties, (so it is definitely not a product to be used on its own), it does provide extreme adherence in combination with polyurethane single component products. Used to "activate" surfaces prior to use of the Roof Guard General Primer.

**Note: Does not leave form/film or coating when applied. Substrate will appear immediately dry.**

### How to apply

It is recommended to scratch the surface slightly, creating some friction, if possible, before applying the Delta Roof Guard Activator/Metal Primer. Apply by brush or roller. Sprayers are also allowed. Delta Roof Guard Activator/Metal Primer does not give enough adhesion on unsuitable substrates. It is important to clean and remove all loose materials, dirt, greases and other residues. In addition, surfaces must be dry.

Apply by wetting all the surfaces and allow the solvent to evaporate. The product does not give a visible film. No colour or appearance change will be noticed after application. Do not apply excessive amounts of product.
On difficult substrates (e.g. Asphalt) it is recommended to test the Delta Roof Guard Activator/Metal Primer beforehand.

### Curing Time

Solvent evaporation takes place typically in 5 minutes, depending on the local conditions.

### Cleaning

Contaminated tools should be cleaned with Delta Roof Guard PU Solvent.

### Recommended Quantities

Scrub or spray the surface applying 50 to 100g/m2.

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 21/5864

BROOF(t4)

# DELTA ROOF GUARD COLODUR

**A high performance one-component aliphatic isocyanate-based polyurethane resin, that cures upon reaction with atmospheric moisture, giving a hard and flexible coatings with good abrasion, scratch and weather resistance. Colodur is an excellent surface protection for use over Delta Roof Guard membranes.**

Pigmented Colodur will not allow UV light through. Clear Colodur allows UV light through. Delta Roof Guard Colodur can be delivered colourless or pigmented with standard colour. Colourless product can be pigmented on site by addition of suitable colour paste.

## TECHNICAL DATA

| | |
|---|---|
| Chemical Description | Solvent borne single-component aliphatic polyurethane |
| Physical State | Liquid |
| Packaging | Metal container: 4/20kg (Colourless)<br>5kg/25kg (pigmented) |
| Non-Volatile Content (%) | >50% (colourless)<br>>70% (pigmented) |
| Flash Point | 36°C (ASTM D 93) |
| Available Colours | Colourless. Pigmented in white and grey. Other colours under request. |
| Density | Colourless: 0.95g/cm3 (20°C)<br>Pigmented 1.35 g/cm3 (20°C) |
| Viscosity Approximate, Brookfield | 3 mPa.s |

| | | Viscosity (mPa.s) | |
|---|---|---|---|
| | TEMPERATURE | COLOURLESS | PIGMENTED |
| Viscosity Brookfield Approx. | 5 | 890 | 1000 |
| | 10 | 660 | 800 |
| | 20 | 410 | 600 |
| | 30 | 230 | 300 |
| VOC (g/L i %)<br>VOC Class | VOC Content:468.76g/l (colourless), 380g/l (pigmented)<br>Product subclass: i II solvent based single-component performance products<br>Limit from 01/01/2010: 500g/l | | |
| Pot Life | Colourless: 6 hours (1kg, 20°C, 50% rh)<br>Pigmented: 2 hours (forms skin on surface) | | |


## Application

- Topcoat
- UV Topcoat
- Suitable for cold or warm roof construction
- Balconies and terraces
- Podium decks
- Car parks
- Infrastructure
- Walkways
- Ideal for new construction and

## Benefits

- BROOF(t4)
- BBA Approved
- Gives protective UV topcoat to Delta Roof Guard CP and QC
- Pigmented colodur does not yellow on expo sure to sunlight
- Scratch and weather resistance
- Upon reaction with atmospheric moisture gives a hard and flexible coating
- Quick installation time
- One-component

## Specifications

- BS 8102:2009 Type C Drained Protection
- J40 (Clause 290) Flexible Sheet Tanking/Damp Proofing
- J31 Liquid Applied Waterproof Coatings/130 Roof Coatings
- J31/10 Warm Deck Roof Coating
- J31/110 Cold Deck Roof Coating
- J31/120 Warm Deck Roof Coating
- J31/130 Inverted Roof Coating
- J31/5 Cold Deck Roof Coating
- J41 – Reinforced Bitumen Roof Coating

# DELTA ROOF GUARD COLODUR

## TECHNICAL DATA

| | |
|---|---|
| Storage | Keep at a temperature below 35°C, away from ignition sources and moisture.<br>Product may be used up to 12 months (colourless) or 6 months (pigmented) after manufacture in its sealed original container |

### Information on the final product

| | |
|---|---|
| Final Appearance | Solid elastomeric membrane |
| Colour | Colourless. White and Grey pigmented. Other colours available under request. |
| Hardness (Shore) | 53D (colourless) 60D (pigmented) |
| Mechanical Properties | **Colourless**<br>Maximum elongation: 173%<br>Tensile strength: 27.4 mPa<br>**Pigmented**<br>Maximum elongation: 70% |
| Water Vapour Permeability | 2.7g/m2 Day (UNE EN ISO 7783) |
| Abrasion Resistance | 11 mg (taber, CS-10.1kg) |
| UV Resistance | UV Resistant. Aliphatic polyurethane are colour-stable, non-yellowing. |
| Slip Resistance | With quartz sand spread onto (0.4-0.9mm) at 1 kg/m3 class 3 as per UNE EN 12633-2003 |
| Thermal Resistance/use temperature | Stable up to 80°C |
| SRI Index (ASTM E1980-01) | 104.5-105.4 (white pigmented) |

**Mixing**

If necessary, dilute with up to 10% Delta Roof Guard PU Solvent for viscosity adjustment. Note: on non-porous substrates, do not dilute the first coat. Stir gently before use. Use low-speed stirring equipment to minimize air bubbles.

**Application**

Apply by roller, brush or airless spraying equipment. Although not strictly necessary, it is highly recommended to use all of the contents. If not, ensure total sealing of the remainder.

**Note: some roller materials are damaged by the solvent. If in doubt, is recommended to test before use.**

For airless spraying equipment, viscosity is likely to need adjustment. Excess pressure, along with high temperature and humidity, may give rise to micro bubbles that makes the surface to look hazy.

For pigmented applications, mix the pigment paste with Delta Roof Guard Colodur by means of a low speed stirrer and wait some minutes to allow bubbles to disappear. Apply the pigmented colour normally. It is recommended to use all the pigmented mixture. Apply, as a general rule, to 200-500 g/m2.

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 21/5864

**BROOF(t4)**

# DELTA ROOF GUARD GLASS FIBRE REINFORCEMENT

**Delta Roof Guard Glass Fibre Reinforcement is used to reinforce the Base Coat of the Delta Roof Guard Systems. Delta Roof Guard Glass Fibre Reinforcement improves the mechanical properties of the cured waterproofing membrane. The Glass has a weight of 150gms per sqm with a roll size of 1 x 150m ( 150sqm per roll ) and 0.3m x 100m ( 30sqm per roll ).**

Application:

- Reinforcing glass fibre for liquid applied waterproofing systems
- Easy application
- Seamless application
- Suitable for new construction and repair on existing structures
- Installed with base coat
- Once first layer has cured, can be covered with subsequent layers
- Installed sheets should overlap by at least 5cm

**Information on the product before application**

## TECHNICAL DATA

| | |
|---|---|
| | Delta Roof Guard Fibre 150g/m2 |
| Composition | Fibre Glass |
| Weight g.m2 | 150 |
| Binder Content % | |
| Ignition Loss % | 3 to 5 |
| Tensile Strength N/cm | |
| Flexural Strength mPa | Moist >60, dry >80 |
| Packaging | Rolls:<br>0.3m x 100m - DMS 809<br>1m x 100m – DMS 810 |
| Storage | Keep in their original packaging (PE film and box), between -10°C and 50°C. Relative humidity: 35 to 85%. Use before 24 months after manufacturing date. |
| Use Before | 12 months after manufacturing date |
| **Use Conditions** | **Follow use conditions as directed for the relevant liquid resin, Ensure Delta Roof Guard Fibre is dry before use.** |


### Application

- Suitable for cold or warm roof construction
- Balconies and terraces
- Podium decks
- Car parks
- Infrastructure
- Walkways
- Ideal for new construction and refurbishment projects

### Benefits

- BROOF(t4)
- BBA Approved
- Green Roof Approved
- Quick installation times - offering cost savings
- Avoiding inherent risks associated with hot works
- Seamless application - no joints or fixings
- Exceptionally fast curing
- Compatible with a wide range of substrates
- Easy to maintain
- Minimal on-site disruption

### Specifications

- BS 8102:2009 Type C Drained Protection
- J40 (Clause 290) Flexible Sheet Tanking/Damp Proofing
- J31 Liquid Applied Waterproof Coatings/130 Roof Coatings
- J31/10 Warm Deck Roof Coating
- J31/110 Cold Deck Roof Coating
- J31/120 Warm Deck Roof Coating
- J31/130 Inverted Roof Coating
- J31/5 Cold Deck Roof Coating
- J41 – Reinforced Bitumen Roof Coating

# DELTA ROOF GUARD SOLVENT PU

**Delta Roof Guard PU Solvent can be used for viscosity adjustments and tool cleaning Solvent mixture, fully compatible with the Delta Roof Guard product range, suitable for in-situ viscosity adjustments and tool cleaning.**

## TECHNICAL DATA

| | |
|---|---|
| Chemical Description | Organic solvents mixture |
| Physical State | Liquid |
| Packaging | Metal container: 4kg/20kg |
| Flash Point | 26°C |
| Colour | Colourless |
| Density | 0.86g/cm3 (20°C) |
| VOC Content | 860g/L, 100% |
| Storage | Keep at temperatures below 35°C, away from ignition sources |
| Use Before | 12 months after manufacturing date |


| SOLVENT ADDED (%) | VISCOSITY (INITIAL=100) |
|---|---|
| 0 | 100 |
| 1 | 58 |
| 2 | 43 |
| 3 | 33 |
| 5 | 23 |

*Aged samples with initially viscosity 40,000 mPa.s*

As a general rule, opened containers of Delta Roof Guard products should be used completely. Nevertheless, a diluted product may be kept in tightly sealed containers, avoiding as much empty headspace as possible.

## Application

- Suitable for in-situ viscosity adjustments
- Tool Cleaning

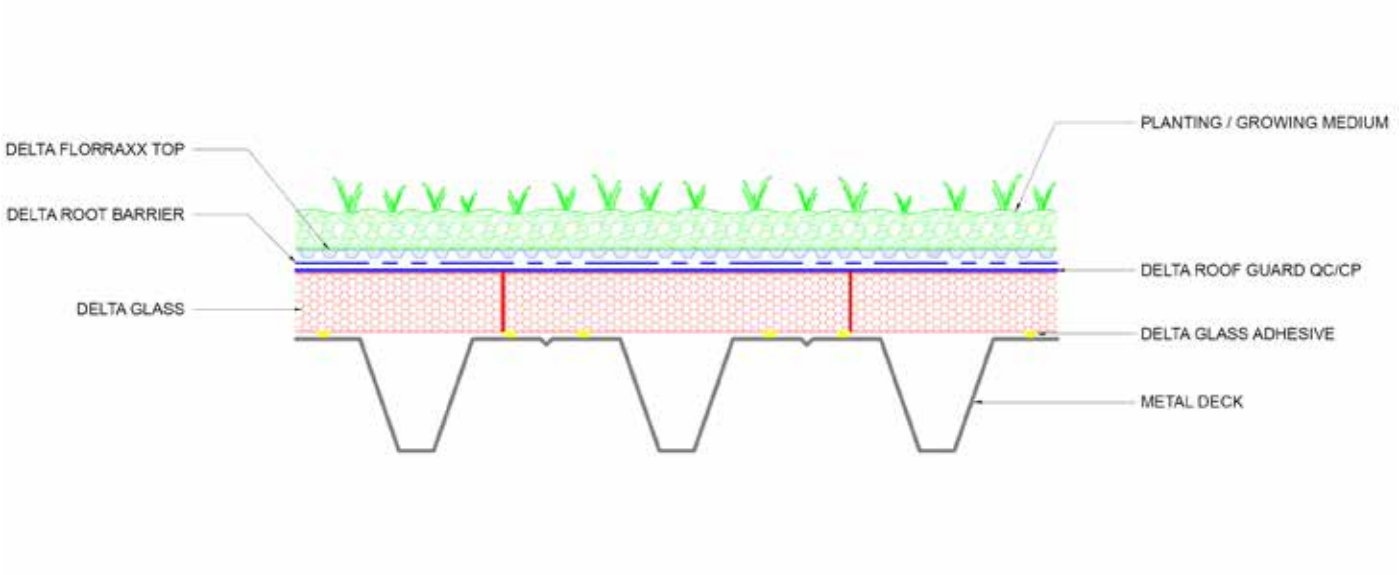
## Benefits

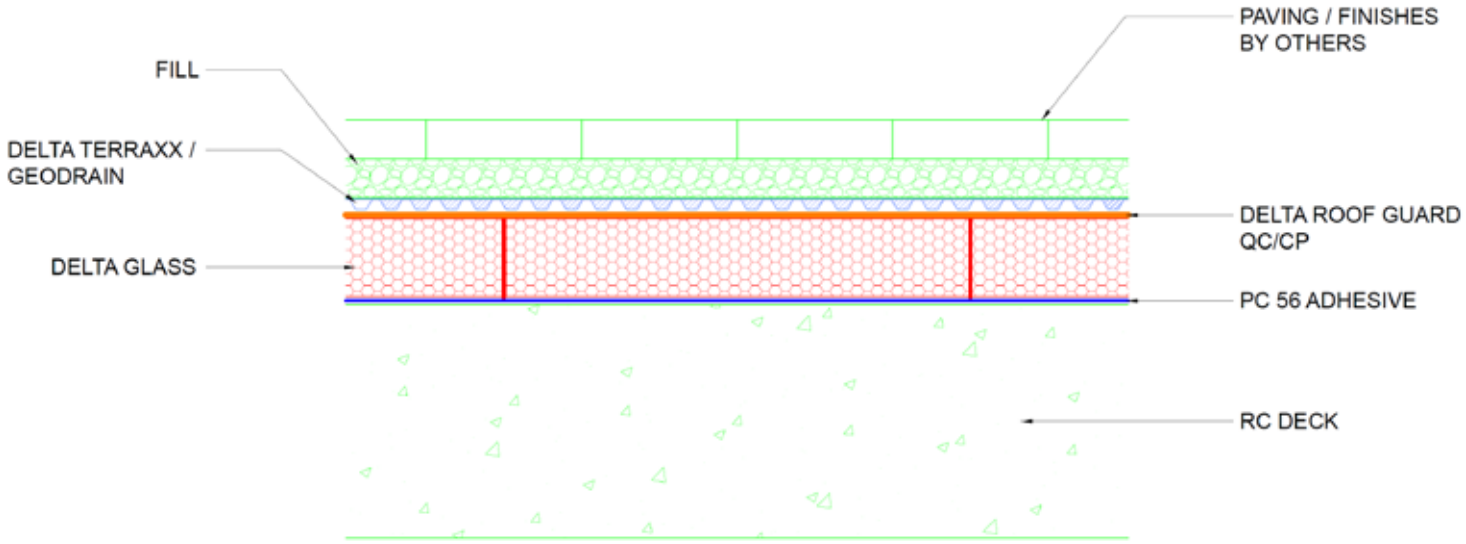
- Dip the tools into a suitable container filled with the Delta Roof Guard PU Solvent. Keep them cleaning until waste dispersion and clean thoroughly the tool immediately afterwards. If exposed to evaporation without cleaning, the dispersed residues will deposit again onto the tool and eventually harden. Delta Roof Guard PU Solvent cannot clean hardened residues. Caution: Delta Roof Guard PU Solvent can damage some plastics.

## Specifications

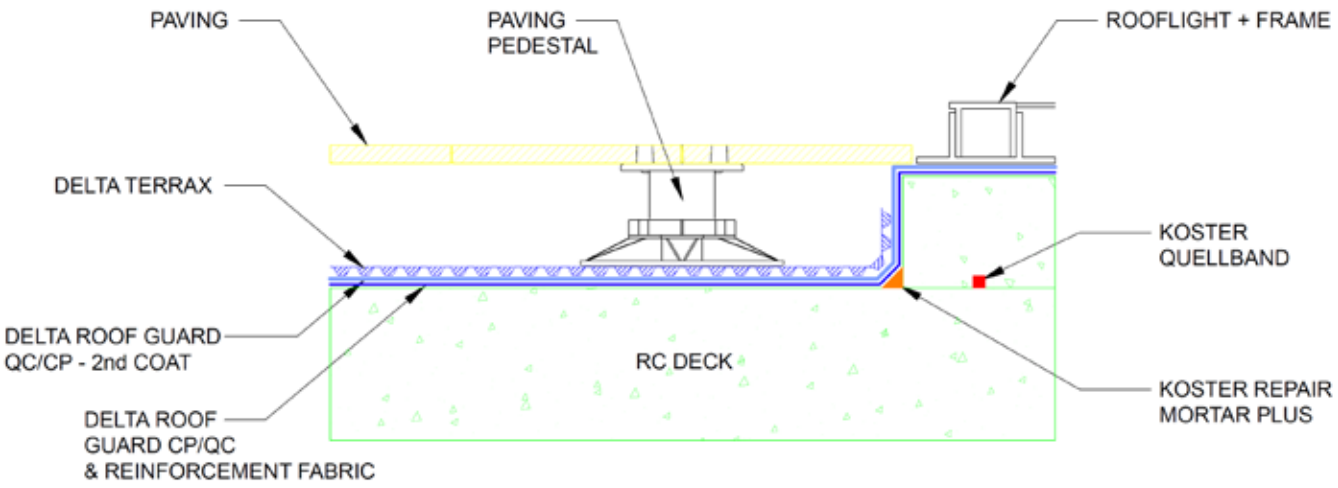
- Type C Drained Protection in accordance with BS 8102:2009

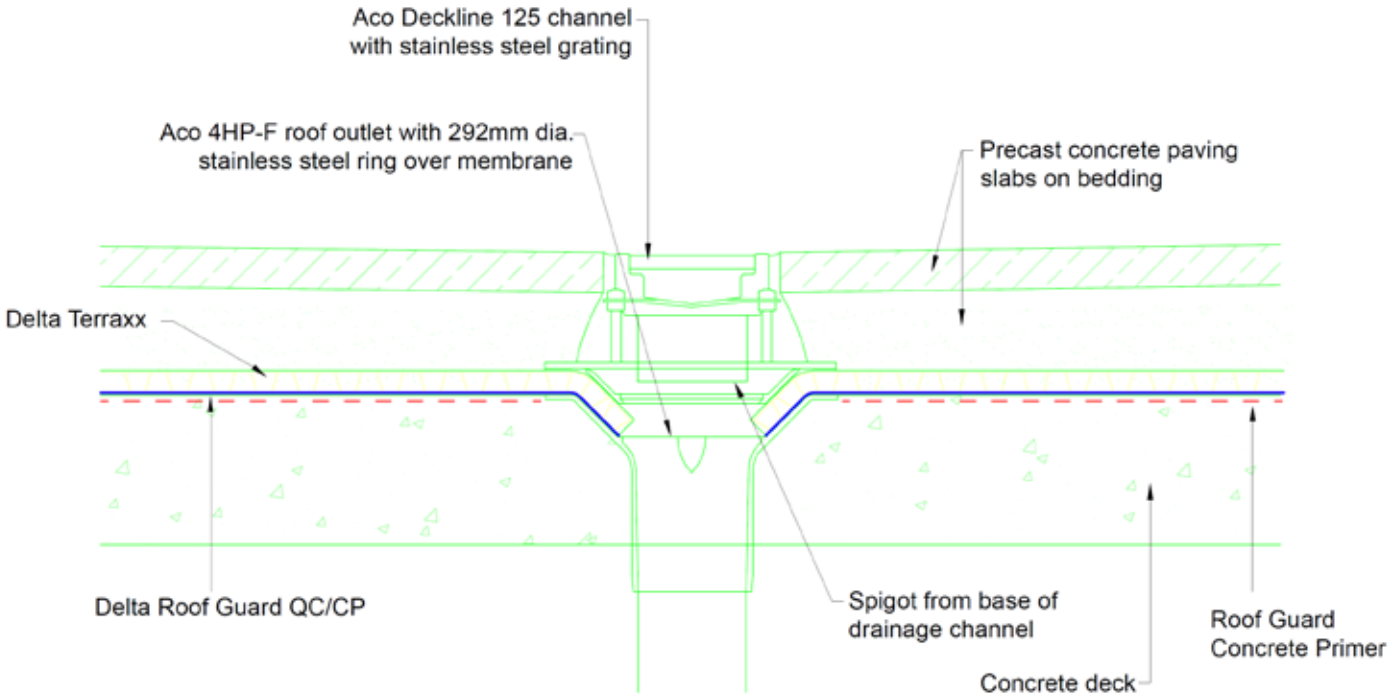
# TECHNICAL DRAWINGS



# TECHNICAL DRAWINGS



# DEFINITIONS

**ACTIVE LEAK**

Water penetration through a structure/substrate at a current time.

**BASE COAT**

Base coats are waterproofing layers that are applied over primed surfaces or intermediate coatings prior to a topcoat application.

**BURIED ROOFS**

Buried roofs should not be confused with podium decks, green roofs, or other forms of suspended roof construction types. Buried roofs are typically part of an under-garden structure or landscaped area, a buried roof is either part of a basement that extends beyond the line of the main elevations, or an elevated deck accessible by people or traffic.

**BEAM & BLOCK**

Beam and block is made from cast concrete. One piece of which is a pre-stressed concrete beam, which can be an inverted T-shaped beam or lintel, the other piece being a simple rectangular block.

**BLUE ROOF**

A blue roof is a roof of a structure that is designed explicitly to provide initial temporary water storage and then gradual release of stored water, typically rainfall.

**COLD JOINT**

A cold joint is the boundary between concrete steps for example the wall/floor joint.

**COLD APPLIED WATERPROOFING**

A cold applied liquid coating curing to form a rubber-like elastomeric waterproof membrane.

**CRACK REPAIR**

Methods for repairing cracked walls/floors and ensuring that they are watertight.

**DETAILS**

Details convey accurate information for a particularly specific nature and are a specific part within the waterproofing design.

**EXPANSION JOINT**

An expansion joint is a planned joint which is designed to allow two sections of concrete or masonry to expanding and contract.

**FLOOR/WALL JUNCTION**

An area where the wall meets the floor/slab in construction.

**GREEN ROOF (EXTENSIVE/INTENSIVE)**

A green roof construction involves a series of functioning layers that, while retaining the necessary water to support the plants, allow excess water to drain off and protect the roof surface from plant roots and mechanical damage.

**HYBRID MULTI-USE ROOF**

A Hybrid deck is a combination of two or more systems. Where there are different external uses, different internal uses below the deck.

**LOAD-BEARING WALL**

A load-bearing wall or bearing wall is a wall that is an active structural element of a building or structure, it bears the weight of the elements above the wall. Load-bearing walls are one of the earliest forms of construction.
Movement Joint A movement joint is a planned joint which is designed to permit relative movement caused by expansion due to changes of temperature or moisture.

# DEFINITIONS

**PODIUM DECK**

A podium deck is one that is raised above the general level of its surroundings. A podium deck can be used as an infill between and/or attached to buildings structure. A podium deck can also be an elevated platform or one that has a void underneath it. A podium deck may have supporting columns that do not pass through this structural element.

**PRESSED JOINT**

A pressed joint allows for the transfer of pressure, transverse displacement can be avoided with an interlocking geometry.

**PRE-CAST CONCRETE**

Pre-cast concrete is a construction product produced by casting wet concrete in a reusable mould or "form" which is then cured in a controlled environment, transported to site, and installed in place.

**PRIMER**

A primer is a material that will promote the bonding of the surface of a product with any application of a topcoat of sealant.

**REINFORCED CONCRETE**

Reinforced Concrete is a composite material in which concrete's relatively low tensile strength and ductility are compensated for by the inclusion of reinforcement having higher tensile strength or ductility.

**RIB DECK**

The Type B Wide Rib is the industry standard for corrugated industrial roofing and is as popular for floor decking. It can be produced in galvanized steel, painted steel, aluminium, and stainless steel.

**SERVICE PENETRATIONS**

Service penetrations are created using a cast-in-place sleeve, in a wall or floor assembly, for the purpose of accommodating the passage of a mechanical, electrical, or structural service.

**TERRACES AND BALCONIES**

Terraces are a relatively level paved or planted area adjoining a building. A balcony is a platform projecting from the wall of a building, supported by columns or console brackets, and enclosed with a balustrade usually above the ground floor.

**TIMBER FRAME**

Timber construction is traditional methods of building with heavy timbers, creating structures using squared-off and carefully fitted and joined timbers with joints.

**TOPCOAT**

Topcoats are the final coats for use over primers.

**UNPLANNED MOVEMENT JOINT**

An unplanned movement joint can be the cause of shrinkage, creep, thermal movement or to accommodate movement with temperature changes.

**WARM ROOF**

A warm roof is a type of roof construction which has an insulation layer above the rafters and immediately below a weatherproof membrane.

Registered Offices:
Delta House, Merlin Way, North Weald, Epping, Essex, CM16 6HR

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