Section 1 Introduction

Section 2 System Selector

Section 3 Triflex PDS
Waterproofing and surfacing system for exposed car park decks

Section 4 Triflex PDS-Ramp
Waterproofing and surfacing system for exposed car park ramps

Section 5 Triflex DFS-External
Waterproofing and surfacing system for external car park decks

Section 6 Triflex DFS
Waterproofing and surfacing system for internal car park decks

Section 7 Triflex DFS-Ramp
Waterproofing and surfacing system for internal and external car park ramps

Section 8 Triflex DCS
Protective coating system for internal concrete car park decks

Section 9 Triflex DMS
Marking system for car park bays, lanes and deck signage

Section 10 Triflex FMS
Marking system for traction strips, road crossings, stop zones, cycle lanes, and walkways

Section 11 Triflex ACS
Anti-carbonation system for concrete/masonry protection

Section 12 Maintenance and Care
03 Introduction

04 Triflex – Waterproofing, Surfacing, Protection

05 Background to Multi-Storey Car Parks

07 creative CAR-PARKS

09 Triflex Technical Service
**Triflex - creative CAR-PARKS**

**Introduction**

The aim of this design manual is to assist owners, designers and specifiers in understanding the problems associated with car park structures and how Triflex waterproofing, surfacing and protection systems can be used to solve them.

Triflex offer a wide range of sophisticated systems to deal with the majority of car park waterproofing, surfacing and protection applications:

- Car park decks over occupied premises
- Car park ramps over occupied premises
- External car park decks
- Internal car park decks
- Car park ramps
- Deck signage
- Deck surfacing and marking
- Wall, column and soffit coating
- Deck coating

**System Selector**

The Triflex System Selector on pages 12 and 13 allows simple selection of the relevant Triflex system to meet the requirements of the project.

**The Total Car Park Solution**

Triflex systems are suitable for all car park deck and frame constructions, and all common substrates:

**Decks:**
- Cast insitu
- Pre-cast double T with or without structural topping
- Composite – pre-cast planks with structural topping

**Frames:**
- Cast insitu
- Pre-cast
- Steel framed
- Lift slab

**Substrates:**
- Concrete
- Asphalt
- Polymer modified asphalt
- Hot rolled asphalt
- Stone mastic asphalt
- Screed
- Lightweight concrete
- Polymer modified concrete repair materials
- Existing membranes
Triflex - Waterproofing, Surfacing, Protection

A history in liquid applied waterproofing, surfacing and protection

Triflex has been specialising in the manufacture of liquid applied waterproofing, surfacing and protection systems for almost 30 years. Through continued research and development the company remains at the forefront of liquid applied technology.

Our systems are designed for the most difficult and diverse of applications including:

- Car parks
- Walkways, balconies and terraces
- Roofing

A commitment to quality and the environment

The quality of our materials is fully certified, with DIN ISO 9001 quality assurance. Raw materials are analysed and tested and our systems have been subjected to the most demanding independent testing world wide, including BBA, Factory Mutual, Underwriters Laboratories, MPA, DIN, TUV and Veritas.

By only working through approved contracting partners, you can be assured that the quality of the installation matches the quality of our systems.

As environmentally responsible resin manufacturers we have achieved DIN ISO 14001 approval for our environmental management system.

All Triflex car park systems are solvent and isocyanate free.

Innovators in resin technology

Through the use of advanced processing technology and equipment, in combination with our continual desire to innovate and improve, Triflex has developed a range of liquid applied systems which is unsurpassed in the industry. This dedication to research, development and testing has resulted in the availability of the next generation of liquid applied systems today.

The Triflex philosophy

Our philosophy is to offer long term solutions in whichever area of waterproofing, surfacing and protection we are involved in. Our many years of experience have taught us to never underestimate the demands which can be placed upon a waterproofing and surfacing system, we therefore only offer high technology, heavy duty systems, based on time proven technology.
creative CAR-PARKS

Background to Multi-Storey Car Parks

There are thought to be in the region of 4,500 multi-storey car parks in the UK, helping to serve the nations 26 million\(^1\) registered vehicles. These multi-storey car parks were first introduced in the 1940’s and have become an accepted part of our urban landscape.

Multi-storey car parks (MSCPs) are unique constructions in terms of their role and in service requirements which until the 1990’s were often ignored.

There are 3 key areas to the Triflex creative CAR-PARKS concept:

- Structural Protection
- Aesthetic Enhancement
- Security and Safety

\(^1\)Office for National Statistics 2002

Structural Protection

Unique characteristics of MSCP’s:

- Maximum spans with minimum support to allow minimal restriction to the passage of vehicles and maximise parking space
- High dead loads from parked vehicles
- High dynamic / live loads from the passage of vehicles through the construction
- Exposed to cyclic weathering, wear, mechanical damage and chemical attack

The effects of these characteristics on the construction are increased by:

- Poor design
- Bad workmanship
- Low cost, lightweight construction
- Inherent weaknesses in the construction method
- Lack of maintenance
- Lack of structural protection
The degradation and failure of concrete in car park structures can generally be associated with the following:

- Chlorides
- Carbonation
- Freeze thaw
- Alkali silica reaction
- Salt crystalisation
- Abrasion

If required, please contact the Triflex (UK) Limited Technical Team for more detailed information on the processes involved.

When these processes are combined with design and construction problems:

- Inadequate robustness
- Inadequate joint design
- Inadequate / poor concrete specification
- Low reinforcement cover
- Inadequate fixing of cladding / barriers
- Poor detailing
- Excessive deflections
- Cracks / daywork joints / pre-cast elements

The results can be failure of the construction.

The Triflex solution

Through effective waterproofing, surfacing and protection of the structure using Triflex materials, the damage can be prevented and the effects of inadequacies in the design and construction can be mitigated.
creative CAR-PARKS

Aesthetic Enhancement

In the 1990’s Triflex initiated development in the car park sector with the introduction of the creative CAR-PARKS concept. The concept was launched to allow car park designers and owners more freedom in the refurbishment and creation of what are often dark, dismal and unsafe structures.

Through a combination of our high quality materials, design assistance, colour range and specialist marking materials we can help to create an aesthetically pleasing, safe, efficient car park environment for users. With Shopping Centres, the car park is now regularly considered as the ‘front door’ to the centre for car bound visitors – with Triflex systems you can give the very best first impression.

As specialists in waterproofing, surfacing and protection this process is not solely cosmetic as all of our core systems are designed to offer long term protection, prolong building life and add value to the structure.

Rendered visualisations

To assist clients in the design of their car park scheme, high quality rendered visualisations can be prepared to help demonstrate the transformation which can be achieved.

Through computerised rendering, clients can determine their preferred layout and colour scheme, and in some cases can use these renders to assist in securing funding:

Our car park deck waterproofing, surfacing and protection systems can be produced in a wide range of standard and tailor made colours.

*With Triflex – design is no longer restricted.*
Security and Safety

**Park Mark**

Approximately 20% of reported crime is vehicle related and much of this crime occurs in car parks.

The importance of security and safety in car parks has been highlighted by the growth of the Safer Parking Scheme (SPS) formerly known as the Secured Car Parks Scheme. The SPS is an initiative of the Association of Chief Police Officers (ACPO) and is aimed at reducing crime and the fear of crime in parking facilities.

The Safer Parking status, Park Mark, is awarded to parking facilities that have achieved the requirements of a risk assessment as conducted by the Police.

A light, bright well maintained car park will be more likely to achieve Park Mark status than a dark, dismal untreated car park.

**Health and Safety**

Under the Health and Safety at Work Act, there are legal requirements concerning the ‘stability and solidity’ of employment premises – this includes parking facilities. Owners also owe a duty of care to users of their car parks. To help fulfil these responsibilities, owners and managers must ensure the structural integrity of the car park.

Without protection, car park structures will degrade and over time can become potentially dangerous. By using high quality Triflex waterproofing, surfacing and protection systems, the structure will be protected, with the added benefits of increased safety such as anti-skid levels, and more clearly defined layouts.
Triflex Technical Service

In order to assist our clients in the selection and design of the most suitable solutions for the car park project, the Triflex Technical Team offer the following services:

**Free site surveys and project reports**
- Recommendations on Triflex waterproofing, surfacing and protection solutions for the project
- Assistance with specification production using our Model Specifications and System Data Sheets
- Provision of standard Sketch Details and where required, project specific CAD details
- Provision of standard rendered visualisations and project specific visualisations where required
- List of Triflex Approved Contracting Partners specialising in car park works

**When the project commences**
- On site support
- Attendance at relevant site meetings
- Quality Control testing and monitoring
- Provision of information for the project Health and Safety file including Material Safety Data Sheets and Maintenance Data
- The Triflex Technical Team aim to work with all parties to the project to ensure a result in which the client can have total confidence
The aim of this System Selector is to help direct you to the specific system or systems to meet the needs of the project:

How to use the System Selector
- Choose your project requirement from the first column of the table
- Read across the table to find the relevant system
- Refer to the relevant section of the Triflex creative CAR-PARKS manual

<table>
<thead>
<tr>
<th>System Application</th>
<th>PDS</th>
<th>PDS-Ramp</th>
<th>DFS-External</th>
<th>DFS</th>
<th>DFS-Ramp</th>
<th>DCS</th>
<th>DMS</th>
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Triflex PDS

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park decks
Triflex PDS

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park decks

Potentially the most difficult waterproofing and surfacing projects are car parks and service decks over occupied premises. The waterproofing and surfacing system must not only prevent water ingress into the occupied premises below, but provide a highly durable, anti-skid, aesthetic wearing surface capable of withstanding long term trafficking.

An added complication is that as relatively few new build constructions are built to this configuration, the occupied premises are likely to be live, with existing surfacings and insulation. Any solution which requires removal of the existing surfacings, for example asphalt and lytag screed will be disruptive and leave areas vulnerable to water ingress during the works.

The Triflex solution

The Triflex PDS has been used for more than 20 years and is acknowledged as the industry leader in providing long term waterproofing and surfacing to exposed car park and service decks over occupied premises.

Triflex have an unsurpassed record in asphalt overlay and can overlay virtually any material likely to be encountered on projects of this nature. Through our ability to overlay, the costs, disruption and risks associated with removal can be avoided.

The unique, fully reinforced Triflex PDS also allows high risk car park decks, for example heavily cracked lightweight structures to be overlaid.

Service decks

The nature of the trafficking of service decks over occupied premises requires special consideration, with high vehicle weights, tail lifts, skips and compactors. The Triflex Technical Team can assist in providing detailed solutions to ensure that all areas can be treated with total confidence.
Triflex PDS

System Benefits

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park decks

OVERLAY vs STRIP AND REPLACE

- The Triflex PDS can be used for both refurbishment and new build projects. When dealing with refurbishment projects the unique properties of the Triflex PDS allow virtually all existing substrates, including asphalt to be overlaid, meaning that the risks, costs and disruption associated with removal of the existing waterproofing are avoided. The area can be treated section by section with seamless continuity, with no increased risk of water ingress during the refurbishment process. The Triflex PDS has been used successfully over asphalt for more than 20 years, and Triflex systems generally are acknowledged as the industry leaders in asphalt overlay.

TRACK RECORD

- The unique properties of the Triflex PDS allow specification in the most technically challenging car park and service deck environments. The system has been proven to offer long term waterproofing and surfacing to high volume, car park and service decks forming the roof to occupied premises. The Triflex PDS has the longest BBA durability statement for any membrane system on the market - 20 years. The BBA certificate also gives specifiers and users confidence that the system has been in use since 1981.

UNIQUE FULLY REINFORCED LIQUID APPLICATION

- Meaning that all details and potential areas of weakness can be safely incorporated within the same homogenous waterproofing and surfacing membrane. Through incorporation of the unique Triflex reinforcement with our Patented resin technology, the Triflex PDS has exceptional long term resistance to regular and unforeseen movement and flexural fatigue.

DURABILITY

- The Triflex PDS system features a heavy duty wearing course fully filled with either crystal quartz, basalt or crushed granite. This aggregate is tightly bound within the resin matrix and provides the wearing layer for traffic. Unlike other systems which feature a scattering of anti-skid granules, the Triflex PDS fully aggregate filled wearing course provides long term resistance to wear and damage. In addition, unlike the more commonly available resins, Triflex resins achieve excellent inter layer adhesion, do not suffer inter layer delamination and have excellent resistance to shear forces from vehicle tyres.

THICK LAYER BUILD UP

- With a finished thickness in excess of 4.5mm, the Triflex PDS has exceptional durability, helps mask deck imperfections and provides a more aesthetically pleasing, easier to maintain system. The system thickness allows profiled substrates such as brushed concrete and crimped asphalt to be overlaid without the original profile reflecting through. In contrast, many competitors systems are less than 2.0mm thick, are less durable, and highlight rather than mask profiles and imperfections in the existing substrate. By following the profile of the existing substrate these thin layer systems are subject to accelerated wear on high spots and will collect dirt in low spots.

COLD APPLIED WITH RAPID CURE TIMES

- All elements of the system are cold applied avoiding the risks and insurance costs associated with hot works. The rapid cure times ensure that areas are rapidly waterproofed, overall time on site is minimised, weather windows can be maximised and areas can be opened to traffic sooner.

HIGH LEVELS OF ANTI-SKID

- Ensuring that the surface will provide adequate levels of slip resistance for both pedestrians and cars, making the car park safer, reducing the potential for accidents and providing an accepted defensible standard against claims.

FIRE RESISTANCE

- Exposed trafficked decks over occupied premises are effectively roofs - the Triflex PDS achieves the highest fire rating under BS476:Part3:1958 – EXT FAA.

AESTHETICS

- All Triflex resins are UV stable and use UV stable inorganic pigments meaning that colour is retained over time. Our Triflex Finish can be produced in virtually any colour, meaning that aesthetic and design requirements can be fulfilled.

SIMPLE MAINTENANCE

- The Triflex PDS can easily be cleaned and maintained using conventional methods.

COMMITMENT TO THE ENVIRONMENT

- The Triflex environmental policy is certified under ISO 14001. All Triflex car park waterproofing, surfacing and protection systems are solvent and isocyanate free.

RE-USABLE CONTAINERS

- To minimise the impact on landfill, all core resins are available in re-usable 1,000kg stainless steel containers.

CERTIFIED PROTECTION

- The Triflex PDS is BBA certified no. 91/2639 – with the longest durability statement for any car park waterproofing and surfacing membrane at 20 years.

QUALITY ASSURED MANUFACTURING

- As all materials are manufactured to ISO9001 you can be assured of consistent quality.

QUALITY DESIGN AND SPECIFICATION ASSISTANCE

- The Triflex Technical Team can assist in all areas of the design and specification process from preparing initial rendered visualisations to project specific specifications and sketch details.

QUALITY INSTALLATION

- Triflex car park waterproofing and surfacing systems are only installed by our Approved Contracting Partners who have been selected for their ability to provide the highest level of client service.

WARRANTED PROTECTION

- The Triflex PDS system is offered as standard with a 10 year materials warranty. Other warranties are available – please contact Triflex (UK) Limited directly for details.

The Triflex PDS has exceptional long term resistance to regular and unforeseen movement and flexural fatigue. The unique properties of the Triflex PDS allow specification in the most technically challenging car park and service deck environments. The system has been proven to offer long term waterproofing and surfacing to high volume, car park and service decks forming the roof to occupied premises. The Triflex PDS has the longest BBA durability statement for any membrane system on the market - 20 years. The BBA certificate also gives specifiers and users confidence that the system has been in use since 1981. The Triflex PDS system features a heavy duty wearing course fully filled with either crystal quartz, basalt or crushed granite. This aggregate is tightly bound within the resin matrix and provides the wearing layer for traffic. Unlike other systems which feature a scattering of anti-skid granules, the Triflex PDS fully aggregate filled wearing course provides long term resistance to wear and damage. In addition, unlike the more commonly available resins, Triflex resins achieve excellent inter layer adhesion, do not suffer inter layer delamination and have excellent resistance to shear forces from vehicle tyres. With a finished thickness in excess of 4.5mm, the Triflex PDS has exceptional durability, helps mask deck imperfections and provides a more aesthetically pleasing, easier to maintain system. The system thickness allows profiled substrates such as brushed concrete and crimped asphalt to be overlaid without the original profile reflecting through. In contrast, many competitors systems are less than 2.0mm thick, are less durable, and highlight rather than mask profiles and imperfections in the existing substrate. By following the profile of the existing substrate these thin layer systems are subject to accelerated wear on high spots and will collect dirt in low spots. All elements of the system are cold applied avoiding the risks and insurance costs associated with hot works. The rapid cure times ensure that areas are rapidly waterproofed, overall time on site is minimised, weather windows can be maximised and areas can be opened to traffic sooner. Ensuring that the surface will provide adequate levels of slip resistance for both pedestrians and cars, making the car park safer, reducing the potential for accidents and providing an accepted defensible standard against claims. Exposed trafficked decks over occupied premises are effectively roofs - the Triflex PDS achieves the highest fire rating under BS476:Part3:1958 – EXT FAA. All Triflex resins are UV stable and use UV stable inorganic pigments meaning that colour is retained over time. Our Triflex Finish can be produced in virtually any colour, meaning that aesthetic and design requirements can be fulfilled. The Triflex PDS can easily be cleaned and maintained using conventional methods. The Triflex environmental policy is certified under ISO 14001. All Triflex car park waterproofing, surfacing and protection systems are solvent and isocyanate free. To minimise the impact on landfill, all core resins are available in re-usable 1,000kg stainless steel containers. The Triflex PDS is BBA certified no. 91/2639 – with the longest durability statement for any car park waterproofing and surfacing membrane at 20 years. As all materials are manufactured to ISO9001 you can be assured of consistent quality. The Triflex Technical Team can assist in all areas of the design and specification process from preparing initial rendered visualisations to project specific specifications and sketch details. Triflex car park waterproofing and surfacing systems are only installed by our Approved Contracting Partners who have been selected for their ability to provide the highest level of client service. The Triflex PDS system is offered as standard with a 10 year materials warranty. Other warranties are available – please contact Triflex (UK) Limited directly for details.
Triflex PDS System Data Sheet

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park decks

### Properties
- Totally waterproof
- Fully reinforced, thick layer system
- BBA certified - no. 91/2639 (20 year durability statement)
- Anti-slip – SRT 70-81
- Tough – highly abrasion resistant
- Fast curing
- Cold applied
- Compatible with a wide range of substrates
- Seamless
- Elastomeric
- Dynamic crack bridging
- Available with the following finish options:
  - 0.7-1.2mm crystal quartz with pigmented seal
  - 1.0-1.6mm basalt with Traffic Grey pigmented seal
  - 1.0-2.0mm crushed granite with Traffic Grey pigmented seal
- Fire resistant to BS476:PART3:1958 (EXT.F.AA)
- Chemical resistant
- Resistant to Chloride and Carbon Dioxide ingress
- Anti-slip – SRT 70-81
- UV resistant
- Solvent free
- Isocyanate free
- Tailored design options

### System Build Up

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<th>4</th>
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<tr>
<td>S Substrate</td>
<td>Triflex Primer</td>
<td>Triflex PDS Reinforced Waterproofing Layer</td>
<td>Triflex PDS Wearing Layer</td>
<td>Triflex Finish</td>
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</table>

### System Details

- **Triflex Primer** - Primer for sealing of substrate and to improve adhesion.
- **Triflex PDS Reinforced Waterproofing Layer** - Waterproofing layer fully reinforced with a tough polyester fabric.
- **Triflex PDS Wearing Layer** - Incorporating a hard wearing crystal quartz, basalt or crushed granite aggregate.
- **Triflex Finish** - Abrasion resistant system seal coat.

### Applications

The system is suitable for the waterproofing and surfacing of exposed car park and service decks, including roof top decks over occupied premises.
Triflex PDS
System Data Sheet

Substrate preparation and priming

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<th>Substrate</th>
<th>Preparation Notes</th>
<th>Triflex PDS main area</th>
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<td>PIB</td>
<td>2</td>
<td>N/A details only</td>
<td>No primer required</td>
</tr>
<tr>
<td>PVC-P, nB</td>
<td>4</td>
<td>N/A details only</td>
<td>No primer required</td>
</tr>
<tr>
<td>UPVC</td>
<td>4</td>
<td>N/A details only</td>
<td>No primer required</td>
</tr>
<tr>
<td>GRP</td>
<td>4</td>
<td>N/A details only</td>
<td>No primer required</td>
</tr>
<tr>
<td>PU (polyurethane)</td>
<td>5 / 7</td>
<td>No primer required</td>
<td>No primer required</td>
</tr>
<tr>
<td>PMMA (acrylic)</td>
<td>5 / 7</td>
<td>No primer required</td>
<td>No primer required</td>
</tr>
<tr>
<td>UP (polyester)</td>
<td>5 / 7</td>
<td>No primer required</td>
<td>No primer required</td>
</tr>
<tr>
<td>EP (epoxy)</td>
<td>5 / 7</td>
<td>No primer required</td>
<td>No primer required</td>
</tr>
</tbody>
</table>

For other substrates, consult Triflex (UK) Limited for required preparation methods and priming.

Notes:
1 = Scarify, grind or lightly bead blast
2 = Clean thoroughly
3 = Liquefy surface by application of heat and immediately top with quartz
4 = Rub down thoroughly with Triflex Cleaners, and sand/grind metals and hard plastics
   (steel must be ground or blasted to bright metal)
5 = Lightly sand and carry out adhesion test
6 = The equilibrium moisture content of cementitious substrates must not exceed 6% or 75% RH. Where moisture levels are in excess of 6% equilibrium moisture or 75% RH refer to Triflex Pox R103.
7 = Must be applied over dimensionally stable, fully bonded substrate with a minimum hardness of 25N/mm² and subject to approval by Triflex (UK) Limited.
8 = For HRA and SMA, increase primer consumption by 50% and use maximum practical catalyst (minimum 6%).

Where there are any doubts as to adhesion, carry out an adhesion test.
Triflex PDS System Data Sheet

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park decks

Substrate Assessment

In all cases the condition and stability of the underlying substrate should be assessed prior to the commencement of work. See Substrate Testing section. Concrete structures should be designed in accordance with BS8110/CP110.

Substrate Preparation

Refer to substrate preparation and priming schedule.

Generally:
- Remove existing paint and finishes etc. by grinding.
- Ensure that the prepared surface is clean, dry and free from dust, laitence, grease, oil and any other contaminants.

Priming

Refer to substrate preparation and priming schedule.

**Triflex Cryl Primer 222:**
- Apply with a lambswool roller (0.4kg/m² min.)
- Rainproof after approx. 30 minutes.
- Can be walked upon/next coat applied after approx. 45 minutes.

**Triflex Cryl Primer 276:**
- Apply with a lambswool roller (0.4kg/m² min.)
- Rainproof after approx. 30 minutes.
- Can be walked upon/next coat applied after approx. 45 minutes.

**Note:** For new cementitious materials where it is not practical to allow the substrate to hydrate to below 6% equilibrium moisture content and 75% RH, or for existing cementitious substrates with higher levels of moisture, Triflex Pox R103 can be used where the equilibrium moisture content is less than 10%.

**Triflex Pox R103:**
- Apply with a lambswool roller (0.5kg/m² min.)
- Can be walked on after approx. 8 hours.
- Next coat applied after approx. 18 hours.
- Able to withstand stress after approx. 24 hours.

Surface Repairs and Filling

Cut out blisters and repair all minor indentations with scratch coat of Triflex Cryl RS 233. Allow to dry for a minimum of 1 hour.
- Fill all voids in vertical surfaces and at upstand transitions with Triflex Cryl Paste and allow to dry for a minimum of 1 hour.
- Larger indentations can be filled with Triflex RS 240 (cementitious substrates), Triflex Cryl Mortar or Triflex Cryl Paste Mortar (non-cementitious substrates).

Interface Details

Apply in accordance with standard and project specific sketch details.

**General Details:**
- Apply Triflex prodetail® (2.0 kg/m² min.) with a lambswool roller.
- Roll a strip of Triflex 110g Reinforcement into the wet resin, pressing trapped air free using the lambswool roller; ensuring a minimum 50mm overlap between the reinforcement sheets.
- Apply Triflex prodetail® (1.3 kg/m² min.) wet on wet to ensure full saturation of the fleece.
- Rainproof after approx. 30 minutes.
- Can be walked on/next coat applied after approx. 45 minutes.

**Complex Details:**
- Where due to access restrictions, or complexity of the detail, prodetail® is not practical:
  - Apply Triflex Cryl R 295 fibre reinforced resin (1.5 kg/m² min.) with a brush and allow to cure for a minimum of 45 minutes.
  - Apply a further layer of Triflex Cryl R 295 fibre reinforced resin (1.5 kg/m² min.) by brush.
  - Rainproof after approx. 30 minutes.
  - Can be walked upon/next coat applied after approx. 45 minutes.

**Note:** Where details may be subject to mechanical damage from vehicles, consult Triflex (UK) Limited for mechanical protection solutions.

Main Deck

Reinforced Waterproofing Layer:
- Apply an even layer of Triflex PD (1.5 kg/m² min.) with a lambswool roller.
- Roll Triflex 110g Reinforcement into the wet resin, pressing trapped air free using the lambswool roller, ensuring a minimum 50mm overlap between the reinforcement sheets.
- Apply Triflex PD (1.0 kg/m² min.) wet on wet to ensure full saturation of the fleece.
- Rainproof after approx. 60 minutes.
- Can be walked upon/next coat applied after approx. 2 hours.

Wearing Layer:
- Apply Triflex PD (1.5kg/m² min.) with a lambswool roller.
- Embed into the liquid layer a full cover of crystal quartz (0.7-1.2mm), basalt (1.0-1.6mm), or crushed granite (1.0-2.0mm) (7.0kg/m²) approx. Allow to dry for a minimum of 3 hours, sweep away excess aggregate and vacuum clean.
- Rainproof after approx. 60 minutes.
- Can be walked upon after approx. 2 hours.
- Next coat applied after approx. 3 hours.
# Triflex PDS

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park decks

## Finish

### Interface Details
Apply Triflex Cryl Finish 205 (0.5kg/m² min) using a lambswool roller.
Rainproof after approx. 30 minutes.
Can be walked upon after approx. 1 hour.

**Note:** For interface details in excess of 250mm high, use Triflex Cryl Finish 205 Thixo.

### Main Deck
Apply Triflex Cryl Finish 205 (0.65kg/m² min.) (0.80kg/m² min.) if over basalt or crushed granite) using a hard squeegee and a dry lambswool roller.
Rainproof after approx. 30 minutes.
Can be walked upon after approx. 1 hour.
Can be driven upon after approx. 3 hours (provided Wearing Layer has been allowed to cure for more than 12 hours).

## Quality Standard
All products are manufactured to ISO 9001.

## Substrate Testing
Prior to the commencement of work the Contractor must check and only proceed if he has satisfied the following requirements.

**Hardness:** All concrete substrates, concrete repair materials, screeds and mortars shall be cured and allowed to achieve a minimum hardness of 25N/mm².

**Moisture:** Prior to overlay with Triflex systems, the equilibrium moisture content of the substrate must not exceed 6% and 75% RH. For cementitious substrates with higher levels of moisture (less than 10% equilibrium) refer to Triflex Pox R103.

**Adhesion:** Trial areas to be prepared to ensure that the System achieves a minimum bond to the substrate of:
- Concrete, concrete repair materials, screeds and mortars: 1.5N/mm²
- All other substrates: 0.8N/mm²

## Expansion Joints
Consult Triflex (UK) Limited for confirmation of design details required.

## Interruptions During Works
If work is interrupted for more than 12 hours, use Triflex Cleaner to clean and reactivate the transition area.

Evaporation time: at least 20 minutes - overlay within 60 minutes.
For reinforced details, the subsequent waterproofing layers must overlap by at least 100 mm, including the Reinforcement.

## System Components
Please refer to the appropriate Product Data Sheet for details about areas of application/application conditions/mixing instructions (available on request):

- Triflex Cryl Primer 222
- Triflex Cryl Primer 276
- Triflex Pox R103
- Triflex Cryl Paste
- Triflex RS 240
- Triflex Cryl Mortar
- Triflex Cryl Paste Mortar
- Triflex 110g Reinforcement
- Triflex prodetail®
- Triflex Cryl R 295
- Triflex PD
- Triflex Cryl Finish 205

## Health and Safety
Refer to product Health and Safety data prior to using the materials.

## Coverage Rates
The coverage rates given are guidelines based on smooth, level substrates. Allowances must be made if the substrate is uneven, rough or porous.

## Drying Times
The drying times stated are at +20°C and are dependent upon weather conditions.

## Important Notes
It is the Contractors’ responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with Technical Data Sheets, Application Guidelines and BBA certificate in force at the time.

The advice we can provide on the application of our products is based on extensive development work as well as many years of experience and is given to the best of our knowledge. However, the wide variety of requirements for a building under the most diverse conditions mean that it is necessary for the Contractor to test the product for suitability in any given case. We reserve the right to make alterations in keeping with technical developments or improvements.
Triflex PDS

Model specification

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park decks

J31 Liquid Applied Waterproof Roof Coatings

To be read with Preliminaries / General Conditions.

Liquid Applied Waterproof Roof Coating reference

Triflex PDS
Manufacturer:
Triflex (UK) Limited
Whitebridge Way
Stone
Staffordshire
ST15 8GH
Tel: +44 (0) 1785 819119
Fax: +44 (0) 1785 819960
E-mail: info@triflex.co.uk
Web: www.triflex.co.uk

Generally

Apply Triflex PDS system fully in accordance with Manufacturer’s System Data Sheet (Appendix ), standard Sketch Details (Appendix ) and project specific Sketch Details (Appendix ).

Substrate Assessment

Assess substrate in accordance with Triflex PDS System Data Sheet.

Substrate Preparation

Prepare substrate in accordance with Triflex PDS System Data Sheet.

Priming

Apply Triflex primer in accordance with Triflex PDS System Data Sheet.

Primer reference: Triflex Cryl Primer 222 / Triflex Cryl Primer 276 / Triflex Pox R103.

Surface Repairs and Filling

Repair and fill surface in accordance with Triflex PDS System Data Sheet.


Interface Details

Apply interface details in accordance with Triflex PDS System Data Sheet, standard Sketch Details and project specific Sketch Details.

General details reference: Triflex prodetail with 110g Reinforcement.

Complex details reference: Triflex Cryl R295.

Main Deck

Reinforced waterproofing layer: Apply waterproofing to main deck area in accordance with Triflex PDS System Data Sheet.

Waterproofing reference: Triflex PD with 110g Reinforcement.

Wearing layer: Apply wearing course to main deck area in accordance with Triflex PDS System Data Sheet.

Wearing course reference: Triflex PD.

Aggregate reference: crystal quartz / basalt / crushed granite.

Finish

Apply finish in accordance with Triflex PDS System Data Sheet.

Finish reference: Triflex Cryl Finish 205.

Finish colour references: (INSERT).

Installation

The works shall be executed by a Triflex Approved Contracting Partner licensed to install Triflex car park waterproofing, surfacing and protection systems.

Required system properties

• BBA certified – 20 year durability statement
• Totally waterproof
• Fully reinforced
• Dry film thickness > 4mm
• Anti-skid — SRT 70-81
• Fast curing (maximum 3 hours before trafficking)
• Totally cold applied
• Compatible with a wide range of substrates
• Seamless
• Elastomeric
• Dynamic crack bridging
• Available in a wide range of colours and textures
• Fire resistant – BS476:PART3:1958 (EXT.F.AA)
• Chemical resistant
• Resistant to Chloride and Carbon Dioxide ingress
• Vapour permeable
• UV resistant
• Solvent free
• Isocyanate free
• Standard 10 year materials warranty
• Optional extended warranty

General notes

The Triflex PDS System Data Sheet, standard Sketch Details and project specific Sketch Details are to be read as an integral part of this specification.

The Triflex Approved Contracting Partner is to install all details to comply with the Triflex PDS standard Sketch Details, any project specific Sketch Details and Triflex project specific recommendations. Should any detail arise where the treatment is not clear, the Contractor must seek advice and approval from Triflex (UK) Limited prior to commencing the works.

It is the Contractor’s responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with System Data Sheets, Application Guidelines and BBA certificate in force at the time.

Notes to specifiers

We recommend that for all car park projects, the actual specification clauses for the Triflex waterproofing, surfacing and protection systems are prepared by the Triflex Technical Team.

This information can then be provided in a text format for insertion into Word and other documents.
**Upstand with chase**

- Detail
- Ca. 150 mm
- Min. 50 mm

**Upstand with cover flashing**

- Detail
- Ca. 150 mm
- Min. 50 mm

**Detail interface**

- Finish: Triflex Cryl Finish 205
- Wearing layer: Triflex PD with crystal quartz, basalt or crushed granite aggregate
- Reinforced waterproofing layer: Triflex PD with 110g Reinforcement
- Interface detail: Triflex prodetail with 110g Reinforcement
- Primer: dependent upon substrate

**Deck penetration**

- Min. 50 mm
- Ca. 150 mm
Triflex PDS Sketch Details

Surface mounted detail

Gully

Detail interface

Cast in situ kerb

- Finish: Triflex Cryl Finish 205
- Wearing layer: Triflex PD with crystal quartz, basalt or crushed granite aggregate
- Reinforced waterproofing layer: Triflex PD with 110g Reinforcement
- Interface detail: Triflex prodetail with 110g Reinforcement
- Primer: dependent upon substrate

- Detail
- min. 50 mm
- ca. 150 mm
- min. 50 mm

- Detail
- min. 50 mm
- min. 50 mm
Triflex (UK) Ltd
Meaford Power Station
Meaford
Stone
Staffordshire ST15 OUA
Tel: 01782 374374 Fax: 01782 374373

Agrément Certificate
No 91/2639
Fifth issue *

TRIFLEX PDS PARK DECK SYSTEM
Membrane d’étanchéité
Wasserdichtung

Product

- This certificate relates to the Triflex PDS Park Deck System, a liquid-applied polyester waterproof covering reinforced with a polyester fabric and embedded with a full cover of quartz or basalt granules.
- The system is for use as a waterproof wearing surface for trafficked concrete substrates, with or without an asphalt surface, such as car park decks, elevated walkways, balconies, suspended floors of wet production areas and plant rooms.
- The product is manufactured by Fallmann & Co, of Minden, Germany, and marketed in the United Kingdom by Triflex (UK) Ltd.

Regulations

1 The Building Regulations 2000 (as amended) (England and Wales)

The Secretary of State has agreed with the British Board of Agrément the aspects of performance to be used by the BBA in assessing the compliance of waterproofing with the Building Regulations. In the opinion of the BBA, the Triflex PDS Park Deck System, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement: B4(2)
Comment: External fire spread
The product meets this Requirement. See sections 12.1 and 12.2 of this Certificate.

Requirement: C4
Comment: Resistance to weather and ground moisture
The product meets this Requirement. See section 10 of this Certificate.

Requirement: Regulation 7
Comment: Materials and workmanship
The product is acceptable. See sections 14.1 and 14.2 of this Certificate.

Readers are advised to check the validity of this Certificate by either referring to the BBA’s website (www.bbacerts.co.uk) or contacting the BBA direct (Telephone Hotline 01923 665400).
2 The Building Standards (Scotland) Regulations 1990 (as amended)

In the opinion of the BBA, the Triflex PDS Park Deck System, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards as listed below.

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Standard</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>B2.1</td>
<td>Fitness of materials and workmanship. Selection and use of materials, fittings, and components, and workmanship. The product can contribute to a construction meeting this Standard. See the installation part of this Certificate.</td>
</tr>
<tr>
<td>12</td>
<td>D9.1</td>
<td>Structural fire precautions. Fire spread from an adjoining building. The product is unrestricted by this Standard. See sections 12.1 and 12.2 of this Certificate.</td>
</tr>
<tr>
<td>17</td>
<td>G3.1</td>
<td>Resistance to moisture. Resistance to precipitation — Resistance to precipitation. The product can enable a structure to satisfy the requirements of this Standard. See section 10 of this Certificate.</td>
</tr>
</tbody>
</table>

3 The Building Regulations (Northern Ireland) 2000

In the opinion of the BBA, the Triflex PDS Park Deck System, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2</td>
<td>Fitness of materials and workmanship. The product is acceptable. See sections 14.1 and 14.2 of this Certificate.</td>
</tr>
<tr>
<td>C4</td>
<td>Resistance to ground moisture and weather. The product meets this Regulation. See section 10 of this Certificate.</td>
</tr>
<tr>
<td>E5</td>
<td>External fire spread. The product has an AA classification and is unrestricted under this Regulation. See sections 12.1 and 12.2 of this Certificate.</td>
</tr>
</tbody>
</table>

4 Construction (Design and Management) Regulations 1994 (as amended) Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations. See sections:
- Delivery and site handling (7.1, 7.3 and 7.5) and
- Precautions during application (9.1 and 9.2).

5 Description

5.1 The Triflex PDS Park Deck System consists of a cold-applied, two-component pre-accelerated, unsaturated polyester coating, reinforced with a fabric consisting of a minimum of 90% polyester and a maximum of 10% polypropylene, a finish coat of quartz or basalt aggregate and a coloured acrylic sealer (see Figure 1).

5.2 Triflex PDS is made up by mixing the following components in the specified proportions:
- Triflex PD (resin component)$^{[1]}$ — based on an unsaturated polyester resin, dissolved in a reactive monomer (styrene).
- Triflex PD (catalyst) — a white powder catalyst and hardener, based on benzoyl peroxide, dispersed in a solid plasticiser.

$^{[1]}$ This component is available in two grades: standard and winter.

5.3 Triflex PDS resins are also available in 1000 kg steel containers.

5.4 The characteristics of the polyester fabrics are given in Table 1.

<table>
<thead>
<tr>
<th>Fabric reinforcement characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needled fabric</td>
</tr>
<tr>
<td>Weight per unit area (g/m²)</td>
</tr>
<tr>
<td>Tensile strength (N per 50 mm)</td>
</tr>
<tr>
<td>Transverse direction</td>
</tr>
<tr>
<td>Longitudinal direction</td>
</tr>
<tr>
<td>Elongation at break (%)</td>
</tr>
<tr>
<td>Transverse direction</td>
</tr>
<tr>
<td>Longitudinal direction</td>
</tr>
</tbody>
</table>

5.5 A round-grain, flint-dried quartz aggregate with a grain size of 0.7 mm to 1.2 mm is used to provide abrasion-resistant properties to the car park deck.

5.6 On ramps, turning circles and other heavily trafficked areas a basalt aggregate is also used, replacing the quartz aggregate.
6 Manufacture and quality control

6.1 Triflex PDS is manufactured by a batch blending process using controlled proportions of additives.

6.2 Quality controls conducted on the component materials include checks for:
- colour
- viscosity
- specific gravity
- gel time.

6.3 Quality controls conducted on reinforced coated samples include checks for:
- shoreA hardness
- tensile strength
- elongation at break
- resistance to tear.

6.4 The following checks are also carried out on site before, during and after application:
(1) Prior to application, checks are made to ensure that the substrate is in a suitable condition.
(2) During application, visual checks of the coating are made for evenness and formation of bubbles.
(3) The finished surface is inspected after hardening to ensure that the coating has fully cured.
(4) Following completion of the coating, samples prepared on site are taken and checked for:
- thickness
- shoreA hardness
- tensile strength and elongation at break
- modulus of elasticity
- resistance to tear.

6.5 For each area coated a report is prepared giving the following site details:
- site
- time work commenced and finished
- size of the deck surface
- pitch of the deck
- nature of the deck surface to be coated
- quantity of Triflex PDS applied
- prevailing weather conditions
- air temperature.

7 Delivery and site handling

7.1 Triflex primers, resins and finishes are delivered in pre-weighted containers. Details are given in Table 3.
Table 3  Pack sizes

<table>
<thead>
<tr>
<th>Product</th>
<th>Pack weight (kg)</th>
<th>Standard packs</th>
<th>Bulk containers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triflex PD resin</td>
<td>25.0</td>
<td></td>
<td>999</td>
</tr>
<tr>
<td>Triflex Cryl Primer 222</td>
<td>10.0</td>
<td></td>
<td>970</td>
</tr>
<tr>
<td>Triflex Cryl Primer 276</td>
<td>10.0</td>
<td></td>
<td>970</td>
</tr>
<tr>
<td>Triflex Cryl Finish 205</td>
<td>10.0</td>
<td></td>
<td>980</td>
</tr>
</tbody>
</table>

7.2 The resin is packaged in metal colour-coded containers and the catalyst in a colour-coded plastic bag. Each container bears a label with the manufacturer’s name, date of manufacture, batch code number and hazard warnings.

7.3 Triflex Cryl Primer 222 and Triflex Cryl Primer 276 are supplied in 10.0 kg packs. The catalyst is supplied separately in 0.1 kg packs and added at the rate of 0.4 kg (minimum) to 0.6 kg (maximum) per 10.0 kg pack of primer, depending on the ambient temperature. The Certificate holder should be consulted for further details.

7.4 The reinforcing fleece is supplied in rolls of 50 m length and is available in widths of 150 mm, 200 mm, 262 mm, 350 mm, 525 mm and 1050 mm.

7.5 Triflex PD resin, catalyst, primes, finishes and cleaner are all classified under the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP3), and bear the appropriate hazard warning label. The flashpoints and classification of the components are given in Table 4.

Table 4  Flashpoint and hazard classification

<table>
<thead>
<tr>
<th>Materials</th>
<th>Flashpoint (°C)</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triflex PD (blue component)</td>
<td>28</td>
<td>flammable(1), harmful</td>
</tr>
<tr>
<td>Triflex PD (grey)</td>
<td>-</td>
<td>oxidising and irritant</td>
</tr>
<tr>
<td>Triflex Cryl Primer 276</td>
<td>10</td>
<td>highly flammable(1), irritant</td>
</tr>
<tr>
<td>Triflex Cryl Primer 222</td>
<td>10</td>
<td>highly flammable(1), irritant</td>
</tr>
<tr>
<td>Triflex Cryl Finish 205</td>
<td>12</td>
<td>highly flammable(1), irritant</td>
</tr>
<tr>
<td>Triflex Cleaner</td>
<td>-4</td>
<td>highly flammable(1)</td>
</tr>
<tr>
<td>Triflex Cryl Paste</td>
<td>10</td>
<td>highly flammable, irritant</td>
</tr>
</tbody>
</table>

(1) Extremely flammable, highly flammable and flammable materials must be isolated and stored in accordance with the Highly Flammable Liquids and Liquefied Petroleum Gas Regulations 1972.

7.6 All Triflex components must be kept tightly sealed and stored in a cool, ventilated place away from other chemicals.

7.7 When correctly stored, the components of Triflex PDS will last for a maximum period of six months at a storage temperature of above 0°C but below 25°C.

Design Data

8 General

8.1 The Triflex PDS Park Deck System applied to a concrete or asphalt surface on a concrete deck laid in accordance with BS 8110-1 : 1997 is satisfactory for use as a combined waterproof/wearing surface for car park decks, elevated walkways, balconies, suspended floors of wet production areas, plant rooms and similar situations.

8.2 The product has good chemical resistance to oils, petrol, diesel, hydraulic fluid and aqueous solutions of acids, alkalis and de-icing salts, and is unaffected by contact with an alkaline substrate.

8.3 It can accept, without damage, the foot and vehicular traffic as stated in this Certificate, but cannot sustain continuous heavy point loading.

9 Precautions during application

9.1 Vapours from the individual components of the Triflex PDS Park Deck System may cause irritation to the respiratory system, eyes and skin. The system should be used only in areas with sufficient ventilation and air movement to prevent the build-up of harmful vapours. Contact with skin, eyes and clothing must be avoided. The manufacturer’s instructions and the relevant working procedures must be observed at all times.

9.2 Vapours given off from the system during application are highly flammable and are generally more dense than air. They will tend to move to the lowest point (eg downslopes, gullies). The system should be used only in the areas with sufficient ventilation to prevent build-up of vapours which could form an explosive mixture. All sources of ignition should be eliminated during application.

9.3 Once cured, the system releases no flammable vapours.

10 Resistance to water and water vapour

Tests confirm that the Triflex PDS Park Deck System is an effective barrier against the passage of water and water vapour. It is flexible and can accommodate the movement due to cracking permitted by BS 8110-1 : 1997 and meets the requirements of:

England and Wales
The approved document C4

Scotland
Regulation 17, Standard G3.1

Northern Ireland
Regulation C4.
11 Ability to accommodate movement

Triflex PDS can be detailed to accommodate the movement of designed expansion joints. The Certificate holder should be consulted for their approved designs.

12 Properties in relation to fire

12.1 The Triflex PDS Park Deck System applied to a suitable concrete substrate has an EXT.F.AA designation when tested to BS 476-3 : 1958.

12.2 The designation of other specifications (eg on combustible substrates) should be confirmed by:

- **England and Wales**: test or assessment in accordance with Approved Document B, Appendix A, Clause A1.
- **Scotland**: test to conform to Standard D9.1
- **Northern Ireland**: test or assessment by a UKAS accredited fire testing laboratory, or an independent consultant with appropriate experience.

13 Maintenance and repair

13.1 In the event of minor damage, ie cuts and perforations, they may be repaired by cleaning the damaged areas and patching using the liquid Triflex PDS coating materials and the appropriate aggregate.

13.2 To achieve a satisfactory and durable repair for large damaged areas, these should be cut back to the well-bonded membrane. An area of substrate extending 200 mm around the damaged portion must be abraded mechanically, vacuumed, and cleaned with Triflex-Cleaner. The substrate is then coated with the appropriate primer and affected area restored with the Triflex PDS system using the techniques described in the Installation part of this Certificate.

14 Durability

14.1 The Triflex PDS Park Deck System has been used in Germany since 1981 and the early applications are continuing to perform satisfactorily. Accelerated weathering tests confirm that a satisfactory retention of physical properties is achieved, and although some colour change may occur this will be slight and uniform.

14.2 The available evidence indicates that the Triflex PDS system should have a life in excess of 20 years.

---

### Installation

#### 15 General

15.1 Installation is carried out only by the Certificate holder’s contracting partners in accordance with the manufacturer’s product manual.

15.2 Work should not be conducted when rain is likely or when the temperature falls below 5°C or rises above 35°C. With increasing temperature the reaction time and pot life of mixed Triflex PDS components are reduced.

15.3 Joints in the substrate should be filled with a Triflex joint detail. The coating application then proceeds in the usual manner (see section 11).

15.4 To prevent runs of Triflex PDS on inclined surfaces the thixotropic grade should be used.

#### 16 Preparation

16.1 Concrete structures should be designed and built in accordance with BS 8110 : 1997.

16.2 New concrete should be well compacted and finished, preferably by power floating and power trowelling, without excess laitance, to a dense, smooth finish free of defects. Concrete toppings/screeds should be properly formulated, applied and compacted. They should be bonded to the substrate and have a floated finish with minimum laitance.

16.3 A minimum curing period of 28 days is normally allowed before new cement-based surfaces are primed.

16.4 Concrete and asphalt surfaces must be scarified or lightly shot-blasted using closed-circuit, dust-free machinery and then vacuum cleaned. Laitance on new concrete screeds and in small areas may be removed by acid etching and rinsing clean.

16.5 Concrete and asphalt surfaces should be primed with Triflex Cryl Primer 276 and Triflex Cryl Primer 222, respectively.

16.6 The surface must be dry, clean, and free from loose particles, paint, grease and oil, or other contaminants which may affect the adhesion of Triflex PDS.

16.7 Existing blisters should be cut out and all minor indentations and cracks repaired. Small surface defects can be filled with Triflex Cryl Paste. Larger indentations can be filled with Triflex Cryl Paste Mortar or Triflex Cryl Mortar.
16.8 When application is to be made to older substrates the advice of the Certificate holder must be sought.

17 Application

Primer
17.1 An overall application of the appropriate Triflex Cryl Primer is made by roller at a minimum coverage rate of 0.40 kgm$^{-2}$, depending on the roughness and absorbency of the substrate. On porous or uneven surfaces additional coats may be necessary. The primed surface is allowed to dry for a minimum period of one hour.

Mixing
17.2 The Triflex PDS system components must be mixed in accordance with the appropriate product data sheet.

Laying the fabric reinforcement
17.3 The first coat of Triflex PD should be applied with a lambwool roller to the prepared surface at a coverage rate of 1.5 kgm$^{-2}$, and the polyester fabric (110 gm$^{-2}$ or 205 gm$^{-2}$) is rolled into the wet area and pressed free of trapped air using the lambwool roller. The fabric sheets should have an overlap of at least 50 mm, and sufficient resin must remain beneath the fabric to maintain the mechanical properties of the system.

17.4 To embed the fabric completely, a further layer of resin must be applied at a rate of at least 1.0 kgm$^{-2}$ wet on wet and distributed evenly so that the overall coverage for the first stage is a minimum of 2.5 kgm$^{-2}$.

Wearing layer
17.5 When the surface can be walked on, a wearing coat of Triflex PD is applied using a lambwool roller, at a minimum application rate of 1.5 kgm$^{-2}$.

17.6 Whilst still wet, quartz or granite aggregate is broadcast onto the Triflex PD at a coverage rate of approximately 7.0 kgm$^{-2}$.

Sealer coat
17.7 After a minimum period of 24 hours any excess aggregate is swept off the car park deck coating and the surface is sealed with Triflex Cryl Finish 205 at a minimum coverage rate of 0.65 kgm$^{-2}$.

Miscellaneous
17.8 The finished coating has a minimum dry film thickness of 4.5 mm, with the total consumption of material (Triflex PD, aggregate and sealer) being approximately 10.0 kgm$^{-2}$.

17.9 The surface is to be cured fully for 24 hours before it is opened to pedestrian traffic, or 72 hours before it is opened to vehicular traffic.

Technical Investigations
The following is a summary of the technical investigations carried out on the Triflex PDS Park Deck System.

18 Tests and investigations
18.1 The results of the performance tests conducted by the BBA on the Triflex PDS Park Deck System are summarised in Table 5.

18.2 An assessment was made of the results of the tests conducted on the Triflex-D Roof Covering System, subject of Agrément Certificate No 90/2536/C, in the context of this Certificate.

19 Other investigations
19.1 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of materials used.

19.2 Trial applications were conducted at the manufacturer’s premises to assess the practicability of installation of the system.

19.3 An assessment was made of the product’s fire roof exposure rating to BS 476:3 : 1958, based on the performance of the Triflex-D Roof Covering System which uses the same basic resin components. An examination was also made of the approval for the Triflex PDS Park Deck System granted by the London Fire and Civil Defence Authority.

19.4 An assessment was made of the product’s durability.

19.5 Visits were made to established sites in the UK and Germany to assess the performance in service and durability of the product in use.
Table 5  Performance

<table>
<thead>
<tr>
<th>Test</th>
<th>Method</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance to chisel impact at 23°C and 0°C</td>
<td>Appendix B Department of Transport Checks and Tests for the Approval of Waterproofing Systems for Concrete Decks to Highway Bridges method C (ii)</td>
<td>1 surface mark, no penetration</td>
</tr>
<tr>
<td>Resistance to chloride ions after 7 days</td>
<td>Appendix B Department of Transport Checks and Tests for the Approval of Waterproofing Systems for Concrete Decks to Highway Bridges Method C (iii)</td>
<td>no signs of chloride ion penetration</td>
</tr>
<tr>
<td>Chemical resistance after 7 days immersion</td>
<td>BBA ad hoc test</td>
<td>no observable effects</td>
</tr>
<tr>
<td>petrol</td>
<td></td>
<td>light surface discoloration</td>
</tr>
<tr>
<td>diesel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>brake fluid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>used engine oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>derusting salt solution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sulphuric (battery) acid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abrasion resistance (A'Court)</td>
<td>Generally to BS 784</td>
<td></td>
</tr>
<tr>
<td>cumulative weight loss (g) after 6 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triflex PDS (non-thixotropic grade) (Cyl Finish) sand/cement screed control granolithic screed control</td>
<td>8.1</td>
<td>surface cracking in the quartz aggregate coat, no penetration through the waterproofing layer</td>
</tr>
<tr>
<td>8.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resistance to crack-flexing at 23°C and 0°C</td>
<td>TRL working paper WP/B/172/89</td>
<td></td>
</tr>
<tr>
<td>Resistance to static indentation on rigid concrete</td>
<td>MOAT No 27, Method 5.1.9</td>
<td></td>
</tr>
<tr>
<td>Resistance to dynamic indentation on a perlitic cellulose slab</td>
<td>MOAT No 27, Method 5.1.10</td>
<td></td>
</tr>
<tr>
<td>Hardness after both 24 hours and 7 days exposure to petrol diesel brake fluid engine oil sulphuric acid</td>
<td>Ad hoc test, generally to BS 5284</td>
<td></td>
</tr>
<tr>
<td>Resistance to artificial weathering Triflex Cyl Finish pebble grey stone grey traffic blue traffic red traffic yellow traffic green</td>
<td>MOAT No 34 (4 hours UVB at 60°C and 4 hours condensation at 50°C for 1000 light hours)</td>
<td>ΔE*ab</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.79</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.62</td>
</tr>
<tr>
<td></td>
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<td>9.90</td>
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<td></td>
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<td>37.47</td>
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<tr>
<td></td>
<td></td>
<td>17.94</td>
</tr>
</tbody>
</table>

Change in colour and some chalking evident after 1000 hours exposure to UVB light

(1) Measured total colour difference between control and exposed sample (after washing) calculated using CIE 1976 colour space measurements.

Bibliography

BS 4763 : 1958 Fire tests on building materials and structures — External fire exposure roof test

BS 784 : 1953 Methods of test for chemical stoneware

BS 5284 : 1976 Methods. Sampling and testing mastic asphalt and pitchmastic used in building

BS 8110-1 : 1997 Structural use of concrete — Code of practice for design and construction

MOAT No 27 : 1983 General Directive for the Assessment of Roof Waterproofing Systems

MOAT No 34 : 1986 Precoated metal sheet roofing and cladding

WP/B/172/89 Proposed Certificate Tests Requirements for Waterproofing Systems on Concrete Bridge Decks
20 Conditions

20.1 This Certificate:
(a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
(b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
(c) is valid only within the UK;
(d) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
(e) is copyright of the BBA;
(f) is subject to English law.

20.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers’ instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

20.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabrication including all related and relevant processes thereof:
(a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;
(b) continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine; and
(c) are reviewed by the BBA as and when it considers appropriate.

20.4 In granting this Certificate, the BBA is not responsible for:
(a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
(b) the right of the Certificate holder to market, supply, install or maintain the product; and
(c) the nature or standard of individual installations of the product or any maintenance thereto, including methods and workmanship.

20.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product.

In the opinion of the British Board of Agrément, the Triflex PDS Park Deck System is fit for its intended use provided it is installed, used and maintained as set out in this Certificate.
Certificate No 91/2639 is accordingly awarded to Triflex (UK) Ltd.

On behalf of the British Board of Agrément

Date of Fifth issue: 2nd August 2004

Chief Executive

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park ramps

Triflex PDS-Ramp

30 Triflex PDS-Ramp

31 System Benefits

32 System Data Sheet

36 Model Specification

37 Sketch Details
Triflex PDS-Ramp

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park ramps

Potentially the most difficult ramp waterproofing and surfacing projects are those over occupied premises. The waterproofing and surfacing system must not only prevent water ingress into the occupied premises below, but provide an exceptionally durable, anti-skid, wearing surface capable of withstanding long term trafficking.

An added complication is that as relatively few new build constructions are built to this configuration, the occupied premises are likely to be live, with existing surfacings and insulation. Any solution which requires removal of the existing surfacings, for example asphalt and stygag screed will be disruptive and leave areas vulnerable to water ingress during the works.

The Triflex solution

The Triflex PDS-Ramp has been used for more than 20 years and is acknowledged as the industry leader in providing long term waterproofing and surfacing to exposed car park ramps over occupied premises.

Triflex have an unsurpassed record in asphalt overlay and can overlay virtually any material likely to be encountered on projects of this nature. Through our ability to overlay, the costs, disruption and risks associated with removal can be avoided.

The unique, fully reinforced Triflex PDS-Ramp also allows high risk ramps, for example heavily cracked lightweight structures to be overlaid.

Optional Traction Strips

For particularly steep ramps, and ramp aprons with tight turning areas, the optional Traction Strips can be incorporated to provide additional traction and abrasion resistance. Through the use of a contrasting colour, the Traction Strips can also be used for additional demarkation of ramp routes.
Triflex PDS-Ramp System Benefits

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park ramps

OVERLAY vs STRIP AND REPLACE :: The Triflex PDS-Ramp can be used for both refurbishment and new build projects. When dealing with refurbishment projects the unique properties of the Triflex PDS-Ramp allow virtually all existing substrates, including asphalt to be overlaid, meaning that the risks, costs and disruption associated with removal of the existing waterproofing are avoided. The ramps can be treated quickly with seamless continuity, and with no increased risk of water ingress during the refurbishment process. The Triflex PDS-Ramp has been used successfully over asphalt for more than 20 years, and Triflex systems generally are acknowledged as the industry leaders in asphalt overlay.

TRACK RECORD :: The unique properties of the Triflex PDS-Ramp allow specification in the most technically challenging car park and service deck environments. The system has been proven to offer long term waterproofing and surfacing to high volume ramps forming the roof to occupied premises. The Triflex PDS has the longest BBA durability statement for any membrane system on the market – 20 years. The BBA certificate also gives specifiers and users confidence that the System has been in use since 1981.

UNIQUE FULLY REINFORCED LIQUID APPLICATION :: Meaning that all details and potential areas of weakness can be safely incorporated within the same homogenous waterproofing and surfacing membrane. Through incorporation of the unique Triflex reinforcement with our Patented resin technology, the Triflex PDS has exceptional long term resistance to regular and unforeseen movement and flexural fatigue.

DURABILITY :: The Triflex PDS-Ramp system features a heavy duty wearing course fully filled with either basalt or crushed granite. This aggregate is tightly bound within the resin matrix and provides the wearing layer for traffic. Unlike other systems which feature a scattering of anti-skid granules, the Triflex PDS-Ramp fully aggregate filled wearing course provides long term resistance to wear and damage. In addition, unlike the more commonly available resins, Triflex resins achieve excellent inter layer adhesion, do not suffer inter layer delamination and have excellent resistance to shear forces from vehicle tyres. The optional Traction Strips can be incorporated to provide enhanced traction and wear resistance on ramps and ramp aprons.

HIGH LEVELS OF ANTI-SKID :: Ensuring that the surface will provide adequate levels of slip resistance for both pedestrians and cars, making the car park safer, reducing the potential for accidents and providing an accepted defensible standard against claims.

COLD APPLIED WITH RAPID CURE TIMES :: All elements of the system are cold applied avoiding the risks and insurance costs associated with hot works. The rapid cure times ensure that ramps are rapidly waterproofed, overall time on site is minimised, weather windows can be maximised and ramps can be opened to traffic sooner.

THICK LAYER BUILD UP :: With a finished thickness in excess of 4.5mm, the Triflex PDS-Ramp has exceptional durability, helps mask deck imperfections and provides a more aesthetically pleasing, easier to maintain system. The system thickness allows profiled substrates such as brushed concrete and crimped asphalt to be overlaid without the original profile reflecting through. In contrast, many competitors systems are less than 2.0mm thick, are less durable, and highlight rather than mask profiles and imperfections in the existing substrate. By following the profile of the existing substrate these thin layer systems are subject to accelerated wear on high spots and will collect dirt in low spots.

FIRE RESISTANCE :: Exposed trafficked ramps over occupied premises are effectively roofs - the Triflex PDS-Ramp achieves the highest fire rating under BS476:Part3:1958 – EXT FA.

AESTHETICS :: All Triflex resins are UV stable and use UV stable inorganic pigments meaning that colour is retained over time. Optional Traction Strips can be used to highlight ramps and ramp aprons.

SIMPLE MAINTENANCE :: The Triflex PDS-Ramp can easily be cleaned and maintained using conventional methods.

COMMITMENT TO THE ENVIRONMENT :: The Triflex environmental policy is certified under ISO 14001. All Triflex car park waterproofing, surfacing and protection systems are solvent and isocyanate free.

RE-USEABLE CONTAINERS :: To minimise the impact on landfill, all core resins are available in re-usable 1,000kg stainless steel containers.

CERTIFIED PROTECTION :: The Triflex PDS-Ramp is BBA certified no. 91/2639 – with the longest durability statement for any car park waterproofing and surfacing membrane at 20 years.

QUALITY ASSURED MANUFACTURING :: As all materials are manufactured to ISO9001 you can be assured of consistent quality.

QUALITY DESIGN AND SPECIFICATION ASSISTANCE :: The Triflex Technical Team can assist in all areas of the design and specification process from preparing initial rendered visualisations to project specific specifications and sketch details.

QUALITY INSTALLATION :: Triflex car park waterproofing and surfacing systems are only installed by our Approved Contracting Partners who have been selected for their ability to provide the highest level of client service.

WARRANTED PROTECTION :: The Triflex PDS-Ramp system is offered as standard with a 10 year materials warranty. Other warranties are available – please contact Triflex (UK) Limited directly for details.

:: The Triflex PDS-Ramp system is offered as standard with a 10 year materials warranty.

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:: The Triflex PDS-Ramp is BBA certified no. 91/2639 – with the longest durability statement for any car park waterproofing and surfacing membrane at 20 years.

:: The unique properties of the Triflex PDS-Ramp allow specification in the most technically challenging car park and service deck environments. The system has been proven to offer long term waterproofing and surfacing to high volume ramps forming the roof to occupied premises. The Triflex PDS has the longest BBA durability statement for any membrane system on the market – 20 years. The BBA certificate also gives specifiers and users confidence that the System has been in use since 1981.

:: Meaning that all details and potential areas of weakness can be safely incorporated within the same homogenous waterproofing and surfacing membrane. Through incorporation of the unique Triflex reinforcement with our Patented resin technology, the Triflex PDS has exceptional long term resistance to regular and unforeseen movement and flexural fatigue.

:: The Triflex PDS-Ramp system features a heavy duty wearing course fully filled with either basalt or crushed granite. This aggregate is tightly bound within the resin matrix and provides the wearing layer for traffic. Unlike other systems which feature a scattering of anti-skid granules, the Triflex PDS-Ramp fully aggregate filled wearing course provides long term resistance to wear and damage. In addition, unlike the more commonly available resins, Triflex resins achieve excellent inter layer adhesion, do not suffer inter layer delamination and have excellent resistance to shear forces from vehicle tyres. The optional Traction Strips can be incorporated to provide enhanced traction and wear resistance on ramps and ramp aprons.

:: Ensuring that the surface will provide adequate levels of slip resistance for both pedestrians and cars, making the car park safer, reducing the potential for accidents and providing an accepted defensible standard against claims.

:: All elements of the system are cold applied avoiding the risks and insurance costs associated with hot works. The rapid cure times ensure that ramps are rapidly waterproofed, overall time on site is minimised, weather windows can be maximised and ramps can be opened to traffic sooner.

:: With a finished thickness in excess of 4.5mm, the Triflex PDS-Ramp has exceptional durability, helps mask deck imperfections and provides a more aesthetically pleasing, easier to maintain system. The system thickness allows profiled substrates such as brushed concrete and crimped asphalt to be overlaid without the original profile reflecting through. In contrast, many competitors systems are less than 2.0mm thick, are less durable, and highlight rather than mask profiles and imperfections in the existing substrate. By following the profile of the existing substrate these thin layer systems are subject to accelerated wear on high spots and will collect dirt in low spots.

:: Exposed trafficked ramps over occupied premises are effectively roofs - the Triflex PDS-Ramp achieves the highest fire rating under BS476:Part3:1958 – EXT FA.

:: All Triflex resins are UV stable and use UV stable inorganic pigments meaning that colour is retained over time. Optional Traction Strips can be used to highlight ramps and ramp aprons.

:: The Triflex PDS-Ramp can easily be cleaned and maintained using conventional methods.

:: The Triflex environmental policy is certified under ISO 14001. All Triflex car park waterproofing, surfacing and protection systems are solvent and isocyanate free.

:: To minimise the impact on landfill, all core resins are available in re-usable 1,000kg stainless steel containers.

:: The Triflex PDS-Ramp is BBA certified no. 91/2639 – with the longest durability statement for any car park waterproofing and surfacing membrane at 20 years.

:: As all materials are manufactured to ISO9001 you can be assured of consistent quality.

:: The Triflex Technical Team can assist in all areas of the design and specification process from preparing initial rendered visualisations to project specific specifications and sketch details.

:: Triflex car park waterproofing and surfacing systems are only installed by our Approved Contracting Partners who have been selected for their ability to provide the highest level of client service.

:: The Triflex PDS-Ramp system is offered as standard with a 10 year materials warranty. Other warranties are available – please contact Triflex (UK) Limited directly for details.
# Triflex PDS-Ramp

**System Data Sheet**

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park ramps

## Properties

<table>
<thead>
<tr>
<th>Points</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally waterproof</td>
<td></td>
</tr>
<tr>
<td>Fully reinforced, thick layer system</td>
<td></td>
</tr>
<tr>
<td>BBA certified - no. 91/2639 (20 year durability statement)</td>
<td></td>
</tr>
<tr>
<td>Anti-slip – SRT 81</td>
<td></td>
</tr>
<tr>
<td>Tough – highly abrasion resistant</td>
<td></td>
</tr>
<tr>
<td>Fast curing</td>
<td></td>
</tr>
<tr>
<td>Cold applied</td>
<td></td>
</tr>
<tr>
<td>Compatible with a wide range of substrates</td>
<td></td>
</tr>
<tr>
<td>Seamless</td>
<td></td>
</tr>
<tr>
<td>Elastomeric</td>
<td></td>
</tr>
<tr>
<td>Dynamic crack bridging</td>
<td></td>
</tr>
<tr>
<td>Available with the following finish options:</td>
<td></td>
</tr>
<tr>
<td>- 1.0 - 1.6mm basalt with Traffic Grey pigmented seal</td>
<td></td>
</tr>
<tr>
<td>- 1.0 - 2.0mm crushed granite with Traffic Grey pigmented seal</td>
<td></td>
</tr>
<tr>
<td>Fire resistant to BS476:PART3:1958 (EXT.F.AA)</td>
<td></td>
</tr>
<tr>
<td>Chemical resistant</td>
<td></td>
</tr>
<tr>
<td>Resistant to Chloride and Carbon Dioxide ingress</td>
<td></td>
</tr>
<tr>
<td>Vapour permeable</td>
<td></td>
</tr>
<tr>
<td>UV resistant</td>
<td></td>
</tr>
<tr>
<td>Solvent free</td>
<td></td>
</tr>
<tr>
<td>Isocyanate free</td>
<td></td>
</tr>
<tr>
<td>Tailored design options</td>
<td></td>
</tr>
</tbody>
</table>

## System Build Up

<table>
<thead>
<tr>
<th>Layers</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Substrate</td>
</tr>
<tr>
<td>1</td>
<td>Triflex Primer</td>
</tr>
<tr>
<td>2</td>
<td>Triflex PDS Reinforced Waterproofing Layer</td>
</tr>
<tr>
<td>3</td>
<td>Triflex PDS Wearing Layer</td>
</tr>
<tr>
<td>4</td>
<td>Triflex Finish</td>
</tr>
<tr>
<td>5</td>
<td>(Optional Traction Strips)</td>
</tr>
</tbody>
</table>

## System Details

<table>
<thead>
<tr>
<th>Layer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triflex Primer</td>
<td>Primer for sealing of substrate and to improve adhesion.</td>
</tr>
<tr>
<td>Triflex PDS Reinforced Waterproofing Layer</td>
<td>Waterproofing layer fully reinforced with a tough polyester fabric.</td>
</tr>
<tr>
<td>Triflex PDS Wearing Layer</td>
<td>Incorporating a hard wearing basalt or crushed granite aggregate.</td>
</tr>
<tr>
<td>Triflex Finish</td>
<td>Abrasion resistant system seal coat.</td>
</tr>
<tr>
<td>Traction Strips</td>
<td>Optional traction and wear strips.</td>
</tr>
</tbody>
</table>

## Applications

The system is suitable for the waterproofing and surfacing of exposed car park ramps, including ramps over occupied premises.
## Substrate preparation and priming

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Preparation Notes</th>
<th>Triflex PDS-Ramp main area</th>
<th>Triflex prodetail for details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt</td>
<td>1</td>
<td>Triflex Cryl Primer 222</td>
<td>Triflex Cryl Primer 222</td>
</tr>
<tr>
<td>Hot Rolled Asphalt (HRA)</td>
<td>1 / 8</td>
<td>Triflex Cryl Primer 222</td>
<td>Triflex Cryl Primer 222</td>
</tr>
<tr>
<td>Stone Mastic Asphalt (SMA)</td>
<td>1 / 8</td>
<td>Triflex Cryl Primer 222</td>
<td>Triflex Cryl Primer 222</td>
</tr>
<tr>
<td>Felt</td>
<td>2</td>
<td>N/A details only</td>
<td>No primer required</td>
</tr>
<tr>
<td>SBS Felt</td>
<td>2</td>
<td>N/A details only</td>
<td>No primer required</td>
</tr>
<tr>
<td>APP Felt</td>
<td>3</td>
<td>N/A details only</td>
<td>No primer required</td>
</tr>
<tr>
<td>Concrete / Screed</td>
<td>1 / 6</td>
<td>Triflex Cryl Primer 276</td>
<td>Triflex Cryl Primer 276</td>
</tr>
<tr>
<td>Lightweight concrete</td>
<td>1 / 6</td>
<td>Triflex Cryl Primer 276</td>
<td>Triflex Cryl Primer 276</td>
</tr>
<tr>
<td>Polymer modified concrete repair materials</td>
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<tr>
<td>EP (epoxy)</td>
<td>5 / 7</td>
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</tbody>
</table>

For other substrates, consult Triflex (UK) Limited for required preparation methods and priming.

**Notes:**
1 = Scarify, grind or lightly bead blast
2 = Clean thoroughly
3 = Liquefy surface by application of heat and immediately top with quartz
4 = Rub down thoroughly with Triflex Cleaners, and sand/grind metals and hard plastics
   (steel must be ground or blasted to bright metal)
5 = Lightly sand and carry out adhesion test
6 = The equilibrium moisture content of cementitious substrates must not exceed 6% or 75% RH. Where moisture levels are in excess of 6% equilibrium moisture or 75% RH refer to Triflex Pox R103.
7 = Must be applied over dimensionally stable, fully bonded substrate with a minimum hardness of 25N/mm² and subject to approval by Triflex (UK) Limited.
8 = For HRA and SMA, increase primer consumption by 50% and use maximum practical catalyst (minimum 6%).

Where there are any doubts as to adhesion, carry out an adhesion test.
Triflex PDS-Ramp

System Data Sheet

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park ramps

**Substrate Assessment**

In all cases the condition and stability of the underlying substrate should be assessed prior to the commencement of work. See Substrate Testing section. Concrete structures should be designed in accordance with BS8110/CP110.

**Substrate Preparation**

Refer to substrate preparation and priming schedule. Generally:

- Remove existing paint and finishes etc. by grinding.
- Ensure that the prepared surface is clean, dry and free from dust, laitence, grease, oil and any other contaminants.

**Priming**

Refer to substrate preparation and priming schedule.

**Triflex Cryl Primer 222:**
- Apply with a lambswool roller (0.4kg/m² min.)
- Rainproof after approx. 30 minutes.
- Can be walked upon/next coat applied after approx. 45 minutes.

**Triflex Cryl Primer 276:**
- Apply with a lambswool roller (0.4kg/m² min.)
- Rainproof after approx. 30 minutes.
- Can be walked upon/next coat applied after approx. 45 minutes.

**Note:** For new cementitious materials where it is not practical to allow the substrate to hydrate to below 6% equilibrium moisture content and 75% RH, or for existing cementitious substrates with higher levels of moisture, Triflex Pox R103 can be used where the equilibrium moisture content is less than 10%.

**Triflex Pox R103:**
- Apply with a lambswool roller (0.5kg/m² min.)
- Can be walked on after approx. 8 hours.
- Next coat applied after approx. 18 hours.
- Able to withstand stress after approx. 24 hours.

**Surface Repairs and Filling**

Cut out blisters and repair all minor indentations with scratch coat of Triflex Cryl RS 233. Allow to dry for a minimum of 1 hour.

Fill all voids in vertical surfaces and at upstand transitions with Triflex Cryl Paste and allow to dry for a minimum of 1 hour.

Larger indentations can be filled with Triflex RS 240 (cementitious substrates), Triflex Cryl Mortar or Triflex Cryl Paste Mortar (non-cementitious substrates).

**Interface Details**

Apply in accordance with standard and project specific sketch details.

**General Details:**

Apply Triflex prodetail® (2.0 kg/m² min.) with a lambswool roller.

Roll a strip of Triflex 110g Reinforcement into the wet resin, pressing trapped air free using the lambswool roller, ensuring a minimum 50mm overlap between the reinforcement sheets.

Apply Triflex prodetail® (1.3 kg/m² min.) wet on wet to ensure full saturation of the fleece.

Rainproof after approx. 30 minutes.

Can be walked on/next coat applied after approx. 45 minutes.

**Complex Details:**

Where due to access restrictions, or complexity of the detail, prodetail® is not practical:

Apply Triflex Cryl R 295 fibre reinforced resin (1.5 kg/m² min.) with a brush and allow to cure for a minimum of 45 minutes.

Apply a further layer of Triflex Cryl R 295 fibre reinforced resin (1.5 kg/m² min.) by brush.

Rainproof after approx. 30 minutes.

Can be walked upon/next coat applied after approx. 45 minutes.

**Note:** Where details may be subject to mechanical damage from vehicles, consult Triflex (UK) Limited for mechanical protection solutions.

**Main Deck**

**Reinforced Waterproofing Layer:**

Apply an even layer of Triflex PD Thixo (1.5 kg/m² min.) with a lambswool roller.

Roll Triflex 110g Reinforcement into the wet resin, pressing trapped air free using the lambswool roller, ensuring a minimum 50mm overlap between the reinforcement sheets.

Apply Triflex PD Thixo (1.0 kg/m² min.) wet on wet to ensure full saturation of the fleece.

Rainproof after approx. 60 minutes.

Can be walked upon/next coat applied after approx. 2 hours.

**Wearing Layer:**

Apply Triflex PD Thixo (1.5 kg/m² min.) with a lambswool roller. Embed into the liquid layer a full cover of basalt (1.0-1.6mm), or crushed granite (1.0-2.0mm) (7.0kg/m²) approx. Allow to dry for a minimum of 3 hours, sweep away excess aggregate and vacuum clean.

Rainproof after approx. 60 minutes.

Can be walked upon after approx. 2 hours.

Next coat applied after approx. 3 hours.
Triflex PDS-Ramp System Data Sheet

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park ramps

**Finish**

**Interface Details**
Apply Triflex Cryl Finish 205 (0.5kg/m²/min) using a lambswool roller.
Rainproof after approx. 30 minutes.
Can be walked upon after approx. 1 hour.

**Main Deck**
Apply Triflex Cryl Finish 205 (0.80kg/m² min). using a hard squeegee and a dry lambswool roller.
Rainproof after approx. 30 minutes.
Can be walked upon after approx. 1 hour.
Can be driven upon after approx. 3 hours (provided Wearing Layer has been allowed to cure for more than 12 hours).

**Optional Traction Strips**
Apply Triflex Cryl M264 (3.5kg/m² min.) by trowel.
Refer To Triflex PDS-Ramp standard sketch details for traction strip layout recommendations.
Rainproof after approx. 15 minutes.
Can be walked upon after approx. 30 minutes.
Can be driven upon after approx. 1 hour.

**Expansion Joints**
Consult Triflex (UK) Limited for confirmation of design details required.

**Interruptions During Works**
If work is interrupted for more than 12 hours, use Triflex Cleaner to clean and reactivate the transition area.
Evaporation time: at least 20 minutes - overlay within 60 minutes.
For reinforced details, the subsequent waterproofing layers must overlap by at least 100 mm, including the Reinforcement.

**System Components**
Please refer to the appropriate Product Data Sheet for details about areas of application/application conditions/mixing instructions (available on request):
- Triflex Cryl Primer 222
- Triflex Cryl Primer 276
- Triflex Pox R103
- Triflex Cryl Paste
- Triflex RS 240
- Triflex Cryl Mortar
- Triflex Cryl Paste Mortar
- Triflex 110g Reinforcement
- Triflex prodetail®
- Triflex Cryl R 295
- Triflex PD Thixo
- Triflex Cryl Finish 205
- Triflex Cryl M264

**Quality Standard**
All products are manufactured to ISO 9001.

**Substrate Testing**
Prior to the commencement of work the Contractor must check and only proceed if he has satisfied the following requirements.
Hardness: All concrete substrates, concrete repair materials, screeds and mortars shall be cured and allowed to achieve a minimum hardness of 25N/mm².
Moisture: Prior to overlay with Triflex systems, the equilibrium moisture content of the substrate must not exceed 6% and 75% RH. For cementitious substrates with higher levels of moisture (less than 10% equilibrium) refer to Triflex Pox R103
Adhesion: Trial areas to be prepared to ensure that the System achieves a minimum bond to the substrate of:
- Concrete, concrete repair materials, screeds and mortars: 1.5N/mm²
- All other substrates: 0.8N/mm²

**Health and Safety**
Refer to product Health and Safety data prior to using the materials.

**Coverage Rates**
The coverage rates given are guidelines based on smooth, level substrates. Allowances must be made if the substrate is uneven, rough or porous.

**Drying Times**
The drying times stated are at +20°C and are dependent upon weather conditions.

**Important Notes**
It is the Contractors' responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with Technical Data Sheets, Application Guidelines and BBA certificate in force at the time.
The advice we can provide on the application of our products is based on extensive development work as well as many years of experience and is given to the best of our knowledge. However, the wide variety of requirements for a building under the most diverse conditions mean that it is necessary for the Contractor to test the product for suitability in any given case. We reserve the right to make alterations in keeping with technical developments or improvements.
Triflex PDS-Ramp

Heavy duty, thick layer, fully reinforced waterproofing and surfacing system for exposed car park ramps

J31 Liquid Applied Waterproof Roof Coatings

To be read with Preliminaries / General Conditions.

Liquid Applied Waterproof Roof Coating reference

Triflex PDS-Ramp
Manufacturer:
Triflex (UK) Limited
Whitebridge Way
Stone
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ST15 8GH
Tel: +44 (0) 1785 819119
Fax: +44 (0) 1785 819960
E-mail: info@triflex.co.uk
Web: www.triflex.co.uk

Generally

Apply Triflex PDS-Ramp system fully in accordance with Manufacturer’s System Data Sheet (Appendix ), standard Sketch Details (Appendix ) and project specific Sketch Details (Appendix ).

Substrate Assessment

Assess substrate in accordance with Triflex PDS-Ramp System Data Sheet.

Substrate Preparation

Prepare substrate in accordance with Triflex PDS-Ramp System Data Sheet.

Priming

Apply Triflex primer in accordance with Triflex PDS-Ramp System Data Sheet.

Primer reference: Triflex Cryl Primer 222 / Triflex Cryl Primer 276 / Triflex Pox R103

Surface Repairs and Filling

Repair and fill surface in accordance with Triflex PDS-Ramp System Data Sheet.


Interface Details

Apply interface details in accordance with Triflex PDS-Ramp System Data Sheet, standard Sketch Details and project specific Sketch Details.

General details reference: Triflex prodetail with 110g Reinforcement.

Complex details reference: Triflex Cryl R295.

Main Deck

Reinforced waterproofing layer: Apply waterproofing to main deck area in accordance with Triflex PDS-Ramp System Data Sheet.

Waterproofing reference: Triflex PD Thixo with 110g Reinforcement.

Wearing layer: Apply wearing course to main deck area in accordance with Triflex PDS-Ramp System Data Sheet.

Wearing course reference: Triflex PD Thixo.

Aggregate reference: basalt / crushed granite.

Finish

Apply finish in accordance with Triflex PDS-Ramp System Data Sheet.

Finish reference: Triflex Cryl Finish 205.


Optional Traction Strips

Apply optional traction strips in accordance with Triflex PDS-Ramp System Data Sheet and Traction Strip Layout recommendations.

Traction strip reference: Triflex Cryl M264

Installation

The works shall be executed by a Triflex Approved Contracting Partner licensed to install Triflex car park waterproofing, surfacing and protection systems.

Required system properties

• BBA certified – 20 year durability statement
• Totally waterproof
• Fully reinforced
• Dry film thickness > 4mm
• Anti-skid – SRT 81
• Fast curing (maximum 3 hours before trafficking)
• Totally cold applied
• Compatible with a wide range of substrates
• Seamless
• Elastomeric
• Dynamic crack bridging
• Fire resistant – BS476:PART3:1958 (EXT.F.AA)
• Chemical resistant
• Resistant to Chloride and Carbon Dioxide ingress
• Vapour permeable
• UV resistant
• solvent free
• Isocyanate free
• Optional Traction Strips
• Standard 10 year materials warranty
• Optional extended warranty

General notes

The Triflex PDS-Ramp System Data Sheet, standard Sketch Details and project specific Sketch Details are to be read as an integral part of this specification.

The Triflex Approved Contracting Partner is to install all details to comply with the Triflex PDS-Ramp standard Sketch Details, any project specific Sketch Details and Triflex project specific recommendations. Should any detail arise where the treatment is not clear, the Contractor must seek advice and approval from Triflex (UK) Limited prior to commencing the works.

It is the Contractor’s responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with System Data Sheets, Application Guidelines and BBA certificate in force at the time.

Notes to specifiers

We recommend that for all car park projects, the actual specification clauses for the Triflex waterproofing, surfacing and protection systems are prepared by the Triflex Technical Team.

This information can then be provided in a text format for insertion into Word and other documents.
Upstand with chase

- Detail
- ca. 150 mm
- min. 50 mm

Upstand with cover flashing

- Detail
- ca. 150 mm
- min. 50 mm

Detail interface

- Optional Traction Strip
- Finish: Triflex Cryl Finish 205
- Wearing layer: Triflex PD Thixo with basalt or crushed granite aggregate
- Reinforced waterproofing layer: Triflex PD Thixo with 110g Reinforcement
- Interface detail: Triflex prodetail with 110g Reinforcement
- Primer: dependent upon substrate

Deck penetration

- Detail
- ca. 150 mm
- min. 50 mm
Triflex PDS-Ramp

Surface mounted detail

Detail interface

Traction strip layout

Cast insitu kerb
Triflex DFS-External

Heavy duty, thick layer, waterproofing and surfacing system for external car park decks
Triflex DFS-External

Heavy duty, thick layer, waterproofing and surfacing system for external car park decks

Following experiences with the partial collapse and failure of car park structures, owners and operators have become more aware of the modes of decay and failure in structural concrete and the requirement for improved safety and performance of car park structures generally. The adequate waterproofing, surfacing and protection of car parks to both rectify existing faults and prevent further degradation has been acknowledged as a primary factor and the majority of refurbishment and new build projects include surface treatments.

There are a range of solutions available to specifiers, ranging from thin coat, paint type coatings to heavy duty, thick layer waterproofing and surfacing systems such as the Triflex DFS range.

Triflex have witnessed the problems associated with these thin coat systems and only offer heavy duty waterproofing and surfacing systems designed to offer long term protection and add value to the structure.

The Triflex solution

The Triflex DFS-External system has been developed over the last 15 years upon the successful concept of the Triflex PDS which was first introduced in 1981. The Triflex DFS-External is unique in the waterproofing and surfacing industry, featuring a thick layer construction, fully aggregate filled wearing course and resins particularly suited to use in an external environment.

The system can withstand levels of trafficking which can cause premature failure in the majority of other systems, and with it’s monolithic construction and 100% chemical bond will not suffer inter layer delamination. The system has been proven in some of the highest trafficked car park decks in Europe.

Through the benefit of Triflex experience and technology, the Triflex DFS-External system offers Best Value for multi-storey car park external decks.

Design and specification

The Triflex Technical Team can assist clients in the choosing of colours and designs through our specialist rendered visualisation service. Digital images of the existing car park can be professionally rendered to provide a realistic visualisation of what can be achieved.

The Triflex Technical Team can also assist in system selection, preparation of model specifications and the provision of project specific CAD details where required.
Triflex DFS-External

System Benefits

Heavy duty, thick layer, waterproofing and surfacing system for external car park decks

DURABILITY AND WATERPROOFING :: The Triflex DFS-External waterproofing and surfacing system features a heavy duty wearing course fully filled with either crystal quartz, basalt or crushed granite. This aggregate is tightly bound within the resin matrix and provides the wearing layer for traffic. Unlike other systems which feature a scattering of anti-skid granules, the Triflex DFS-External fully aggregate filled wearing course provides long term resistance to wear and damage, and maintains the waterproofing integrity of the membrane.

THICK LAYER BUILD UP :: With a finished thickness in excess of 4mm, the Triflex DFS-External has exceptional durability, helps mask deck imperfections and provides a more aesthetically pleasing, easier to maintain system. The system thickness allows profiled substrates such as brushed concrete and crimped asphalt to be overlaid without the original profile reflecting through. In contrast, many competitors systems are less than 2.0mm thick, are less durable, and highlight rather than mask profiles and imperfections in the existing substrate. By following the profile of the existing substrate these thin layer systems are subject to accelerated wear on high spots and will collect dirt in low spots.

COLD APPLIED WITH RAPID CURE TIMES :: All elements of the system are cold applied avoiding the risks and insurance costs associated with hot works. The rapid cure times ensure that areas are rapidly waterproofed, overall time on site is minimised, weather windows can be maximised and areas can be opened to traffic sooner. The system can be applied at temperatures as low as 0˚c ensuring that it can be installed all year round. Critical areas can be treated at night and opened to traffic the next morning.

SUBSTRATE COMPATIBILITY AND CHEMICAL BOND :: The Triflex DFS-External system is compatible with virtually all substrates likely to be encountered on external car park decks. The Triflex DFS-External is suitable for the overlay of existing failed asphalt and Triflex systems are generally acknowledged as the industry leaders in asphalt overlay. In addition, unlike the more commonly available resins, Triflex resins achieve excellent inter layer adhesion, do not suffer inter layer delamination and have excellent resistance to shear forces from vehicle tyres.

REINFORCED DETAILING :: All exposed details and higher risk areas such as movement zones incorporate our unique reinforcement to provide the maximum security and resistance to flexural fatigue. The detailing material, Triflex prodetail is CE marked, and has a European Technical Approval with a 25 year durability statement.

HIGH LEVELS OF ANTI-SKID AESTHETICS :: Ensuring that the surface will provide adequate levels of slip resistance for both pedestrians and cars, making the car park safer, reducing the potential for accidents and providing an accepted defensible standard against claims. All Triflex resins are UV stable and use UV stable inorganic pigments meaning that colour is retained over time. Our Triflex Finish can be produced in virtually any colour, meaning that aesthetic and design requirements can be fulfilled.

SIMPLE MAINTENANCE COMMITMENT TO THE ENVIRONMENT :: The Triflex DFS-External can easily be cleaned and maintained using conventional methods. The Triflex environmental policy is certified under ISO 14001. All Triflex car park waterproofing, surfacing and protection systems are solvent and isocyanate free.

RE-USBLE CONTAINERS QUALITY ASSURED MANUFACTURING :: To minimise the impact on landfill, all core resins are available in re-usable 1,000kg stainless steel containers. As all materials are manufactured to ISO9001 you can be assured of consistent quality.

QUALITY DESIGN AND SPECIFICATION ASSISTANCE :: The Triflex Technical Team can assist in all areas of the design and specification process from preparing initial rendered visualisations to project specific specifications and sketch details.

QUALITY INSTALLATION :: Triflex car park waterproofing and surfacing systems are only installed by our Approved Contracting Partners who have been selected for their ability to provide the highest level of client service.

WARRANTED PROTECTION :: The Triflex DFS-External system is offered as standard with a 10 year materials warranty. Other warranties are available – please contact Triflex (UK) Limited directly for details.
# Triflex DFS-External

## System Data Sheet

Heavy duty, thick layer, waterproofing and surfacing system for external car park decks

## Properties

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<tr>
<th>Property</th>
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<tbody>
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<td>Anti-slip</td>
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<td>Available with finish options</td>
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<td></td>
<td>- 1.0-1.6mm basalt with Traffic Grey pigmented seal</td>
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<tr>
<td></td>
<td>- 1.0-2.0mm crushed granite with Traffic Grey pigmented seal</td>
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<tr>
<td>Tough</td>
<td>Highly abrasion resistant</td>
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<td>Exceptionally fast curing</td>
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<td>Compatible with a wide range of substrates</td>
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<td>Tailored design options</td>
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## System Build Up

1. **Substrate**
2. **Triflex Primer**
3. **Triflex Deck Floor Layer**
4. **Triflex Finish**

## System Details

- **Triflex Primer** - Primer for sealing of substrate and to improve adhesion.
- **Triflex Deck Floor Layer** - Waterproof, self levelling surfacing layer with hard wearing crystal quartz, basalt or crushed granite aggregate.
- **Triflex Finish** - Abrasion resistant system seal coat.

## Applications

The system is suitable for the waterproofing and surfacing of external car park decks which are not over occupied premises, and for the waterproofing and surfacing of internal decks over occupied premises.
Substrate preparation and priming

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<th>Substrate</th>
<th>Preparation Notes</th>
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<th>Triflex prodetail for details</th>
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For other substrates, consult Triflex (UK) Limited for required preparation methods and priming.

Notes:
1 = Scarify, grind or lightly bead blast
2 = Clean thoroughly
3 = Liquefy surface by application of heat and immediately top with quartz
4 = Rub down thoroughly with Triflex Cleaners, and sand/grind metals and hard plastics
   (steel must be ground or blasted to bright metal)
5 = Lightly sand and carry out adhesion test
6 = The equilibrium moisture content of cementitious substrates must not exceed 6% or 75% RH. Where moisture levels are in excess of 6% equilibrium moisture or 75% RH refer to Triflex Pox R103.
7 = Must be applied over dimensionally stable, fully bonded substrate with a minimum hardness of 25N/mm² and subject to approval by Triflex (UK) Limited.
8 = For HRA and SMA, increase primer consumption by 50% and use maximum practical catalyst (minimum 6%).

Where there are any doubts as to adhesion, carry out an adhesion test.
Triflex DFS-External System Data Sheet

Heavy duty, thick layer, waterproofing and surfacing system for external car park decks

Substrate Assessment

In all cases the condition and stability of the underlying substrate should be assessed prior to the commencement of work. See Substrate Testing section. Concrete structures should be designed in accordance with BS8110/CP110.

Substrate Preparation

Refer to substrate preparation and priming schedule. Generally:
Remove existing paint and finishes etc. by grinding. Ensure that the prepared surface is clean, dry and free from dust, laitence, grease, oil and any other contaminants.

Priming

Refer to substrate preparation and priming schedule.
Triflex Cryl Primer 222:
Apply with a lambswool roller (0.4kg/m² min.)
Rainproof after approx. 30 minutes.
Can be walked upon/next coat applied after approx. 45 minutes.
Triflex Cryl Primer 276:
Apply with a lambswool roller (0.4kg/m² min.)
Rainproof after approx. 30 minutes.
Can be walked upon/next coat applied after approx. 45 minutes.
Note: For new cementitious materials where it is not practical to allow the substrate to hydrate to below 6% equilibrium moisture content and 75% RH, or for existing cementitious substrates with higher levels of moisture, Triflex Pox R103 can be used where the equilibrium moisture content is less than 10%.
Triflex Pox R103:
Apply with a lambswool roller (0.5kg/m² min.)
Can be walked on after approx. 8 hours.
Next coat applied after approx. 18 hours.
Able to withstand stress after approx. 24 hours.

Surface Repairs and Filling

Cut out blisters and repair all minor indentations with scratch coat of Triflex Cryl RS 233. Allow to dry for a minimum of 1 hour.
Fill all voids in vertical surfaces and at upstand transitions with Triflex Cryl Paste and allow to dry for a minimum of 1 hour. Larger indentations can be filled with Triflex RS 240 (cementitious substrates), Triflex Cryl Mortar or Triflex Cryl Paste Mortar (non-cementitious substrates).

Dynamic Cracks and Dayjoints

Remove any existing filler material and fill with Triflex Cryl RS 233.
Apply Triflex Cryl R 210 (1.5kg/m² min.) with a lambswool roller.
Roll a strip of Triflex 110g Reinforcement into the wet resin, pressing trapped air free using the lambswool roller, ensuring a minimum 50mm overlap between the reinforcement sheets.
Apply Triflex Cryl R 210 (1.0kg/m² min.) wet on wet to ensure full saturation of the fleece. Allow to dry for a minimum of 1 hour.
Minimum fleece overlap either side of dynamic crack/dayjoint - 75mm.
Note: Identification of Dynamic Cracks should include a survey of the soffit (where visible).

Interface Details

Apply in accordance with standard and project specific sketch details.

General Details:
Apply Triflex prodetail® (2.0 kg/m² min.) with a lambswool roller.
Roll a strip of Triflex 110g Reinforcement into the wet resin, pressing trapped air free using the lambswool roller, ensuring a minimum 50mm overlap between the reinforcement sheets.
Apply Triflex prodetail® (1.3 kg/m² min.) wet on wet to ensure full saturation of the fleece.
Rainproof after approx. 30 minutes
Can be walked on/next coat applied after approx. 45 minutes.

Complex Details:
Where due to access restrictions, or complexity of the detail, prodetail® is not practical:
Apply Triflex Cryl R 295 fibre reinforced resin (1.5 kg/m² min.) with a brush and allow to cure for a minimum of 45 minutes.
Apply a further layer of Triflex Cryl R 295 fibre reinforced resin (1.5 kg/m² min.) by brush.
Rainproof after approx. 30 minutes.
Can be walked upon/next coat applied after approx. 45 minutes.
Note: Where details may be subject to mechanical damage from vehicles, consult Triflex (UK) Limited for mechanical protection solutions.

Main Deck - Deck Floor Layer

Apply Triflex Cryl RS 233 (4.5kg/m² min.) by trowel.
Embed into the wet Triflex Cryl RS 233 a full cover of crystal quartz (0.7-1.2mm), basalt (1.0-1.6mm), or crushed granite (1.0-2.0mm) (5.0kg/m²) approx. Allow to dry for a minimum of 2 hours, sweep away excess aggregate and vacuum clean.
Rainproof after approx. 30 minutes.
Can be walked upon after approx. 1 hour.
Next coat applied after approx. 2 hours.

Finish

Interface Details
Apply Triflex Cryl Finish 205 (0.5kg/m²/min) using a lambswool roller.
Rainproof after approx. 30 minutes.
Can be walked upon after approx. 1 hour.
Note: For interface details in excess of 250mm high, use Triflex Cryl Finish 205 Thixo

Main Deck
Apply Triflex Cryl Finish 205 (0.65kg/m² min.), (0.80kg/m² min.) if over basalt or crushed granite) using a hard squeegee and a dry lambswool roller.
Rainproof after approx. 30 minutes.
Can be driven upon after approx. 1 hour.
Can be driven upon after approx. 3 hours.
Triflex DFS-External

System Data Sheet

Expansion Joints
Consult Triflex (UK) Limited for confirmation of design details required.

Interruptions During Works
If work is interrupted for more than 12 hours, use Triflex Cleaner to clean and reactivate the transition area.
Evaporation time: at least 20 minutes - overlay within 60 minutes.
For reinforced details, the subsequent waterproofing layers must overlap by at least 100 mm, including the Reinforcement.

System Components
Please refer to the appropriate Product Data Sheet for details about areas of application/application conditions/mixing instructions (available on request):
- Triflex Cryl Primer 222
- Triflex Cryl Primer 276
- Triflex Pox R103
- Triflex Cryl Paste
- Triflex RS 240
- Triflex Cryl Mortar
- Triflex Cryl Paste Mortar
- Triflex Cryl R 210
- Triflex 110g Reinforcement
- Triflex prodetail®
- Triflex Cryl R 295
- Triflex Cryl RS 233
- Triflex Cryl Finish 205

Health and Safety
Refer to product Health and Safety data prior to using the materials.

Coverage Rates
The coverage rates given are guidelines based on smooth, level substrates. Allowances must be made if the substrate is uneven, rough or porous.

Drying Times
The drying times stated are at +20°C and are dependent upon weather conditions.

Important Notes
It is the Contractor’s responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with Technical Data Sheets and Application Guidelines in force at the time.
The advice we can provide on the application of our products is based on extensive development work as well as many years of experience and is given to the best of our knowledge. However, the wide variety of requirements for a building under the most diverse conditions mean that it is necessary for the Contractor to test the product for suitability in any given case. We reserve the right to make alterations in keeping with technical developments or improvements.

Quality Standard
All products are manufactured to ISO 9001.

Substrate Testing
Prior to the commencement of work the Contractor must check and only proceed if he has satisfied the following requirements.
Hardness: All concrete substrates, concrete repair materials, screeds and mortars shall be cured and allowed to achieve a minimum hardness of 25N/mm².
Moisture: Prior to overlay with Triflex systems, the equilibrium moisture content of the substrate must not exceed 6% and 75% RH. For cementitious substrates with higher levels of moisture (less than 10% equilibrium) refer to Triflex Pox R103.
Adhesion: Trial areas to be prepared to ensure that the System achieves a minimum bond to the substrate of:
- Concrete, concrete repair materials, screeds and mortars: 1.5N/mm²
- All other substrates: 0.8N/mm²
Triflex DFS-External

Heavy duty, thick layer, waterproofing and surfacing system for external car park decks

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**J31 Liquid Applied Waterproof Roof Coatings**

To be read with Preliminaries / General Conditions.

**Liquid Applied Waterproof Roof Coating reference**

Triflex DFS-External

Manufacturer:

Triflex (UK) Limited
Whitebridge Way
Stone
Staffordshire
ST15 8GH

Tel: +44 (0) 1785 819119
Fax: +44 (0) 1785 819960
E-mail: info@triflex.co.uk
Web: www.triflex.co.uk

**Generally**

Apply Triflex DFS-External system fully in accordance with Manufacturer’s System Data Sheet (Appendix ), standard Sketch Details (Appendix ) and project specific Sketch Details (Appendix ).

**Substrate Assessment**

Assess substrate in accordance with Triflex DFS-External System Data Sheet.

**Substrate Preparation**

Prepare substrate in accordance with Triflex DFS-External System Data Sheet.

**Priming**

Apply Triflex primer in accordance with Triflex DFS-External System Data Sheet.

**Surface Repairs and Filling**

Repair and fill surface in accordance with Triflex DFS-External System Data Sheet.

**Dynamic Cracks and Dayjoints**

Treat dynamic cracks and dayjoints in accordance with Triflex DFS-External System Data Sheet.

**Interface Details**

Apply interface details in accordance with Triflex DFS-External System Data Sheet, standard Sketch Details and project specific Sketch Details.

**Main Deck**

Apply waterproofing and surfacing to main deck area in accordance with Triflex DFS-External System Data Sheet.

**Finish**

Apply finish in accordance with Triflex DFS-External System Data Sheet.

**Finish reference:** Triflex Cryl Finish 205.

**Finish colour references:** (INSERT).

**Installation**

The works shall be executed by a Triflex Approved Contracting Partner licensed to install Triflex car park waterproofing, surfacing and protection systems.

**Required system properties**

- Waterproof
- Dry film thickness > 4mm
- Anti-skid – SRT 70-81
- Available in a wide range of colours and textures
- Fast curing (maximum 3 hours before trafficking)
- Totally cold applied
- Compatible with a wide range of substrates
- Seamless
- Flexible
- Fire resistant
- Chemical resistant
- Resistant to Chloride and Carbon Dioxide ingress
- Vapour permeable
- Suitable for application at temperatures as low as 0˚C
- UV resistant
- Solvent free
- Isocyanate free
- Standard 10 year materials warranty
- Optional extended warranty

**General notes**

The Triflex DFS-External System Data Sheet, standard Sketch Details and project specific Sketch Details are to be read as an integral part of this specification. The Triflex Approved Contracting Partner is to install all details to comply with the Triflex DFS-External standard Sketch Details, any project specific Sketch Details and Triflex project specific recommendations. Should any detail arise where the treatment is not clear, the Contractor must seek advice and approval from Triflex (UK) Limited prior to commencing the works.

It is the Contractor’s responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with System Data Sheets and Application Guidelines in force at the time.

**Notes to specifiers**

We recommend that for all car park projects, the actual specification clauses for the Triflex waterproofing, surfacing and protection systems are prepared by the Triflex Technical Team.

This information can then be provided in a text format for insertion into Word and other documents.
Triflex DFS-External

Upstand with chase

- Detail
- Ca. 150 mm
- Min. 50 mm

Detail interface

- Finish: Triflex Cryl Finish 205
- Deck Floor Layer: Triflex Cryl RS 233 with crystal quartz, basalt or crushed granite aggregate
- Interface detail: Triflex prodetail with 110g Reinforcement
- Primer: dependent upon substrate

Upstand with cover flashing

- Detail
- Ca. 150 mm
- Min. 50 mm

Deck penetration

- Detail
- Ca. 150 mm
- Min. 50 mm
- Min. 50 mm
**Triflex DFS-External**

**Sketch Details**

**Surface mounted detail**

- **Detail**
- **min. 50 mm**
- **ca. 150 mm**

**Gully**

- **Detail**
- **min. 50 mm**

**Cast insitu kerb**

- **Detail**
- **min. 50 mm**
- **min. 50 mm**

**Detail interface**

- **Finish: Triflex Cryl Finish 205**
- **Deck Floor Layer: Triflex Cryl RS 233 with crystal quartz, basalt or crushed granite aggregate**
- **Interface detail: Triflex prodetail with 110g Reinforcement**
- **Primer: dependent upon substrate**
Triflex DFS

Heavy duty, thick layer, waterproofing and surfacing system for internal car park decks
Triflex DFS

Heavy duty, thick layer, waterproofing and surfacing system for internal car park decks

Following experiences with the partial collapse and failure of car park structures, owners and operators have become more aware of the modes of decay and failure in structural concrete and the requirement for improved safety and performance of car park structures generally. The adequate waterproofing, surfacing and protection of car parks to both rectify existing faults and prevent further degradation has been acknowledged as a primary factor and the majority of refurbishment and new build projects include surface treatments.

One of the major causes of failure in car park structures are Chlorides which are tracked into car parks on vehicle tyres and chassis in the form of de-icing salts. As a result it is often the lower vehicle decks and those with direct access from the surrounding roads which will be subject to the highest volumes of Chlorides. Without adequate waterproofing and a system which can offer long term protection from Chloride ingress, internal decks can actually deteriorate at a faster rate than external decks.

The majority of our competition offer lower specification solutions for internal decks, despite the fact that these can be at greater risk and subject to significantly higher traffic.

These low specification systems can fail prematurely and Triflex therefore only offer offer long term protection and resistance to sustained trafficking.

The Triflex solution

The Triflex DFS system has been developed over the last 15 years upon the successful concept of the Triflex PDS which was first introduced in 1981. The Triflex DFS is unique in the waterproofing and surfacing industry, featuring a thick layer construction, fully aggregate filled wearing course and resins particularly suited to use in the car park environment.

The system can withstand levels of trafficking which can cause premature failure in the majority of other systems, and with it's monolithic construction and 100% chemical bond will not suffer inter layer delamination. The system has been proven in some of the highest trafficked internal car park decks in Europe. With it's thick layer construction the system can mask profiles, repairs and deck imperfections which can be highlighted by thin layer coatings.

Through the benefit of Triflex experience and technology, the Triflex DFS system offers Best Value for multi-storey car park internal and ground floor car park decks.

Design and specification

The Triflex Technical Team can assist clients in the choosing of colours and designs through our specialist rendered visualisation service. Digital images of the existing car park can be professionally rendered to provide a realistic visualisation of what can be achieved.

The Triflex Technical Team can also assist in system selection, preparation of model specifications and the provision of project specific CAD details where required.
Triflex DFS

Heavy duty, thick layer, waterproofing and surfacing system for internal car park decks

Triflex DFS System Benefits

DURABILITY AND WATERPROOFING :: The Triflex DFS waterproofing and surfacing system features a heavy duty wearing course fully filled with either crystal quartz, basalt or crushed granite. This aggregate is tightly bound within the resin matrix and provides the wearing layer for traffic. Unlike other systems which feature a scattering of anti-skid granules, the Triflex DFS fully aggregate filled wearing course provides long term resistance to wear and damage, and maintains the waterproofing integrity of the membrane.

THICK LAYER BUILD UP :: With a finished thickness in excess of 4mm, the Triflex DFS has exceptional durability, helps mask deck imperfections and provides a more aesthetically pleasing, easier to maintain system. The system thickness allows profiled substrates such as brushed concrete and crimped asphalt to be overlaid without the original profile reflecting through. In contrast, many competitors systems are less than 2.0mm thick, are less durable, and highlight rather than mask profiles and imperfections in the existing substrate. By following the profile of the existing substrate these thin layer systems are subject to accelerated wear on high spots and will collect dirt in low spots.

COLD APPLIED WITH RAPID CURE TIMES EVEN AT LOW TEMPERATURES :: All elements of the system are cold applied avoiding the risks and insurance costs associated with hot works. The rapid cure times ensure that areas are rapidly waterproofed, overall time on site is minimised, weather windows can be maximised and areas can be opened to traffic sooner. The system can be applied at temperatures as low as 0°C ensuring that it can be installed all year round. Critical areas can be treated at night and opened to traffic the next morning.

SUBSTRATE COMPATIBILITY AND CHEMICAL BOND :: The Triflex DFS system is compatible with virtually all substrates likely to be encountered on internal car park decks. The Triflex DFS is suitable for the overlay of existing failed asphalt and Triflex systems are generally acknowledged as the industry leaders in asphalt overlay. The unique properties of the Triflex DFS allow even porous asphalts such as Hot Rolled Asphalt and Stone Mastic Asphalt to be overlaid. In contrast, unlike the more commonly available resins, Triflex resins achieve excellent inter layer adhesion, do not suffer inter layer delamination and have excellent resistance to shear forces from vehicle tyres.

REINFORCED DETAILING :: All critical details and higher risk areas such as movement zones incorporate our unique reinforcement to provide the maximum security and resistance to flexural fatigue. The detailing material, Triflex prodetail is CE marked, and has a European Technical Approval with a 25 year durability statement. Less critical details can be economically treated using our specialist fibre reinforced resin.

HIGH LEVELS OF ANTI-SKID AESTHETICS :: Ensuring that the surface will provide adequate levels of slip resistance for both pedestrians and cars, making the car park safer, reducing the potential for accidents and providing an accepted defensible standard against claims. All Triflex resins are UV stable and use UV stable inorganic pigments meaning that colour is retained over time. Our Triflex Finish can be produced in virtually any colour, meaning that aesthetic and design requirements can be fulfilled.

SIMPLE MAINTENANCE :: The Triflex DFS can easily be cleaned and maintained using conventional methods.

COMMITMENT TO THE ENVIRONMENT :: The Triflex environmental policy is certified under ISO 14001. All Triflex car park waterproofing, surfacing and protection systems are solvent and isocyanate free.

RE-USABLE CONTAINERS :: To minimise the impact on landfill, all core resins are available in re-usable 1,000kg stainless steel containers.

QUALITY ASSURED MANUFACTURING :: As all materials are manufactured to ISO9001 you can be assured of consistent quality.

QUALITY DESIGN AND SPECIFICATION ASSISTANCE :: The Triflex Technical Team can assist in all areas of the design and specification process from preparing initial rendered visualisations to project specific specifications and sketch details.

QUALITY INSTALLATION :: Triflex car park waterproofing and surfacing systems are only installed by our Approved Contracting Partners who have been selected for their ability to provide the highest level of client service.

WARRANTED PROTECTION :: The Triflex DFS system is offered as standard with a 10 year materials warranty. Other warranties are available – please contact Triflex (UK) Limited directly for details.
Triflex DFS

System Data Sheet

Heavy duty, thick layer, waterproofing and surfacing system for internal car park decks

Properties

- Waterproof, thick layer system
- Anti-slip - SRT 70-81
- Available with the following finish options:
  - 0.7-1.2mm crystal quartz with pigmented seal
  - 1.0-1.6mm basalt with Traffic Grey pigmented seal
  - 1.0-2.0mm crushed granite with Traffic Grey pigmented seal
- Tough – highly abrasion resistant
- Exceptionally fast curing
- Cold applied
- Compatible with a wide range of substrates
- Seamless
- Flexible
- Fire resistant EN ISO-11925-2:2002
- EN ISO-9239-1:2002
- Chemical resistant
- Resistant to Chloride and Carbon Dioxide ingress
- Vapour permeable
- Low temperature curing -0°C
- UV resistant
- Solvent free
- Isocyanate free
- Tailored design options

System Build Up

System Details

- **Triflex Primer** - Primer for sealing of substrate and to improve adhesion.
- **Triflex Deck Floor Layer** - Waterproof, self levelling surfacing layer with hard wearing crystal quartz, basalt or crushed granite aggregate.
- **Triflex Finish** - Abrasion resistant system seal coat.

Applications

The system is suitable for the waterproofing and surfacing, or surfacing only of internal and underground car park decks.
## Substrate preparation and priming

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For other substrates, consult Triflex (UK) Limited for required preparation methods and priming.

**Notes:**

1. Scarify, grind or lightly bead blast
2. Clean thoroughly
3. Liquefy surface by application of heat and immediately top with quartz
4. Rub down thoroughly with Triflex Cleaners, and sand/grind metals and hard plastics (steel must be ground or blasted to bright metal)
5. Lightly sand and carry out adhesion test
6. The equilibrium moisture content of cementitious substrates must not exceed 6% or 75% RH. Where moisture levels are in excess of 6% equilibrium moisture or 75% RH refer to Triflex Pox R103.
7. Must be applied over dimensionally stable, fully bonded substrate with a minimum hardness of 25N/mm² and subject to approval by Triflex (UK) Limited.
8. For HRA and SMA, increase primer consumption by 50% and use maximum practical catalyst (minimum 6%).

Where there are any doubts as to adhesion, carry out an adhesion test.
Substrate Assessment

In all cases the condition and stability of the underlying substrate should be assessed prior to the commencement of work. See Substrate Testing section. Concrete structures should be designed in accordance with BS8110/CP110.

Substrate Preparation

Refer to substrate preparation and priming schedule. Generally:
- Remove existing paint and finishes etc. by grinding.
- Ensure that the prepared surface is clean, dry and free from dust, laitence, grease, oil and any other contaminants.

Priming

Refer to substrate preparation and priming schedule.

**Triflex Cryl Primer 222:**
- Apply with a lambswool roller (0.4kg/m² min.)
- Rainproof after approx. 30 minutes.
- Can be walked upon/next coat applied after approx. 45 minutes.

**Triflex Cryl Primer 276:**
- Apply with a lambswool roller (0.4kg/m² min.)
- Rainproof after approx. 30 minutes.
- Can be walked upon/next coat applied after approx. 45 minutes.

**Note:** For new cementitious materials where it is not practical to allow the substrate to hydrate to below 6% equilibrium moisture content and 75% RH, or for existing cementitious substrates with higher levels of moisture, Triflex Pox R103 can be used where the equilibrium moisture content is less than 10%.

**Triflex Pox R103:**
- Apply with a lambswool roller (0.5kg/m² min.)
- Can be walked on after approx. 8 hours.
- Next coat applied after approx. 18 hours.
- Able to withstand stress after approx. 24 hours.

Surface Repairs and Filling

Cut out blisters and repair all minor indentations with scratch coat of Triflex Cryl RS 233. Allow to dry for a minimum of 1 hour.
- Fill all voids in vertical surfaces and at upstand transitions with Triflex Cryl Paste and allow to dry for a minimum of 1 hour.
- Larger indentations can be filled with Triflex RS 240 (cementitious substrates), Triflex Cryl Mortar or Triflex Cryl Paste Mortar (non-cementitious substrates).

Dynamic Cracks and Dayjoints

Remove any existing filler material and fill with Triflex Cryl RS 233.
- Apply Triflex Cryl R 210 (1.5kg/m² min.) with a lambswool roller.
- Roll a strip of Triflex 110g Reinforcement into the wet resin, pressing trapped air free using the lambswool roller, ensuring a minimum 50mm overlap between the reinforcement sheets.
- Apply Triflex Cryl R 210 (1.0kg/m² min.) wet on wet to ensure full saturation of the fleece. Allow to dry for a minimum of 1 hour.
- Minimum fleece overlap either side of dynamic crack/dayjoint - 75mm.

**Note:** Identification of Dynamic Cracks should include a survey of the soffit (where visible).

Interface Details

Apply in accordance with standard and project specific sketch details.

**General Details:**
- Apply Triflex prodetail® (2.0 kg/m² min.) with a lambswool roller.

**Roll a strip of Triflex 110g Reinforcement into the wet resin, pressing trapped air free using the lambswool roller, ensuring a minimum 50mm overlap between the reinforcement sheets.**
- Apply Triflex prodetail® (1.3 kg/m² min.) wet on wet to ensure full saturation of the fleece.
- Rainproof after approx. 30 minutes
- Can be walked on/next coat applied after approx. 45 minutes.

**Complex and Less Critical Details:**
- Where due to access restrictions, or complexity of the detail, prodetail® is not practical, or where the detail is less critical, e.g upstands at high points:
  - Apply Triflex Cryl R 295 fibre reinforced resin (1.5 kg/m² min.) with a brush and allow to cure for a minimum of 45 minutes.
  - Apply a further layer of Triflex Cryl R 295 fibre reinforced resin (1.5 kg/m² min.) by brush.
  - Rainproof after approx. 30 minutes.
  - Can be walked upon/next coat applied after approx. 45 minutes.

**Notes:**
- For guidance on the treatment of individual details consult Triflex (UK) Limited.
- Where details may be subject to mechanical damage from vehicles, consult Triflex (UK) Limited for mechanical protection solutions.

**Main Deck - Deck Floor Layer**

Apply Triflex Cryl RS 233 (4.0kg/m² min.) by trowel.
- Embed into the wet Triflex Cryl RS 233 a full cover of crystal quartz (0.7-1.2mm), basalt (1.0-1.6mm), or crushed granite (1.0-2.0mm) (5.0kg/m² approx. Allow to dry for a minimum of 2 hours, sweep away excess aggregate and vacuum clean.
- Rainproof after approx. 30 minutes.
- Can be walked upon after approx. 1 hour.
- Next coat applied after approx. 2 hours.

**Finish**

**Interface Details**
- Apply Triflex Cryl Finish 205 (0.5kg/m³/min) using a lambswool roller.
- Rainproof after approx. 30 minutes.
- Can be walked upon after approx. 1 hour.

**Main Deck**
- Apply Triflex Cryl Finish 205 (0.65kg/m³ min.), (0.80kg/m³ min.) if over basalt or crushed granite) using a hard squeegee and a dry lambswool roller.
- Rainproof after approx. 30 minutes.
- Can be walked upon after approx. 1 hour.
- Can be driven upon after approx. 3 hours.
Triflex DFS

Heavy duty, thick layer, waterproofing and surfacing system for internal car park decks

Expansion Joints

Consult Triflex (UK) Limited for confirmation of design details required.

Interruptions During Works

If work is interrupted for more than 12 hours, use Triflex Cleaner to clean and reactivate the transition area.
Evaporation time: at least 20 minutes - overlay within 60 minutes.
For reinforced details, the subsequent waterproofing layers must overlap by at least 100 mm, including the Reinforcement.

Interruptions During Works

Health and Safety

Refer to product Health and Safety data prior to using the materials.

Coverage Rates

The coverage rates given are guidelines based on smooth, level substrates. Allowances must be made if the substrate is uneven, rough or porous.

Drying Times

The drying times stated are at +20°C and are dependent upon weather conditions.

Important Notes

It is the Contractors' responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with Technical Data Sheets and Application Guidelines in force at the time.
The advice we can provide on the application of our products is based on extensive development work as well as many years of experience and is given to the best of our knowledge. However, the wide variety of requirements for a building under the most diverse conditions mean that it is necessary for the Contractor to test the product for suitability in any given case. We reserve the right to make alterations in keeping with technical developments or improvements.

System Components

Please refer to the appropriate Product Data Sheet for details about areas of application/application conditions/mixing instructions (available on request):
- Triflex Cryl Primer 222
- Triflex Cryl Primer 276
- Triflex Pox R103
- Triflex Cryl Paste
- Triflex RS 240
- Triflex Cryl Mortar
- Triflex Cryl Paste Mortar
- Triflex Cryl R 210
- Triflex 110g Reinforcement
- Triflex prodetail®
- Triflex Cryl R 295
- Triflex Cryl RS 233
- Triflex Cryl Finish 205

Quality Standard

All products are manufactured to ISO 9001.

Substrate Testing

Prior to the commencement of work the Contractor must check and only proceed if he has satisfied the following requirements.
Hardness: All concrete substrates, concrete repair materials, screeds and mortars shall be cured and allowed to achieve a minimum hardness of 25N/mm².
Moisture: Prior to overlay with Triflex systems, the equilibrium moisture content of the substrate must not exceed 6% and 75% RH. For cementitious substrates with higher levels of moisture (less than 10% equilibrium) refer to Triflex Pox R103.
Adhesion: Trial areas to be prepared to ensure that the System achieves a minimum bond to the substrate of:
Concrete, concrete repair materials, screeds and mortars: 1.5N/mm²
All other substrates: 0.8N/mm²
Triflex DFS

Heavy duty, thick layer, waterproofing and surfacing system for internal car park decks

J31 Liquid Applied Waterproof Roof Coatings

To be read with Preliminaries / General Conditions.

Liquid Applied Waterproof Roof Coating reference

Triflex DFS
Manufacturer:
Triflex (UK) Limited
Whitebridge Way
Stone
Staffordshire
ST15 8GH
Tel: +44 (0) 1785 819119
Fax: +44 (0) 1785 819960
E-mail: info@triflex.co.uk
Web: www.triflex.co.uk

Generally

Apply Triflex DFS system fully in accordance with Manufacturer’s System Data Sheet (Appendix ), standard Sketch Details (Appendix ) and project specific Sketch Details (Appendix ).

Substrate Assessment

Assess substrate in accordance with Triflex DFS System Data Sheet.

Substrate Preparation

Prepare substrate in accordance with Triflex DFS System Data Sheet.

Priming

Apply Triflex primer in accordance with Triflex DFS System Data Sheet.

Primer reference: Triflex Cryl Primer 222 / Triflex Cryl Primer 276 / Triflex Pox R103.

Surface Repairs and Filling

Repair and fill surface in accordance with Triflex DFS System Data Sheet.


Dynamic Cracks and Dayjoints

Treat dynamic cracks and dayjoints in accordance with Triflex DFS System Data Sheet.

Overbanding reference: Triflex Cryl R210 with 110g Reinforcement.

Interface Details

Apply interface details in accordance with Triflex DFS System Data Sheet, standard Sketch Details and project specific Sketch Details.

General details reference: Triflex prodetail with 110g Reinforcement.
Complex details reference: Triflex Cryl R295.

Main Deck

Apply waterproofing and surfacing to main deck area in accordance with Triflex DFS System Data Sheet.

Aggregate reference: crystal quartz / basalt / crushed granite.

Finish

Apply finish in accordance with Triflex DFS System Data Sheet.

Finish reference: Triflex Cryl Finish 205.
Finish colour references: (INSERT).

Installation

The works shall be executed by a Triflex Approved Contracting Partner licensed to install Triflex car park waterproofing, surfacing and protection systems.

Required system properties

• Waterproof
• Dry film thickness > 4mm
• Anti-skid — SRT 70-81
• Available in a wide range of colours and textures
• Fast curing (maximum 3 hours before trafficking)
• Totally cold applied
• Compatible with a wide range of substrates
• Seamless
• Flexible
• Fire resistant
• Chemical resistant
• Resistant to Chloride and Carbon Dioxide ingress
• Vapour permeable
• Suitable for application at temperatures as low as 0˚c
• UV resistant
• Solvent free
• Isocyanate free
• Standard 10 year materials warranty
• Optional extended warranty

General notes

The Triflex DFS System Data Sheet, standard Sketch Details and project specific Sketch Details are to be read as an integral part of this specification.
The Triflex Approved Contracting Partner is to install all details to comply with the Triflex DFS standard Sketch Details, any project specific Sketch Details and Triflex project specific recommendations. Should any detail arise where the treatment is not clear, the Contractor must seek advice and approval from Triflex (UK) Limited prior to commencing the works.
It is the Contractor’s responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with System Data Sheets and Application Guidelines in force at the time.

Notes to specifiers

We recommend that for all car park projects, the actual specification clauses for the Triflex waterproofing, surfacing and protection systems are prepared by the Triflex Technical Team.
This information can then be provided in a text format for insertion into Word and other documents.
Triflex DFS

Upstand with cover flashing

Detail interface

Deck penetration

Upstand with chase

Deck Floor Layer: Triflex Cryl RS 233 with crystal quartz, basalt or crushed granite aggregate

Interface detail: Triflex prodetail with 110g Reinforcement

Primer: dependent upon substrate

Finish: Triflex Cryl Finish 205

ca. 150 mm

min. 50 mm
Triflex DFS

Surface mounted detail

Gully

Detail interface

Cast insitu kerb
### Upstand - Less Critical

- Detail
- min. 50 mm

### Deck penetration - Less Critical

- Detail
- ca. 50 mm
- min. 50 mm

### Surface mounted detail - Less Critical

- Detail
- ca. 50 mm
- min. 50 mm

### Detail interface - Less Critical

- Finish: Triflex Cryl Finish 205
- Deck Floor Layer: Triflex Cryl RS 233 with crystal quartz, basalt or crushed granite aggregate
- Interface detail: Triflex Cryl R295
- Primer: dependent upon substrate
- min. 50 mm
Heavy duty, thick layer, waterproofing and surfacing system for internal and external car park ramps

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**Triflex DFS-Ramp**

61  Triflex DFS-Ramp

62  System Benefits

63  System Data Sheet

67  Model Specification

68  Sketch Details
Triflex DFS-Ramp

Heavy duty, thick layer, waterproofing and surfacing system for internal and external car park ramps

Following experiences with the partial collapse and failure of car park structures, owners and operators have become more aware of the modes of decay and failure in structural concrete and the requirement for improved safety and performance of car park structures generally. The adequate waterproofing, surfacing and protection of car parks to both rectify existing faults and prevent further degradation has been acknowledged as a primary factor and the majority of refurbishment and new build projects include surface treatments.

Due to the higher shear forces from vehicle tyres, ramps and ramp aprons are particularly vulnerable to accelerated wear. Through our experience over more than 20 years in this industry, Triflex have developed specialist solutions for ramps and ramp aprons designed to not only deal with the additional forces involved, but to maximise traction and abrasion resistance.

Triflex only offer heavy duty waterproofing and surfacing systems designed to offer long term protection and resistance to sustained trafficking.

The Triflex solution

The Triflex DFS-Ramp system has been developed over the last 15 years upon the successful concept of the Triflex PDS-Ramp which was first introduced in 1981. The Triflex DFS-Ramp is unique in the waterproofing and surfacing industry, featuring a thick layer construction, fully aggregate filled wearing course and resins particularly suited to use in the car park environment.

The system can withstand levels of trafficking which can cause premature failure in the majority of other systems, and with it’s monolithic construction and 100% chemical bond will not suffer inter layer delamination. The system has been proven in some of the highest trafficked car park ramps in Europe.

Through the benefit of Triflex experience and technology, the Triflex DFS-Ramp system offers Best Value for multi-storey car park ramp waterproofing and surfacing.

Optional Traction Strips

For particularly steep ramps, and ramp aprons with tight turning areas, the optional Traction Strips can be incorporated to provide additional traction and abrasion resistance. Through the use of a contrasting colour, the Traction Strips can also be used for additional demarkation of ramp routes.
Triflex DFS-Ramp

System Benefits

Heavy duty, thick layer, waterproofing and surfacing system for internal and external car park ramps

DURABILITY AND WATERPROOFING

:: The Triflex DFS-Ramp waterproofing and surfacing system features a heavy duty wearing course fully filled with either basalt or crushed granite. This aggregate is tightly bound within the resin matrix and provides the wearing layer for traffic. Unlike other systems which feature a scattering of anti-skid granules, the Triflex DFS-Ramp fully aggregate filled wearing course provides long term resistance to wear and damage, and maintains the waterproofing integrity of the membrane.

In addition, unlike the more commonly available resins, Triflex resins achieve excellent inter layer adhesion, do not suffer inter layer delamination and have excellent resistance to shear forces from vehicle tyres.

The optional Traction Strips can be incorporated to provide enhanced traction and wear resistance on ramps and ramp aprons.

COLD APPLIED WITH RAPID CURE TIMES EVEN AT LOW TEMPERATURES

:: All elements of the system are cold applied avoiding the risks and insurance costs associated with hot works.

The rapid cure times ensure that areas are rapidly waterproofed, overall time on site is minimised, weather windows can be maximised and areas can be opened to traffic sooner. The system can be applied at temperatures as low as 0°C ensuring that it can be installed all year round. Critical ramp areas can be treated at night and opened to traffic the next morning.

HIGH LEVELS OF ANTI-SKID

:: Ensuring that the surface will provide adequate levels of slip resistance for both pedestrians and cars, making the car park safer, reducing the potential for accidents and providing an accepted defensible standard against claims.

THICK LAYER BUILD UP

:: With a finished thickness in excess of 4mm, the Triflex DFS-Ramp has exceptional durability, helps mask deck imperfections and provides a more aesthetically pleasing, easier to maintain system. The system thickness allows profiled substrates such as brushed concrete and crimped asphalt to be overlaid without the original profile reflecting through.

In contrast, many competitors systems are less than 2.0mm thick, are less durable, and highlight rather than mask profiles and imperfections in the existing substrate. By following the profile of the existing substrate these thin layer systems are subject to accelerated wear on high spots and will collect dirt in low spots.

SUBSTRATE COMPATIBILITY AND CHEMICAL BOND

:: The Triflex DFS-Ramp system is compatible with virtually all substrates likely to be encountered on car park ramps.

The Triflex DFS-Ramp is suitable for the overlay of existing failed asphalt and Triflex systems are generally acknowledged as the industry leaders in asphalt overlay. In addition, unlike the more commonly available resins, Triflex resins achieve excellent inter layer adhesion, do not suffer inter layer delamination and have excellent resistance to shear forces from vehicle tyres.

REINFORCED DETAILING

:: All critical details and higher risk areas such as movement zones incorporate our unique reinforcement to provide the maximum security and resistance to flexural fatigue. The detailing material, Triflex prodetail is CE marked, and has a European Technical Approval with a 25 year durability statement.

Less critical details can be economically treated using our specialist fibre reinforced resin.

AESTHETICS

:: All Triflex resins are UV stable and use UV stable inorganic pigments meaning that colour is retained over time. Optional Traction Strips can be used to highlight ramps and ramp aprons.

SIMPLE MAINTENANCE

:: The Triflex DFS-Ramp can easily be cleaned and maintained using conventional methods.

COMMITMENT TO THE ENVIRONMENT

:: The Triflex environmental policy is certified under ISO 14001. All Triflex car park waterproofing, surfacing and protection systems are solvent and isocyanate free.

RE-USABLE CONTAINERS

:: To minimise the impact on landfill, all core resins are available in re-usable 1,000kg stainless steel containers.

QUALITY ASSURED MANUFACTURING

:: As all materials are manufactured to ISO9001 you can be assured of consistent quality.

QUALITY DESIGN AND SPECIFICATION ASSISTANCE

:: The Triflex Technical Team can assist in all areas of the design and specification process from preparing initial rendered visualisations to project specific specifications and sketch details.

QUALITY INSTALLATION

:: Triflex car park waterproofing and surfacing systems are only installed by our Approved Contracting Partners who have been selected for their ability to provide the highest level of client service.

WARRANTIED PROTECTION

:: The Triflex DFS-Ramp system is offered as standard with a 10 year materials warranty.

Other warranties are available – please contact Triflex (UK) Limited directly for details.
Triflex DFS-Ramp

System Data Sheet

Heavy duty, thick layer, waterproofing and surfacing system for internal and external car park ramps

Properties

- Waterproof, thick layer system
- Anti-slip - SRT 81
- Available with the following finish options:
  - 1.0 - 1.6mm basalt with Traffic Grey pigmented seal
  - 1.0 - 2.0mm crushed granite with Traffic Grey pigmented seal
- Tough – highly abrasion resistant
- Exceptionally fast curing
- Cold applied
- Compatible with a wide range of substrates
- Seamless
- Flexible
- Fire resistant EN ISO-11925-2:2002
  EN ISO-9239-1:2002
- Chemical resistant
- Resistant to Chloride and Carbon Dioxide ingress
- Vapour permeable
- Low temperature curing -0°C
- UV resistant
- Solvent free
- Isocyanate free
- Tailored design options

System Build Up

System Details

- **Triflex Primer**: Primer for sealing of substrate and to improve adhesion.
- **Triflex Deck Floor Layer**: Waterproof, self levelling surfacing layer with hard wearing basalt or crushed granite aggregate.
- **Triflex Finish**: Abrasion resistant system seal coat.
- **Traction Strips**: Optional traction and wear strips.

Applications

The system is suitable for the waterproofing and surfacing of internal and external car park ramps including internal ramps over occupied premises. For external ramps over occupied premises use Triflex PDS-Ramp.

System Build Up Diagram:

- S Substrate
- 1 Triflex Primer
- 2 Triflex Deck Floor Layer
- 3 Triflex Finish
- 4 (Optional Traction Strips)
## Substrate preparation and priming

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Preparation Notes</th>
<th>Triflex DFS-Ramp main area</th>
<th>Triflex prodetail for details</th>
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<tr>
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<td>5 / 7</td>
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</tr>
</tbody>
</table>

For other substrates, consult Triflex (UK) Limited for required preparation methods and priming.

**Notes:**

1. Scarify, grind or lightly bead blast
2. Clean thoroughly
3. Liquefy surface by application of heat and immediately top with quartz
4. Rub down thoroughly with Triflex Cleaners, and sand/grind metals and hard plastics
   (steel must be ground or blasted to bright metal)
5. Lightly sand and carry out adhesion test
6. The equilibrium moisture content of cementitious substrates must not exceed 6% or 75% RH. Where moisture levels are in excess of 6% equilibrium moisture or 75% RH refer to Triflex Pox R103.
7. Must be applied over dimensionally stable, fully bonded substrate with a minimum hardness of 25N/mm² and subject to approval by Triflex (UK) Limited.
8. For HRA and SMA, increase primer consumption by 50% and use maximum practical catalyst (minimum 6%).

Where there are any doubts as to adhesion, carry out an adhesion test.
Substrate Assessment

In all cases the condition and stability of the underlying substrate should be assessed prior to the commencement of work. See Substrate Testing section. Concrete structures should be designed in accordance with BS8110/CP110.

Substrate Preparation

Refer to substrate preparation and priming schedule. Generally:
- Remove existing paint and finishes etc. by grinding.
- Ensure that the prepared surface is clean, dry and free from dust, laitance, grease, oil and any other contaminants.

Priming

Refer to substrate preparation and priming schedule.
- Triflex Cryl Primer 222:
  - Apply with a lambswool roller (0.4kg/m² min.)
  - Rainproof after approx. 30 minutes.
  - Can be walked upon/next coat applied after approx. 45 minutes.
- Triflex Cryl Primer 276:
  - Apply with a lambswool roller (0.4kg/m² min.)
  - Rainproof after approx. 30 minutes.
  - Can be walked upon/next coat applied after approx. 45 minutes.
  - Note: For new cementitious materials where it is not practical to allow the substrate to hydrate to below 6% equilibrium moisture content and 75% RH, or for existing cementitious substrates with higher levels of moisture, Triflex Pox R103 can be used where the equilibrium moisture content is less than 10%.
- Triflex Pox R103:
  - Apply with a lambswool roller (0.5kg/m² min.)
  - Can be walked on after approx. 8 hours.
  - Next coat applied after approx. 18 hours.
  - Able to withstand stress after approx. 24 hours.

Surface Repairs and Filling

Cut out blisters and repair all minor indentations with scratch coat of Triflex Cryl RS 233. Allow to dry for a minimum of 1 hour.
- Fill all voids in vertical surfaces and at upstand transitions with Triflex Cryl Paste and allow to dry for a minimum of 1 hour.
- Larger indentations can be filled with Triflex RS 240 (cementitious substrates), Triflex Cryl Mortar or Triflex Cryl Paste Mortar (non-cementitious substrates).

Dynamic Cracks and Dayjoints

Remove any existing filler material and fill with Triflex Cryl RS 233.
- Apply Triflex Cryl R 210 (1.5kg/m² min.) with a lambswool roller.
- Roll a strip of Triflex 110g Reinforcement into the wet resin, pressing trapped air free using the lambswool roller, ensuring a minimum 50mm overlap between the reinforcement sheets.
- Apply Triflex Cryl R 210 (1.0kg/m² min.) wet on wet to ensure full saturation of the fleece. Allow to dry for a minimum of 1 hour.
  - Minimum fleece overlap either side of dynamic crack/dayjoint - 75mm.
  - Note: Identification of Dynamic Cracks should include a survey of the soffit (where visible).

Interface Details

Apply in accordance with standard and project specific sketch details.

General Details:
- Apply Triflex prodetail® (2.0 kg/m² min.) with a lambswool roller.
- Roll a strip of Triflex 110g Reinforcement into the wet resin, pressing trapped air free using the lambswool roller, ensuring a minimum 50mm overlap between the reinforcement sheets.
- Apply Triflex prodetail® (1.3 kg/m² min.) wet on wet to ensure full saturation of the fleece.
- Rainproof after approx. 30 minutes.
  - Can be walked on/next coat applied after approx. 45 minutes.

Complex and Less Critical Details:
- Where due to access restrictions, or complexity of the detail, prodetail® is not practical, or for ramps where the detail is less critical:
  - Apply Triflex Cryl R 295 fibre reinforced resin (1.5 kg/m² min.) with a brush and allow to cure for a minimum of 45 minutes.
  - Apply a further layer of Triflex Cryl R 295 fibre reinforced resin (1.5 kg/m² min.) by brush.
  - Rainproof after approx. 30 minutes.
  - Can be walked upon/next coat applied after approx. 45 minutes.
  - Notes:
  - For guidance on the treatment of individual details consult Triflex (UK) Limited.
  - Where details may be subject to mechanical damage from vehicles, consult Triflex (UK) Limited for mechanical protection solutions.

Main Deck - Deck Floor Layer

Apply Triflex Cryl RS 233 Thixo (4.0kg/m² min.) by trowel.
- Embed into the wet Triflex Cryl RS 233 Thixo a full cover of basalt (1.0 - 1.6mm), or crushed granite (1.0 - 2.0mm) (5.0kg/m²) approx. Allow to dry for a minimum of 2 hours, sweep away excess aggregate and vacuum clean.
- Rainproof after approx. 30 minutes.
  - Can be walked upon after approx. 1 hour.
  - Next coat applied after approx. 2 hours.

Finish

Interface Details
- Apply Triflex Cryl Finish 205 (0.5kg/m²/min) using a lambswool roller.
- Rainproof after approx. 30 minutes.
  - Can be walked upon after approx. 1 hour.
  - Can be driven upon after approx. 3 hours.

Main Deck
- Apply Triflex Cryl Finish 205 (0.80kg/m² min). using a hard squeegee and a dry lambswool roller.
- Rainproof after approx. 30 minutes.
  - Can be walked upon after approx. 1 hour.
  - Can be driven upon after approx. 3 hours.
**Triflex DFS-Ramp**

Heavy duty, thick layer, waterproofing and surfacing system for internal and external car park ramps

<table>
<thead>
<tr>
<th>Optional Traction Strips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply Triflex Cryl M264 (3.5kg/m² min.) by trowel.</td>
</tr>
<tr>
<td>Refer to Triflex DFS-Ramp standard sketch details for traction strip layout recommendations.</td>
</tr>
<tr>
<td>Rainproof after approx. 15 minutes.</td>
</tr>
<tr>
<td>Can be walked upon after approx. 30 minutes.</td>
</tr>
<tr>
<td>Can be driven upon after approx. 1 hour.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expansion Joints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consult Triflex (UK) Limited for confirmation of design details required.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interruptions During Works</th>
</tr>
</thead>
<tbody>
<tr>
<td>If work is interrupted for more than 12 hours, use Triflex Cleaner to clean and reactivate the transition area.</td>
</tr>
<tr>
<td>Evaporation time: at least 20 minutes - overlay within 60 minutes.</td>
</tr>
<tr>
<td>For reinforced details, the subsequent waterproofing layers must overlap by at least 100 mm, including the Reinforcement.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please see the appropriate Product Data Sheet for details about areas of application/application conditions/mixing instructions (available on request):</td>
</tr>
<tr>
<td>Triflex Cryl Primer 222</td>
</tr>
<tr>
<td>Triflex Cryl Primer 276</td>
</tr>
<tr>
<td>Triflex Pox R103</td>
</tr>
<tr>
<td>Triflex Cryl Paste</td>
</tr>
<tr>
<td>Triflex RS 240</td>
</tr>
<tr>
<td>Triflex Cryl Mortar</td>
</tr>
<tr>
<td>Triflex Cryl Paste Mortar</td>
</tr>
<tr>
<td>Triflex Cryl R 210</td>
</tr>
<tr>
<td>Triflex 110g Reinforcement</td>
</tr>
<tr>
<td>Triflex prodetail®</td>
</tr>
<tr>
<td>Triflex Cryl R 295</td>
</tr>
<tr>
<td>Triflex Cryl RS 233 Thixo</td>
</tr>
<tr>
<td>Triflex Cryl Finish 205</td>
</tr>
<tr>
<td>Triflex Cryl M264</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substrate Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to the commencement of work the Contractor must check and only proceed if he has satisfied the following requirements.</td>
</tr>
<tr>
<td>Hardness: All concrete substrates, concrete repair materials, screeds and mortars shall be cured and allowed to achieve a minimum hardness of 25N/mm².</td>
</tr>
<tr>
<td>Moisture: Prior to overlay with Triflex systems, the equilibrium moisture content of the substrate must not exceed 6% and 75% RH. For cementitious substrates with higher levels of moisture (less than 10% equilibrium) refer to Triflex Pox R103.</td>
</tr>
<tr>
<td>Adhesion: Trial areas to be prepared to ensure that the System achieves a minimum bond to the substrate of:</td>
</tr>
<tr>
<td>Concrete, concrete repair materials, screeds and mortars: 1.5N/mm²</td>
</tr>
<tr>
<td>All other substrates: 0.8N/mm²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health and Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refer to product Health and Safety data prior to using the materials.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coverage Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>The coverage rates given are guidelines based on smooth, level substrates.</td>
</tr>
<tr>
<td>Allowances must be made if the substrate is uneven, rough or porous.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drying Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>The drying times stated are at +20°C and are dependent upon weather conditions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Important Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is the Contractors’ responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with Technical Data Sheets and Application Guidelines in force at the time.</td>
</tr>
<tr>
<td>The advice we can provide on the application of our products is based on extensive development work as well as many years of experience and is given to the best of our knowledge. However, the wide variety of requirements for a building under the most diverse conditions mean that it is necessary for the Contractor to test the product for suitability in any given case. We reserve the right to make alterations in keeping with technical developments or improvements.</td>
</tr>
</tbody>
</table>

**Quality Standard**

All products are manufactured to ISO 9001.
Triflex DFS-Ramp

Heavy duty, thick layer, waterproofing and surfacing system for internal and external car park ramps

J31 Liquid Applied Waterproof Roof Coatings

To be read with Preliminaries / General Conditions.

Liquid Applied Waterproof Roof Coating reference

Triflex DFS-Ramp
Manufacturer:
Triflex (UK) Limited
Whitebridge Way
Stone
Staffordshire
ST15 8GH
Tel: +44 (0) 1785 819119
Fax: +44 (0) 1785 819960
E-mail: info@triflex.co.uk
Web: www.triflex.co.uk

Generally

Apply Triflex DFS-Ramp system fully in accordance with Manufacturer’s System Data Sheet (Appendix ), standard Sketch Details (Appendix ) and project specific Sketch Details (Appendix ).

Substrate Assessment

Assess substrate in accordance with Triflex DFS-Ramp System Data Sheet.

Substrate Preparation

Prepare substrate in accordance with Triflex DFS-Ramp System Data Sheet.

Priming

Apply Triflex primer in accordance with Triflex DFS-Ramp System Data Sheet.
Primer reference: Triflex Cryl Primer 222 / Triflex Cryl Primer 276 / Triflex Pox R103.

Surface Repairs and Filling

Repair and fill surface in accordance with Triflex DFS-Ramp System Data Sheet.

Dynamic Cracks and Dayjoints

Treat dynamic cracks and dayjoints in accordance with Triflex DFS-Ramp System Data Sheet.
Overbanding reference: Triflex Cryl R210 with 110g Reinforcement.

Interface Details

Apply interface details in accordance with Triflex DFS-Ramp System Data Sheet, standard Sketch Details and project specific Sketch Details.
General details reference: Triflex prodetail with 110g Reinforcement.
Complex details reference: Triflex Cryl R295.

Main Deck

Apply waterproofing and surfacing to main deck area in accordance with Triflex DFS-Ramp System Data Sheet.
Waterproofing reference: Triflex Cryl RS233 Thixo.
Aggregate reference: basalt / crushed granite.

Finish

Apply finish in accordance with Triflex DFS-Ramp System Data Sheet.
Finish reference: Triflex Cryl Finish 205.

Optional Traction Strips

Apply optional traction strips in accordance with Triflex DFS-Ramp System Data Sheet and Traction Strip Layout recommendations.
Traction strip reference: Triflex Cryl M264

Installation

The works shall be executed by a Triflex Approved Contracting Partner licensed to install Triflex car park waterproofing, surfacing and protection systems.

Required system properties

- Waterproof
- Dry film thickness > 4mm
- Anti-skid – SRT 81
- Fast curing (maximum 3 hours before trafficking)
- Totally cold applied
- Compatible with a wide range of substrates
- Seamless
- Flexible
- Fire resistant
- Chemical resistant
- Resistant to Chloride and Carbon Dioxide ingress
- Vapour permeable
- Suitable for application at temperatures as low as 0˚C
- UV resistant
- Solvent free
- Isocyanate free
- Optional traction strips
- Standard 10 year materials warranty
- Optional extended warranty

General notes

The Triflex DFS-Ramp System Data Sheet, standard Sketch Details and project specific Sketch Details are to be read as an integral part of this specification.
The Triflex Approved Contracting Partner is to install all details to comply with the Triflex DFS-Ramp standard Sketch Details, any project specific Sketch Details and Triflex project specific recommendations. Should any detail arise where the treatment is not clear, the Contractor must seek advice and approval from Triflex (UK) Limited prior to commencing the works.
It is the Contractor’s responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with System Data Sheets and Application Guidelines in force at the time.

Notes to specifiers

We recommend that for all car park projects, the actual specification clauses for the Triflex waterproofing, surfacing and protection systems are prepared by the Triflex Technical Team.
This information can then be provide in a text format for insertion into Word and other documents.
Triflex DFS-Ramp

Upstand with chase

- Detail
- ca. 150 mm
- min. 50 mm

Upstand with cover flashing

- Detail
- ca. 150 mm
- min. 50 mm

Detail interface

- Optional Traction Strip
- Finish: Triflex Cryl Finish 205
- Deck Floor Layer: Triflex Cryl RS 233 Thixo with basalt or crushed granite aggregate
- Interface detail: Triflex prodetail with 110g Reinforcement
- Primer: dependent upon substrate

Deck penetration

- Detail
- ca. 150 mm
- min. 50 mm
Triflex DFS-Ramp

Surface mounted detail

- Detail interface
  - Optional Traction Strip
  - Finish: Triflex Cryl Finish 205
  - Deck Floor Layer: Triflex Cryl RS 233 Thixo with basalt or crushed granite aggregate
  - Interface detail: Triflex prodetail with 110g Reinforcement
  - Primer: dependent upon substrate

Traction strip layout

- Cast insitu kerb
  - Detail

Deck Floor Layer: Triflex Cryl RS 233 Thixo with basalt or crushed granite aggregate

Finish: Triflex Cryl Finish 205

Optional Traction Strip
### Sketch Details

#### Upstand - Less Critical

- **Detail**

#### Detail interface - Less Critical

- **Optional Traction Strip**
- **Finish:** Triflex Cryl Finish 205
- **Deck Floor Layer:** Triflex Cryl RS 233 Thixo with basalt or crushed granite aggregate
- **Interface detail:** Triflex Cryl R295
- **Primer:** dependent upon substrate

#### Deck penetration - Less Critical

- **Detail**

#### Surface mounted detail - Less Critical

- **Detail**
Protective, coating system for internal concrete car park decks

Triflex DCS

- **72** Triflex DCS
- **73** System Benefits
- **74** System Data Sheet
- **77** Model Specification
Triflex DCS

Protective, coating system for internal concrete car park decks

In certain circumstances, where internal decks are of cast insitu construction, feature smooth concrete and have lower traffic volumes, the priority may be to provide aesthetic enhancement, with a safe anti-skid surface rather than to provide ultimate structural protection.

Where budget constraints preclude the use of the higher durability, thick layer Triflex DFS, the Triflex DCS may be an option.

Suitable for:
Coating of internal car park decks

The Triflex solution

The Triflex DCS system uses similar components to the Triflex DFS systems and is designed to provide a more economical, thinner layer solution.

Although the system shares many of the benefits of the Triflex DFS, it is only recommended and suitable for lower volume internal decks with a smooth concrete substrate e.g. power floated or lightly brushed.

The system should only be specified with the approval of the Triflex Technical Team in order that the applicable Triflex warranty can be issued.

Design and specification

The Triflex Technical Team can assist clients in the choosing of colours and designs through our specialist rendered visualisation service. Digital images of the existing car park can be professionally rendered to provide a realistic visualisation of what can be achieved.

The Triflex Technical Team can also assist in system selection and preparation of model specifications.
Triflex DCS

Protective, coating system for internal concrete car park decks

AESTHETIC ENHANCEMENT
:: Triflex DCS can be used to add colour and design to internal concrete car park decks. The system improves aesthetics, brightens the appearance and can help to improve lux levels.
All Triflex resins are UV stable and use UV stable inorganic pigments meaning that colour is retained over time.
Our Triflex Finish can be produced in virtually any colour, meaning that aesthetic and design requirements can be fulfilled.

HIGH LEVELS OF ANTI-SKID
:: Ensuring that the surface will provide adequate levels of slip resistance for both pedestrians and cars, making the car park safer, reducing the potential for accidents and providing an accepted defensible standard against claims.
The system is particularly suited to power floated concrete decks which can become dangerous when wet.

COLD APPLIED WITH RAPID CURE TIMES EVEN AT LOW TEMPERATURES
:: All elements of the system are cold applied avoiding the risks and insurance costs associated with hot works.
The rapid cure times ensure that areas are rapidly coated, overall time on site is minimised, weather windows can be maximised and areas can be opened to traffic sooner. The system can be applied at temperatures as low as 0°C ensuring that it can be installed all year round. Critical areas can be treated at night and opened to traffic the next morning.

SIMPLE MAINTENANCE
:: The Triflex DCS can easily be cleaned and maintained using conventional methods.

COMMITMENT TO THE ENVIRONMENT
:: The Triflex environmental policy is certified under ISO 14001. All Triflex car park waterproofing, surfacing and protection systems are solvent and isocyanate free.

RE-USABLE CONTAINERS
:: To minimise the impact on landfill, all core resins are available in re-usable 1,000kg stainless steel containers.

QUALITY ASSURED MANUFACTURING
:: As all materials are manufactured to ISO9001 you can be assured of consistent quality.

QUALITY DESIGN AND SPECIFICATION ASSISTANCE
:: The Triflex Technical Team can assist in all areas of the design and specification process from preparing initial rendered visualisations to project specific specifications.

QUALITY INSTALLATION
:: Triflex car park coating systems are only installed by our Approved Contracting Partners who have been selected for their ability to provide the highest level of client service.

WARRANTIED PROTECTION
:: The Triflex DCS system is offered with a 10 year materials warranty.
Triflex DCS System Data Sheet

Properties

- Water resistant
- Anti-skid - SRT 70-81
- Available with the following finish options:
  - 0.7-1.2mm crystal quartz with pigmented seal
  - 1.0-1.6mm basalt with Traffic Grey pigmented seal
- Abrasion resistant
- Exceptionally fast curing
- Cold applied
- Seamless
- Chemical resistant
- Resistant to Chloride and Carbon Dioxide ingress
- Vapour permeable
- Low temperature curing -0°C
- UV resistant
- Solvent free
- Isocyanate free
- Tailored design options

System Build Up

S Substrate
1 Triflex Primer
2 Triflex Deck Coating Layer
3 Triflex Finish

System Details

- **Triflex Primer**: Primer for sealing of substrate and to improve adhesion.
- **Triflex Deck Coating Layer**: Water resistant, protective coating layer with hardwearing crystal quartz or basalt aggregate.
- **Triflex Finish**: Abrasion resistant system seal coat.

Applications

The system is suitable for the protective coating of smooth concrete internal car park decks. For ground floor decks and high volume decks refer to Triflex DFS.

Substrate Preparation and Priming

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Preparation Notes</th>
<th>Triflex DCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete/Screed</td>
<td>1/2</td>
<td>Triflex Cryl Primer 276</td>
</tr>
<tr>
<td>Polymer modified concrete repair materials</td>
<td>1/2</td>
<td>Triflex Cryl Primer 276</td>
</tr>
</tbody>
</table>

For other substrates, consult Triflex (UK) Limited for required preparation methods and priming.

Notes:
1. Scarily, grind or lightly bead blast.
2. The equilibrium moisture content of cementitious substrates must not exceed 6% or 75% RH. Where moisture levels are in excess of 6% equilibrium moisture or 75% RH refer to Triflex Pox R103.

Where there are any doubts as to adhesion, carry out an adhesion test.
Triflex DCS System Data Sheet

Protective, coating system for internal concrete car park decks

**Substrate Assessment**

In all cases the condition and stability of the underlying substrate should be assessed prior to the commencement of work. See Substrate Testing section. Concrete structures should be designed in accordance with BS8110/CP110.

**Substrate Preparation**

Refer to substrate preparation and priming schedule.

Generally:
Remove existing paint and finishes etc. by grinding.
Ensure that the prepared surface is clean, dry and free from dust, laitence, grease, oil and any other contaminants.

**Priming**

Refer to substrate preparation and priming schedule.

**Triflex Cryl Primer 276**
Apply with a lambswool roller (0.4kg/m² min.)
Rainproof after approx. 30 minutes.
Can be walked upon/next coat applied after approx. 45 minutes.

Note: For new cementitious materials where it is not practical to allow the substrate to hydrate to below 6% equilibrium moisture content and 75% RH, or for existing cementitious substrates with higher levels of moisture, Triflex Pox R103 can be used where the equilibrium moisture content is less than 10%.

**Triflex Pox R103**
Apply with a lambswool roller (0.5kg/m² min.)
Can be walked on after approx. 8 hours.
Next coat applied after approx. 18 hours.
Able to withstand stress after approx. 24 hours.

**Surface Repairs and Filling**

Repair all minor indentations with scratch coat of Triflex Cryl RS 233. Allow to dry for a minimum of 1 hour.
Larger indentations can be filled with Triflex Cryl RS 240.

**Dynamic Cracks and Dayjoints**

Remove any existing filler material and fill with Triflex Cryl RS 233.
Apply Triflex Cryl R 210 (1.5kg/m² min.) with a lambswool roller.
Roll a strip of Triflex 110g Reinforcement into the wet resin, pressing trapped air free using the lambswool roller, ensuring a minimum 50mm overlap between the reinforcement sheets.
Apply Triflex Cryl R 210 (1.0kg/m² min.) wet on wet to ensure full saturation of the fleece. Allow to dry for a minimum of 1 hour.
Minimum fleece overlap either side of dynamic crack/dayjoint - 75mm.

Note: Identification of Dynamic Cracks should include a survey of the soffit (where visible).

**Main Deck - Deck Coating Layer**

Apply Triflex Cryl R 210 (0.8kg/m² min.) with a lambswool roller.
Embed into the wet Triflex Cryl R 210 a full cover of crystal quartz (0.7-1.2mm) or, basalt (1.0-1.6mm), (5.0kg/m²) approx. Allow to dry for a minimum of 2 hours, sweep away excess aggregate and vacuum clean.
Rainproof after approx. 30 minutes.
Can be walked upon after approx. 1 hour.
Next coat applied after approx. 2 hours.

**Finish**

**Main Deck**
Apply Triflex Cryl Finish 205 (0.65kg/m² min.), (0.80kg/m² min. if over basalt) using a hard squeegee and a dry lambswool roller.
Rainproof after approx. 30 minutes.
Can be walked upon after approx. 1 hour.
Can be driven upon after approx. 3 hours.
Expansion Joints

Consult Triflex (UK) Limited for confirmation of design details required.

Interruptions During Works

If work is interrupted for more than 12 hours, use Triflex Cleaner to clean and reactivate the transition area. Evaporation time: at least 20 minutes - overlay within 60 minutes. For reinforced details, the subsequent waterproofing layers must overlap by at least 100 mm, including the Reinforcement.

System Components

Please refer to the appropriate Product Data Sheet for details about areas of application/application conditions/mixing instructions (available on request):
- Triflex Cryl Primer 276
- Triflex Pox R103
- Triflex Cryl RS 233
- Triflex Cryl RS 240
- Triflex 110g Reinforcement
- Triflex Cryl R 210
- Triflex Cryl Finish 205

Health and Safety

Refer to product Health and Safety data prior to using the materials.

Coverage Rates

The coverage rates given are guidelines based on smooth, level substrates. Allowances must be made if the substrate is uneven, rough or porous.

Drying Times

The drying times stated are at +20°C and are dependent upon weather conditions.

Important Notes

It is the Contractors’ responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with Technical Data Sheets and Application Guidelines in force at the time. The advice we can provide on the application of our products is based on extensive development work as well as many years of experience and is given to the best of our knowledge. However, the wide variety of requirements for a building under the most diverse conditions mean that it is necessary for the Contractor to test the product for suitability in any given case. We reserve the right to make alterations in keeping with technical developments or improvements.

Substrate Testing

Prior to the commencement of work the Contractor must check and only proceed if he has satisfied the following requirements.
- Hardness: All concrete substrates, concrete repair materials, screeds and mortars shall be cured and allowed to achieve a minimum hardness of 25N/mm².
- Moisture: Prior to overlay with Triflex systems, the equilibrium moisture content of the substrate must not exceed 6% and 75% RH. For cementitious substrates with higher levels of moisture (less than 10% equilibrium) refer to Triflex Pox R103.
- Adhesion: Trial areas to be prepared to ensure that the System achieves a minimum bond to the substrate of: Concrete, concrete repair materials, screeds and mortars: 1.5N/mm²
# Triflex DCS

**Model specification**

## M12 Surface Finishes

To be read with Preliminaries / General Conditions.

### Surface Finishes reference

Triflex DCS  
Manufacturer: Triflex (UK) Limited  
Whitebridge Way  
Stone  
Staffordshire  
ST15 8GH  
Tel: +44 (0) 1785 819119  
Fax: +44 (0) 1785 819960  
E-mail: info@triflex.co.uk  
Web: www.triflex.co.uk

### Generally

Apply Triflex DCS system fully in accordance with Manufacturer’s System Data Sheet.

### Substrate Assessment

Assess substrate in accordance with Triflex DCS System Data Sheet.

### Substrate Preparation

Prepare substrate in accordance with Triflex DCS System Data Sheet.

### Priming

Apply Triflex primer in accordance with Triflex DCS System Data Sheet.  
**Primer reference:** Triflex Cryl Primer 276 / Triflex Pox R103.

### Surface Repairs and Filling

Repair and fill surface in accordance with Triflex DCS System Data Sheet.  
**Filling reference:** Triflex Cryl RS233 / Triflex Cryl RS240.

### Dynamic Cracks and Dayjoints

Treat dynamic cracks and dayjoints in accordance with Triflex DCS System Data Sheet.  
**Filling reference:** Triflex Cryl RS23.

**Overbanding reference:** Triflex Cryl R210 with 110g Reinforcement.

### Main Deck

Apply coating to main deck area in accordance with Triflex DCS System Data Sheet.  
**Coating reference:** Triflex Cryl R 210.

**Aggregate reference:** crystal quartz / basalt.

### Finish

Apply finish in accordance with Triflex DCS System Data Sheet.  
**Finish reference:** Triflex Cryl Finish 205.  
**Finish colour references:** (INSERT).

### Installation

The works shall be executed by a Triflex Approved Contracting Partner licensed to install Triflex car park waterproofing, surfacing and protection systems.

### Required system properties

- Water resistant
- Dry film thickness > 1.5mm
- Anti-skid — SRT 70-81
- Available in a wide range of colours and textures
- Fast curing (maximum 3 hours before trafficking)
- Totally cold applied
- Compatible with a wide range of substrates
- Seamless
- Chemical resistant
- Resistant to Chloride and Carbon Dioxide ingress
- Vapour permeable
- Suitable for application at temperatures as low as 0°C
- UV resistant
- Solvent free
- Isocyanate free
- Standard 10 year materials warranty

### General notes

The Triflex DCS System Data Sheet, is to be read as an integral part of this specification. It is the Contractor’s responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with System Data Sheets and Application Guidelines in force at the time.

### Notes to specifiers

We recommend that for all car park projects, the actual specification clauses for the Triflex waterproofing, surfacing and protection systems are prepared by the Triflex Technical Team. This information can then be provided in a text format for insertion into Word and other documents.
Heavy duty marking system for car park bays, lanes and deck signage

Triflex DMS

79  Triflex DMS

80  System Benefits

81  System Data Sheet

83  Model Specification

84  Test Data
Triflex DMS

Heavy duty marking system for car park bays, lanes and deck signage

Worn out, discoloured and inadequate markings are a common site in car parks. Poor markings and deck signage can disrupt traffic flow, confuse users and can lead to potentially dangerous situations.

Little emphasis has been placed on markings in the past as specifiers have been restricted to just yellow and white, and traditional materials which often look unsightly when applied.

The Triflex solution

The Triflex DMS system is a development of Triflex materials used for road markings in Europe, and in particular de-restricted German autobahn. The system is exceptionally durable and is offered with a unique 10 year warranty as standard.

Unlike other markings, the Triflex DMS can be produced in a wide range of colours to provide a more dynamic design which either contrasts with or compliments surrounding schemes.

New possibilities can be explored such as wide parking bay lines to improve parking discipline or using colour to assist in deck identification, helping users more easily locate their vehicles.

The system is generally used in combination with other Triflex systems, but can be used stand alone on the existing substrate, for example on surface car parks.

Design and specification

The Triflex Technical Team can assist clients in the choosing of colours and designs through our specialist rendered visualisation service. Digital images of the existing car park can be professionally rendered to provide a realistic visualisation of what can be achieved.

The Triflex Technical Team can also assist in the preparation of model specifications.
Triflex DMS

System Benefits

Heavy duty marking system for car park bays, lanes and deck signage

- **WARRANTIED COLOUR RANGE AND AESTHETICS**: The Triflex DMS is offered with the same warranties as all other Triflex car park waterproofing, surfacing and protection systems.
- **COLOUR RANGE AND AESTHETICS**: The Triflex DMS is UV stable and uses UV stable inorganic pigments meaning that colour is retained over time. Triflex DMS can be produced in virtually any colour, meaning that aesthetic and design requirements can be fulfilled. Through the use of coloured markings, new design possibilities can be considered.
- **HEAVY DUTY WITH EXCEPTIONAL ABRASION RESISTANCE**: Triflex DMS is based upon materials used for motorway line marking and offers exceptional durability and wear resistance.
- **COLD APPLIED WITH RAPID CURE TIMES EVEN AT LOW TEMPERATURES**: All elements of the system are cold applied avoiding the risks and insurance costs associated with hot works. The rapid cure times ensure that areas marked with the Triflex DMS can be trafficked in as little as 20 minutes. The system can be applied at temperatures as low as 0°C ensuring that it can be installed all year round.
- **SUBSTRATE COMPATIBILITY AND CHEMICAL BOND**: The Triflex DMS system is compatible with virtually all substrates likely to be encountered on car park decks and can be used stand alone or in combination with other Triflex systems. The system can be applied directly to asphalt, Hot Rolled Asphalt and Stone Mastic Asphalt following simple cleaning.
- **ANTI-SKID SIMPLE MAINTENANCE**: Ensuring that the markings will provide adequate levels of slip resistance for both pedestrians and cars, making the car park safer, reducing the potential for accidents and providing an accepted defensible standard against claims.
- **COMMITMENT TO THE ENVIRONMENT**: The Triflex environmental policy is certified under ISO 14001. All Triflex car park marking systems are solvent and isocyanate free.
- **QUALITY ASSURED MANUFACTURING**: As all materials are manufactured to ISO 9001 you can be assured of consistent quality.
- **QUALITY DESIGN AND SPECIFICATION ASSISTANCE**: The Triflex Technical Team can assist in all areas of the design and specification process.
- **QUALITY INSTALLATION**: The Triflex DMS system may only be installed by a Triflex Approved Contracting Partner or suitably trained line marking contractor approved by Triflex (UK) Limited.
- **WARRANTIED PROTECTION**: The Triflex DMS system is offered as standard with a 10 year materials warranty. Other warranties are available – please contact Triflex (UK) Limited directly for details.
Triflex DMS

Heavy duty marking system for car park bays, lanes and deck signage

**Properties**
- Available in a wide range of colours
- High visibility
- Tough
- High abrasion resistance
- Cold applied
- Compatible with a wide range of substrates
- Exceptionally fast curing
- Chemical resistant
- UV resistant
- Anti-skid
- Solvent free
- Isocyanate free
- Tailored design options

**System Build Up**

<table>
<thead>
<tr>
<th>S</th>
<th>Substrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Triflex Primer (if required)</td>
</tr>
<tr>
<td>2</td>
<td>Triflex DMS</td>
</tr>
</tbody>
</table>

**System Details**
- **Triflex Primer**: Primer for sealing of certain substrates and to improve adhesion.
- **Triflex DMS**: Heavy duty marking system.

**Applications**
- The system is suitable for the marking of car bays, lanes and for deck signage.

**Substrate Preparation and Priming**

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Preparation Notes</th>
<th>Triflex DMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triflex Materials</td>
<td>1</td>
<td>No primer required</td>
</tr>
<tr>
<td>Asphalt</td>
<td>1</td>
<td>No primer required</td>
</tr>
<tr>
<td>Hot Rolled Asphalt (HRA)</td>
<td>1</td>
<td>No primer required</td>
</tr>
<tr>
<td>Stone Mastic Asphalt (SMA)</td>
<td>1</td>
<td>No primer required</td>
</tr>
<tr>
<td>Concrete/Screed</td>
<td>2</td>
<td>Triflex Cryl Primer 276</td>
</tr>
<tr>
<td>Lightweight Concrete</td>
<td>2</td>
<td>Triflex Cryl Primer 276</td>
</tr>
<tr>
<td>Polymer modified concrete repair materials</td>
<td>2</td>
<td>Triflex Cryl Primer 276</td>
</tr>
</tbody>
</table>

For other substrates, consult Triflex (UK) Limited for required preparation methods and priming.

**Notes:**
1. Clean thoroughly
2. Scraffy, grind or lightly bead blast. The equilibrium moisture content of cementitious substrates must not exceed 6% or 75% RH. Where moisture levels are in excess of 6% equilibrium moisture or 75% RH refer to Triflex Pox R103.

Where there are any doubts as to adhesion, carry out an adhesion test.
Triflex DMS

Heavy duty marking system for car park bays, lanes and deck signage

**Substrate Assessment**

In all cases the condition and stability of the underlying substrate should be assessed prior to the commencement of work. See Substrate Testing section.

**Substrate Preparation**

Refer to substrate preparation and priming schedule.

Generally:

Remove existing markings, paint and finishes etc. by grinding.

Ensure that the prepared surface is clean, dry and free from dust, laitence, grease, oil and any other contaminants.

**Priming**

Refer to substrate preparation and priming schedule.

**Triflex Cryl Primer 276:**

Apply with a lambswool roller (0.4kg/m² min.)

Rainproof after approx. 30 minutes.

Can be walked upon/next coat applied after approx. 45 minutes.

**Note:** For new cementitious materials where it is not practical to allow the substrate to hydrate to below 6% equilibrium moisture content and 75% RH, or for existing cementitious substrates with higher levels of moisture, Triflex Pox R103 can be used where the equilibrium moisture content is less than 10%.

**Triflex Pox R103:**

Apply with a lambswool roller (0.5kg/m² min.)

Can be walked on after approx. 8 hours.

Next coat applied after approx. 18 hours.

Able to withstand stress after approx. 24 hours.

**Marking Application**

Apply Triflex Cryl M266 (3.5kg/m² min.) by trowel, draw box or extruder.

For external applications, an even sprinkling of reflective glass beads can be embedded into the wet Triflex Cryl M266.

Can be walked upon after approx. 15 minutes.

Can be driven upon after approx. 20 minutes.

**System Components**

Please refer to the appropriate Product Data Sheet for details about areas of application/ application conditions/mixing instructions (available on request):

- Triflex Cryl Primer 276
- Triflex Pox R103
- Triflex Cryl M266

**Quality Standard**

All products are manufactured to ISO 9001.

**Substrate Testing**

Prior to the commencement of work the Contractor must check and only proceed if he has satisfied the following requirements.

**Hardness:** All concrete substrates, concrete repair materials, screeds and mortars shall be cured and allowed to achieve a minimum hardness of 25N/mm².

**Moisture:** Prior to overlay with Triflex systems, the equilibrium moisture content of the substrate must not exceed 6% and 75% RH. For cementitious substrates with higher levels of moisture (less than 10% equilibrium) refer to Triflex Pox R103.

**Adhesion:** Trial areas to be prepared to ensure that the System achieves a minimum bond to the substrate of:

- Concrete, concrete repair materials, screeds and mortars: 1.5N/mm²
- All other substrates: 0.8N/mm²

**Health and Safety**

Refer to product Health and Safety data prior to using the materials.

**Coverage Rates**

The coverage rates given are guidelines based on smooth, level substrates. Allowances must be made if the substrate is uneven, rough or porous.

**Drying Times**

The drying times stated are at +20°C and are dependent upon weather conditions.

**Important Notes**

It is the Contractors’ responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with Technical Data Sheets and Application Guidelines in force at the time.

The advice we can provide on the application of our products is based on extensive development work as well as many years of experience and is given to the best of our knowledge. However, the wide variety of requirements for a building under the most diverse conditions mean that it is necessary for the Contractor to test the product for suitability in any given case. We reserve the right to make alterations in keeping with technical developments or improvements.
Triflex DMS

Model specification

Heavy duty marking system for car park bays, lanes and deck signage

M12 Surface Finishes
To be read with Preliminaries / General Conditions.

Surface Finishes reference
Triflex DMS
Manufacturer:
Triflex (UK) Limited
Whitebridge Way
Stone
Staffordshire
ST15 8GH
Tel: +44 (0) 1785 819119
Fax: +44 (0) 1785 819960
E-mail: info@triflex.co.uk
Web: www.triflex.co.uk

Generally
Apply Triflex DMS system fully in accordance with Manufacturer’s System Data Sheet.

Substrate Assessment
Assess substrate in accordance with Triflex DMS System Data Sheet.

Substrate Preparation
Prepare substrate in accordance with Triflex DMS System Data Sheet.

Priming
Apply Triflex primer in accordance with Triflex DMS System Data Sheet.

Primer reference: Triflex Cyl Primer 276 / Triflex Pox R103.

Marking Application
Apply markings in accordance with Triflex DMS System Data Sheet.

Marking reference: Triflex Cyl M266.

Installation
The works shall be executed by a Triflex Approved Contracting Partner or suitably trained line marking contractor approved by Triflex (UK) Limited.

Required System Properties
- High visibility
- Dry film thickness > 2mm
- Totally cold applied
- Compatible with a wide range of substrates
- Exceptionally fast curing (maximum 20 minutes before trafficking)
- Chemical resistant
- UV resistant
- Anti-skid
- Solvent free
- Isocyanate free
- Standard 10 year materials warranty
- Optional extended warranty

General Notes
The Triflex DMS System Data Sheet is to be read as an integral part of this specification.

Notes to Specifiers
We recommend that for all car park projects, the actual specification clauses for the Triflex waterproofing, surfacing and protection systems are prepared by the Triflex Technical Team.

This information can then be provided in a text format for insertion into Word and other documents.
Test Data

Triflex DMS

Heavy duty marking system for car park bays, lanes and deck signage

Test House

BAST Federal Traffic and Roads Authority
Bundesanstalt fur Strassenwesen

Testing Details

Testing for:
- Wear resistance (%)
- Skid resistance (SRT Units)
- Night visibility (mcd/m².lx)
- Luminance factor (-)

Test Conditions

Rotational speed: 60 km/h and 10 km/h
Test tyres: Michelin MXV 2
Number of test tyres: 4
Wheel load: 3000 N
Tyre pressure: 2.2 bar
Camber of wheels: 0°
Steering angle: Alternatively ±1°
Test room temp: +5°C to + 10°C
Running cycle: The specimens were exposed to water for three hours while the turntable was running at 10 km/h; then the specimens were rolled over at a rotary speed of 60 km/h until a number of 0.6, 1.0, 1.4, 2.0, 3.0 and 4.0 million roll cycles was reached, with the direction of rotation being changed every hour.

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<thead>
<tr>
<th>Properties</th>
<th>Number of wheel cycles (millions)</th>
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</thead>
<tbody>
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<tr>
<td>Wear resistance (%)</td>
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</tr>
<tr>
<td>Skid resistance (SRT Units)</td>
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</tr>
<tr>
<td>Night visibility (mcd/m².lx)</td>
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</tr>
<tr>
<td>Luminance factor (-)</td>
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</tr>
</tbody>
</table>
Triflex FMS

Heavy duty, anti-skid surfacing and marking system for traction strips, road crossings, stop zones, cycle lanes and walkways

Triflex FMS

86  Triflex FMS

87  System Benefits

88  System Data Sheet

90  Model Specification

91  Test Data
Triflex FMS

Heavy duty, anti-skid surfacing and marking system for traction strips, road crossings, stop zones, cycle lanes and walkways

Surface car parks are generally marked with low technology materials, offering a restricted colour range and limited durability.

These areas can also be used to create a first impression for users and to improve safety through the use of colour, design and high quality materials. Designs can be formulated to create anything from traction strips on ramps, to road crossings, stop zones, cycle lanes and walkways.

The Triflex solution

The Triflex FMS system is a development of Triflex materials used for road markings in Europe, and in particular cycle lanes and road crossings. The system is exceptionally durable and is offered with a unique 10 year warranty as standard.

Unlike other markings, the Triflex FMS can be produced in a wide range of colours to provide a more dynamic design which either contrasts with or compliments surrounding schemes.

New possibilities can be explored such as incorporating pedestrian walkways on surface car parks or the use of bright, vibrant colours for pedestrian crossings.

The system is generally used stand alone on existing substrates such as road asphalt, but can be used in combination with other Triflex systems for example for traction strips on the Triflex PDS-Ramp and Triflex DFS-Ramp systems.

Design and specification

The Triflex Technical Team can assist clients in the choosing of colours and designs through our specialist rendered visualisation service. Digital images of the existing car park can be professionally rendered to provide a realistic visualisation of what can be achieved.

The Triflex Technical Team can also assist in the preparation of model specifications.
Triflex FMS

System Benefits

Heavy duty, anti-skid surfacing and marking system for traction strips, road crossings, stop zones, cycle lanes and walkways

- **WARRANTED**
  - The Triflex FMS is offered with the same warranties as all other Triflex car park waterproofing, surfacing and protection systems.

- **COLOUR RANGE AND AESTHETICS**
  - The Triflex FMS is UV stable and uses UV stable inorganic pigments meaning that colour is retained over time.
  - Triflex FMS can be produced in virtually any colour, meaning that aesthetic and design requirements can be fulfilled. Through the use of coloured markings, new design possibilities can be considered.

- **HEAVY DUTY WITH EXCEPTIONAL ABRASION RESISTANCE**
  - Triflex FMS is based upon materials used for motorway line marking and offers exceptional durability and wear resistance.
  - The physical properties of the system allow specification in the highest wear environments, including ramps, ramp aprons, road crossings and stop zones.

- **COLD APPLIED WITH RAPID CURE TIMES EVEN AT LOW TEMPERATURES**
  - All elements of the system are cold applied avoiding the risks and insurance costs associated with hot works.
  - The rapid cure times ensure that areas marked with the Triflex FMS can be trafficked in as little as 20 minutes. The system can be applied at temperatures as low as 0˚C ensuring that it can be installed all year round.

- **SUBSTRATE COMPATIBILITY AND CHEMICAL BOND**
  - The Triflex FMS system is compatible with virtually all substrates likely to be encountered on car park decks and can be used stand alone or in combination with other Triflex systems.
  - The system can be applied directly to asphalt, Hot Rolled Asphalt and Stone Mastic Asphalt following simple cleaning.

- **ANTI-SKID**
  - Ensuring that the markings will provide adequate levels of slip resistance for both pedestrians and cars, making the car park safer, reducing the potential for accidents and providing an accepted defensible standard against claims.

- **SIMPLE MAINTENANCE**
  - The Triflex FMS can easily be cleaned and maintained using conventional methods.

- **COMMITMENT TO THE ENVIRONMENT**
  - The Triflex environmental policy is certified under ISO 14001. All Triflex car park marking systems are solvent and isocyanate free.

- **QUALITY ASSURED MANUFACTURING**
  - As all materials are manufactured to ISO9001 you can be assured of consistent quality.

- **QUALITY DESIGN AND SPECIFICATION ASSISTANCE**
  - The Triflex Technical Team can assist in all areas of the design and specification process.

- **QUALITY INSTALLATION**
  - The Triflex FMS system may only be installed by a Triflex Approved Contracting Partner or suitably trained line marking contractor approved by Triflex (UK) Limited.

- **WARRANTIED PROTECTION**
  - The Triflex FMS system is offered as standard with a 10 year materials warranty.
  - Other warranties are available – please contact Triflex (UK) Limited directly for details.
Triflex FMS

Heavy duty, anti-slip surfacing and marking system for traction strips, road crossings, stop zones, cycle lanes and walkways

**Properties**

- Available in a wide range of colours
- Textured Anti-slip
- Tough
- High abrasion resistance
- Compatible with a wide range of substrates
- Cold applied
- Exceptionally fast curing
- Chemical resistant
- UV resistant
- Anti-slip
- Solvent free
- Isocyanate free
- Tailored design options

**System Build Up**

- **5** Substrate
- 1 Triflex Primer (if required)
- 2 Triflex FMS

**System Details**

- **Triflex Primer** - Primer for sealing of certain substrates and to improve adhesion.
- **Triflex FMS** - Heavy duty surfacing and marking system.

**Applications**

- The system is suitable as a surfacing and marking system for traction strips, road crossings, stop zones, cycle lanes and walkways.

**Substrate Preparation and Priming**

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Preparation Notes</th>
<th>Priming</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triflex Materials</td>
<td>1</td>
<td>No primer required</td>
</tr>
<tr>
<td>Asphalt</td>
<td>1</td>
<td>No primer required</td>
</tr>
<tr>
<td>Hot Rolled Asphalt (HRA)</td>
<td>1</td>
<td>No primer required</td>
</tr>
<tr>
<td>Stone Mastic Asphalt (SMA)</td>
<td>1</td>
<td>No primer required</td>
</tr>
<tr>
<td>Concrete/Screed</td>
<td>2</td>
<td>Triflex Cryl Primer 276</td>
</tr>
<tr>
<td>Lightweight Concrete</td>
<td>2</td>
<td>Triflex Cryl Primer 276</td>
</tr>
<tr>
<td>Polymer modified concrete repair materials</td>
<td>2</td>
<td>Triflex Cryl Primer 276</td>
</tr>
</tbody>
</table>

For other substrates, consult Triflex (UK) Limited for required preparation methods and priming.

**Notes:**

1. = Clean thoroughly

2. = Scour, grind or lightly bead blast. The equilibrium moisture content of cementitious substrates must not exceed 6% or 75% RH. Where moisture levels are in excess of 6% equilibrium moisture or 75% RH refer to Triflex Pox R103.

Where there are any doubts as to adhesion, carry out an adhesion test.
### Substrate Assessment

In all cases the condition and stability of the underlying substrate should be assessed prior to the commencement of work. See Substrate Testing section.

### Substrate Preparation

Refer to substrate preparation and priming schedule.

**Generally:**
- Remove existing markings, paint and finishes etc. by grinding.
- Ensure that the prepared surface is clean, dry and free from dust, laitence, grease, oil and any other contaminants.

### Priming

Refer to substrate preparation and priming schedule.

**Triflex Cryl Primer 276:**
- Apply with a lambswool roller (0.4kg/m² min.)
- Rainproof after approx. 30 minutes.
- Can be walked upon/next coat applied after approx. 45 minutes.

**Note:** For new cementitious materials where it is not practical to allow the substrate to hydrate to below 6% equilibrium moisture content and 75% RH, or for existing cementitious substrates with higher levels of moisture, Triflex Pox R103 can be used where the equilibrium moisture content is less than 10%.

**Triflex Pox R103:**
- Apply with a lambswool roller (0.5kg/m² min.)
- Can be walked on after approx. 8 hours.
- Next coat applied after approx. 18 hours.
- Able to withstand stress after approx. 24 hours.

### Marking Application

Apply Triflex Cryl M264 (4.0 kg/m² min.) by trowel, draw box, extruder or spray.
- Can be walked upon after approx. 15 minutes.
- Can be driven upon after approx. 20 minutes.

### System Components

Please refer to the appropriate Product Data Sheet for details about areas of application/application conditions/mixing instructions (available on request):

- Triflex Cryl Primer 276
- Triflex Pox R103
- Triflex Cryl M264

### Quality Standard

All products are manufactured to ISO 9001.

### Substrate Testing

Prior to the commencement of work the Contractor must check and only proceed if he has satisfied the following requirements.

**Hardness:** All concrete substrates, concrete repair materials, screeds and mortars shall be cured and allowed to achieve a minimum hardness of 25N/mm².

**Moisture:** Prior to overlay with Triflex systems, the equilibrium moisture content of the substrate must not exceed 6% and 75% RH. For cementitious substrates with higher levels of moisture (less than 10% equilibrium) refer to Triflex Pox R103.

**Adhesion:** Trial areas to be prepared to ensure that the System achieves a minimum bond to the substrate of:
- Concrete, concrete repair materials, screeds and mortars: 1.5N/mm²
- All other substrates: 0.8N/mm²

### Health and Safety

Refer to product Health and Safety data prior to using the materials.

### Coverage Rates

The coverage rates given are guidelines based on smooth, level substrates. Allowances must be made if the substrate is uneven, rough or porous.

### Drying Times

The drying times stated are at +20°C and are dependent upon weather conditions.

### Important Notes

It is the Contractors’ responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with Technical Data Sheets and Application Guidelines in force at the time.

The advice we can provide on the application of our products is based on extensive development work as well as many years of experience and is given to the best of our knowledge. However, the wide variety of requirements for a building under the most diverse conditions mean that it is necessary for the Contractor to test the product for suitability in any given case. We reserve the right to make alterations in keeping with technical developments or improvements.
Triflex FMS

Model specification

Heavy duty, anti-skid surfacing and marking system for traction strips, road crossings, stop zones, cycle lanes and walkways

M12 Surface Finishes

To be read with Preliminaries / General Conditions.

Surface Finishes reference

Triflex FMS

Manufacturer:
Triflex (UK) Limited
Whitebridge Way
Stone
Staffordshire
ST15 8GH
Tel: +44 (0) 1785 819119
Fax: +44 (0) 1785 819960
E-mail: info@triflex.co.uk
Web: www.triflex.co.uk

Generally

Apply Triflex FMS system fully in accordance with Manufacturer’s System Data Sheet.

Substrate Assessment

Assess substrate in accordance with Triflex FMS System Data Sheet.

Substrate Preparation

Prepare substrate in accordance with Triflex FMS System Data Sheet.

Priming

Apply Triflex primer in accordance with Triflex FMS System Data Sheet.

Primer reference: Triflex Cryl Primer 276 / Triflex Pox R103.

Marking Application

Apply markings in accordance with Triflex FMS System Data Sheet.


Installation

The works shall be executed by a Triflex Approved Contracting Partner or suitably trained line marking contractor approved by Triflex (UK) Limited.

Required System Properties

• High visibility
• Dry film thickness > 2mm
• Totally cold applied
• Compatible with a wide range of substrates
• Exceptionally fast curing (maximum 20 minutes before trafficking)
• Chemical resistant
• UV resistant
• Anti-skid
• Solvent free
• Isocyanate free
• Standard 10 year materials warranty
• Optional extended warranty

General Notes

The Triflex FMS System Data Sheet is to be read as an integral part of this specification.
It is the contractor’s responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with System Data Sheets and Application Guidelines in force at the time

Notes to Specifiers

We recommend that for all car park projects, the actual specification clauses for the Triflex waterproofing, surfacing and protection systems are prepared by the Triflex Technical Team.
This information can then be provided in a text format for insertion into Word and other documents.
Triflex FMS

Test Data

Heavy duty, anti-skid surfacing and marking system for traction strips, road crossings, stop zones, cycle lanes and walkways

Test House

BAST Federal Traffic and Roads Authority
Bundesanstalt fur Strassenwesen

Testing Details

Testing for:
Wear resistance (%)
Skid resistance (SRT Units)
Night visibility (mcd/m².lx)
Luminance factor (-)

Test Conditions

Rotational speed: 60 km/h and 10 km/h
Test tyres: Michelin MXV 2
Number of test tyres: 4
Wheel load: 3000 N
Tyre pressure: 2.2 bar
Camber of wheels: 0°
Steering angle: Alternatively ±1°
Test room temp: +5°C to + 10°C
Running cycle: The specimens were exposed to water for three hours while the turntable was running at 10 km/h; then the specimens were rolled over at a rotary speed of 60 km/h until a number of 0.6, 1.0, 1.4, 2.0, 3.0 and 4.0 million roll cycles was reached, with the direction of rotation being changed every hour.

Test Results

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<thead>
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<tbody>
<tr>
<td>Wear resistance (%)</td>
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<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<tr>
<td>Skid resistance (SRT Units)</td>
<td>64</td>
<td>52</td>
<td>49</td>
<td>48</td>
<td>48</td>
<td>46</td>
<td>45</td>
<td>45</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Night visibility (mcd/m².lx)</td>
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<td>337</td>
<td>308</td>
<td>292</td>
<td>257</td>
<td>238</td>
<td>211</td>
<td>178</td>
<td>175</td>
<td>163</td>
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<td>Luminance factor (-)</td>
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<td>0.68</td>
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<td>0.68</td>
<td>0.64</td>
<td>0.65</td>
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</table>
Triflex ACS

High performance, water based, weatherproof anti-carbonation system for concrete / masonry protection

93  Triflex ACS

94  System Benefits

95  System Data Sheet

97  Model Specification
Triflex ACS

High performance, water based, weatherproof anti-carbonation system for concrete / masonry protection

Car parks are important not only as investments, but to the people who use them. To obtain the maximum long term benefit from the investment and to avoid the costs and disruption of concrete repairs, the structure needs to be protected. To ensure continued use, the users need to be provided with a light, bright environment in which they feel both themselves and their property will be safe.

In many car parks the walls, columns and soffits are either unprotected, or treated with standard masonry paints which may offer little or no protection from the environment, and in particular carbon dioxide.

The Triflex solution

The Triflex ACS provides not only exceptional, proven structural protection, but significantly improves the environment for users. The system is designed as an anti-carbonation system and the primary objective is to protect structural concrete from environmental influences. The system is much more than a ‘paint’ which is designed merely to colour or brighten the substrate.

The Triflex ACS also offers all the benefits of a high quality masonry coating and can be used in the car park environment to significantly improve lux levels.

Colours and specification

The Triflex ACS is available in almost any colour allowing the client to choose combinations to provide the right balance between aesthetics, light reflectivity and maintenance.

The Triflex Technical Team can assist in the preparation of model specifications.
Triflex ACS

System Benefits

High performance, water based, weatherproof anti-carbonation system for concrete / masonry protection

EXCEPTIONAL CO₂ RESISTANCE :: The Triflex ACS has proven, tested long term resistance to CO₂ and other acid gases providing concrete and masonry with maximum protection from carbonation.

WATERPROOF AND ALLOWS SUBSTRATE TO BREATHE :: Triflex ACS prevents further water ingress, and is also vapour permeable allowing existing water within the construction to dry out.

ELASTOMERIC :: The Triflex ACS is highly elastomeric, flexible and crack bridging, ensuring that protection is maintained even when there is movement in the substrate.

DURABILITY :: The Triflex ACS has proven longevity, having undergone extensive accelerated weathering, salt mist erosion and washing tests.

AESTHETICS :: Triflex ACS has excellent opacity, is UV resistant, non yellowing, dirt repellent and is available in virtually any colour.

FIRE RESISTANT :: Triflex ACS meets and satisfies Class O under BS476.

SUBSTRATE COMPATIBILITY :: Triflex ACS is suitable for and achieves excellent adhesion to concrete, masonry, brickwork, blockwork and other mineral substrates.

SIMPLE MAINTENANCE :: The Triflex ACS can easily be cleaned and maintained using conventional methods.

COMMITMENT TO THE ENVIRONMENT :: The Triflex environmental policy is certified under ISO 14001. The Triflex ACS anti-carbonation coating system is water based.

QUALITY ASSURED MANUFACTURING :: As all materials are manufactured to ISO9001 you can be assured of consistent quality.

QUALITY DESIGN AND SPECIFICATION ASSISTANCE :: The Triflex Technical Team can assist in all areas of the design and specification process.

QUALITY INSTALLATION :: The Triflex ACS system may only be installed by a Triflex Approved Contracting Partner or suitably trained painting contractor approved by Triflex (UK) Limited.

WARRANTED PROTECTION :: The Triflex ACS system is offered as standard with a 10 year materials warranty. Other warranties are available – please contact Triflex (UK) Limited directly for details.
Triflex ACS System Data Sheet

High performance, water based, weatherproof anti-carbonation system for concrete/masonry protection

Properties

- Exceptional resistance to CO2 and other acid gases
- Waterproof
- High water vapour permeability
- Highly weather resistant
- Elastomeric
- Class O fire resistance
- UV resistant
- Non yellowing
- Tough
- Flexible - crack bridging
- Excellent adhesion to concrete and masonry substrates
- Dirt repellent
- Easily cleaned
- Chemical resistant
- Environmentally friendly - water based
- Easy to apply by spray, roller or brush
- Excellent opacity
- Available in a wide range of colours

System Details

Triflex Primer - If necessary, to seal porous substrates and improve adhesion.
Triflex ACS - Anti-carbonation protective coating layers.

Applications

The system is suitable as an anti-carbonation, weatherproof, decorative coating for car park walls, columns and soffits.

Substrate Assessment

When applying high performance coatings such as Triflex ACS the quality and in particular the adhesion of any existing coating is critical. If there are any doubts with respect to the previous coating in terms of chalking, adhesion etc, it must be removed.

Substrate Preparation

Generally:
Pressure wash with water at approximately 2000 psi and allow to dry thoroughly.
Ensure all flaking and loosely adhered existing coatings are removed.

Organic growth:
Remove any organic growth with a stiff bristle (not wire) brush.
If necessary, apply Triflex Fungi-Shield Sterilising Solution (8m²/ltr min.)
Next coat applied after approx. 24 hours.

Pore Filling

To improve the anti-carbonation protection and the appearance on heavily pored substrates we recommend that pore filling is carried out prior to coating.

Priming

If the cleaned substrate is porous, chalky or friable:
Apply Triflex AC20 Primer / Sealer (8m²/ltr min.) by airless spray, brush or roller.
Next coat applied after approx. 4 hours.

Triflex ACS Application

Apply Triflex AC20 (6m²/ltr approx.) by airless spray, brush or roller.
Next coat applied after approx. 4 hours.
Apply further coat of Triflex AC20 (6m²/ltr approx.) by airless spray, brush or roller.
Touch dry after approx. 2 hours.
Triflex ACS

System Data Sheet

High performance, water based, weatherproof anti-carbonation system for concrete/masonry protection

System Components

Please see the appropriate Product Data Sheet for details about areas of application/ application conditions/mixing instructions (available on request):

Triflex Fungi-Shield Sterilising Solution
Triflex AC20 Primer/Sealer
Triflex AC20

Quality Standard

All products are manufactured to ISO 9001

Substrate Testing

Prior to the commencement of work the contractor must check and only proceed if the equilibrium moisture content of the substrate does not exceed 6% and 75% RH.

Health and Safety

Refer to product Health and Safety data prior to using the materials.

Coverage Rates

The coverage rates given are guidelines based on smooth, level substrates. Allowances must be made if the substrate is uneven, rough or porous.

Drying Times

The drying times stated are dependent upon weather conditions.

Important Notes

It is the Contractors' responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with Technical Data Sheets and Application Guidelines in force at the time.

The advice we can provide on the application of our products is based on extensive development work as well as many years of experience and is given to the best of our knowledge. However, the wide variety of requirements for a building under the most diverse conditions mean that it is necessary for the Contractor to test the product for suitability in any given case. We reserve the right to make alterations in keeping with technical developments or improvements.

Test Data

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<thead>
<tr>
<th>Testing House</th>
<th>Test Details</th>
<th>Test Result</th>
<th>Test Certificate No.</th>
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<tbody>
<tr>
<td>Taywood Engineering</td>
<td>CO, Diffusion</td>
<td>R = 301 metres at 125 micron DFT</td>
<td>4524</td>
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<tr>
<td>Taywood Engineering</td>
<td>CO, Diffusion after 2,000 Hours Accelerated Weathering</td>
<td>R = 320 metres after the equivalent of 5 yrs weathering</td>
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<td>Taywood Engineering</td>
<td>Moisture Vapour Transmission Rate</td>
<td>Flux = 83g/M² .24hr Sp(m) = 0.533</td>
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<td>Taywood Engineering</td>
<td>Accelerated Weathering 14,000 hrs (equivalent to 28/30 yrs external weathering)</td>
<td>No significant change</td>
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<td>CENTRUM voor het EVALUEREN en TESTEN van het MATERIEEL CEM - Kwartier OOST</td>
<td>Salt mist to ISO 7253</td>
<td>No trace of any damage to film</td>
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<td>CENTRUM voor het EVALUEREN en TESTEN van het MATERIEEL CEM - Kwartier OOST</td>
<td>Adhesion to ISO 4624</td>
<td>Adhesion of AC20 stronger than the cohesive strength of concrete</td>
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<td>CENTRUM voor het EVALUEREN en TESTEN van het MATERIEEL CEM - Kwartier OOST</td>
<td>Washing - USUBEL - 5,000 reciprocal cycles</td>
<td>Film not damaged in any way</td>
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<td>CENTRUM voor het EVALUEREN en TESTEN van het MATERIEEL CEM - Kwartier OOST</td>
<td>Covering Power at 218g per M²</td>
<td>99.72%</td>
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</tbody>
</table>
Triflex ACS

Model specification

M60 Painting

To be read with Preliminaries / General Conditions.

Surface Finishes reference

Triflex ACS
Manufacturer: Triflex (UK) Limited
Whitebridge Way
Stone
Staffordshire
ST15 8GH
Tel: +44 (0) 1785 819119
Fax: +44 (0) 1785 819960
E-mail: info@triflex.co.uk
Web: www.triflex.co.uk

Generally

Apply Triflex ACS system fully in accordance with Manufacturer’s System Data Sheet.

Substrate Assessment

Assess substrate in accordance with Triflex ACS System Data Sheet.

Substrate Preparation

Prepare substrate in accordance with Triflex ACS System Data Sheet.

Priming

Apply Triflex primer in accordance with Triflex ACS System Data Sheet.

Primer reference: Triflex AC20 Primer / Sealer

Coating Application

Apply anti-carbonation coating in accordance with Triflex ACS System Data Sheet.


Installation

The works shall be executed by a Triflex Approved Contracting Partner or suitably trained painting contractor approved by Triflex (UK) Limited.

Required System Properties

- Exceptional resistance to CO₂ and other acid gases: R = 301 metres
- Waterproof
- High water vapour permeability
- Highly weather resistant
- Elastomeric
- Fire resistant – Class O
- UV resistant
- Non yellowing
- Tough
- Flexible – crack bridging
- Excellent adhesion to concrete and masonry
- Dirt repellent
- Easily cleaned
- Chemical resistant
- Environmentally friendly – water based
- Easy to apply
- Excellent opacity
- Available in wide range of colours
- Standard 10 year materials warranty
- Optional extended warranty

General Notes

The Triflex ACS System Data Sheet is to be read as an integral part of this specification.

It is the Contractor’s responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with System Data Sheets and Application Guidelines in force at the time.

Notes to Specifiers

We recommend that for all car park projects, the actual specification clauses for the Triflex waterproofing, surfacing and protection systems are prepared by the Triflex Technical Team.

This information can then be provided in a text format for insertion into Word and other documents.
Triflex - Car park systems

General
Triflex car park waterproofing, surfacing and protection systems are designed to avoid the requirement for regular maintenance as far as possible. As a matter of good housekeeping, it is recommended that the Triflex systems are inspected annually - ideally just before winter.

General maintenance
- Remove any debris from the deck area, and all items which could potentially cause damage to the System.
- Check and clean outlets, drainage points, gutters, downspouts etc. and ensure that all rainwater goods are working effectively.
- Carefully remove any plant growth.

General inspection
- Check all details visually to ensure a sound bond to substrate.
- Check the installed System for any signs of mechanical or chemical damage.
- Check the soffit where visible for evidence of water ingress, wet patches, water staining etc.
- Check other building components e.g. barriers, balustrades, parapet walls etc. for soundness.

Further guidance for owners and operators can be found in ‘Recommendations for the inspection, maintenance and management of car park structures’ published by the Institution of Civil Engineers – ISBN 0 –7277-3183-1.

Any observations that require attention to the installed Triflex Systems should be reported to the Triflex Approved Contractor who installed the System.

Repair
Areas of mechanical damage should be repaired by the original installer as soon as possible after they became evident.

The Triflex approved contractor should consult Triflex (UK) Limited for approved repair methods.

Additions and removals
Prior to additions or removals taking place which may affect the integrity of the installed Triflex system, Triflex (UK) Limited to be contacted for approved methods.

General protection
Where Triflex treated areas are likely to suffer damage or contamination from other trades during subsequent or other works, suitable precautions should be taken to protect the installed System.

Cleaning
Should the deck require cleaning, we recommend the following methods.

Pressure washing
Manually brush away any loose particles, general dust, dirt etc. Ensure all outlets, drainage points, gutters and downspouts are clear and free from any blockage.

Apply a cold or warm water pressure wash with approved detergent in solution. The head of the water lance should be kept at least 500mm away from the Triflex surface at all times and the pressure should be restricted to less than 1500psi.

(Triflex anti-carbonation systems: 500psi).

Preferably leave the detergent solution on the surface for approximately 15 minutes.

For stubborn areas of dirt, gently brush or mop the surface after the detergent has been applied.

Rinse the surface with clean, cold water. The head of the water lance should be kept at least 500mm away from the Triflex surface at all times and the pressure should be restricted to less than 1500psi.

(Triflex anti-carbonation systems: 500psi).

Squeeegee excess water from the surface to outlets, gullies etc.

Floor scrubbing machines
Subject to prior approval of equipment and methods by Triflex (UK) Limited, floor scrubbing machines with single large diameter heads may be used to clean the Triflex car park systems.

Mechanical scrubber driers
Subject to prior approval of equipment and methods by Triflex (UK) Limited, mechanical scrubber driers may be used to clean the Triflex car park systems.

Important notes for all cleaning methods:
- Water temperature should not exceed 50°C
- Only detergents or degreasants approved by Triflex (UK) Limited should be used
- Cleaning methods and materials not in accordance with Triflex guidelines may affect any warranty.

De-icing
Triflex car park waterproofing and surfacing systems are resistant to common de-icing materials including rock salt, Calcium Chloride Flakes and Prilled Urea.

Calcium Chloride Flakes and Prilled Urea are recommended as these dissolve and do not leave an unsightly, dirty residue on the deck.

For approval of other de-icing chemicals please contact Triflex (UK) Limited.

Important note:
De-icing methods and materials not in accordance with Triflex guidelines may affect any warranty.

Car wash areas
Only detergents and cleaning materials approved by Triflex (UK) Limited may be used in car wash areas.

For approval of detergents and cleaning materials please contact Triflex (UK) Limited.

Important note:
Car washing methods and materials not in accordance with Triflex guidelines may affect any warranty.

The advice we can provide on the cleaning and maintenance of our products is based on many years of experience and is given to the best of our knowledge. However, the wide variety of requirements for a building under the most diverse conditions mean that it is necessary for the maintenance contractor or individual to test the method or product for suitability in any given case. We reserve the right to make alterations in keeping with technical developments or improvements.