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**Versatile and
innovative deck
coating systems for
car park structures**



The Need For Effective Car Park Protection

Our **unique** car park offering:



// Unlike other systems DeckProtect+ enhances and combines Polyurethane (PU), Epoxy (EP), Polyaspartic (PA), Methyl Methacrylate (MMA) and cementitious repair technologies allowing specialist contractors to tailor a solution that meets all the requirements of a new build or car park refurbishment project. //

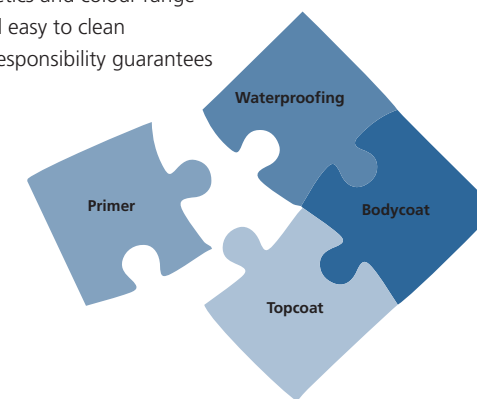
All Encompassing Waterproofing

Deck**Protect**⁺ is a comprehensive range of cold liquid applied systems that utilise the most effective technologies in car park protection today. All Deck**Protect**⁺ systems are designed by Pitchmastic PmB chemists to be safe and user friendly.

Whatever your requirement or specific challenge, there is a Deck**Protect**⁺ product to suit.

The Deck**Protect**⁺ range offers clients the perfect balance between design aesthetics and practical performance:

- Tough and durable
- Exceptional crack bridging and elongation
- Fast curing – Ideal for a rapid return to service
- Excellent longevity
- Robust and hard wearing
- Excellent skid resistance
- Safe for both operatives and the general public
- Quality aesthetics and colour range
- UV stable and easy to clean
- Single point responsibility guarantees



Exposed Decks & Ramps



Ramps & Turning Circles



Underground & Internal Decks

Cutting Edge Technology

Deck**Protect**⁺ offers several key advantages over traditional surfacing systems and other lightweight coatings, combining hybrid technology with an ever increasing and impressive track record.

Cold Liquid Applied

The Deck**Protect**⁺ suite of products is cold applied meaning the systems are safe to use in the vicinity of the general public, no hot works are required and Health and Safety risks are considerably reduced.

Through the avoidance of seams, joints and secondary fleece/scrim band coats, potential weak spots are eliminated and the client is provided with a completely homogenous, seamless waterproofing solution, protecting their asset and allowing treatment of virtually all types of construction.

Hybrid Systems

The Deck**Protect**⁺ range combines innovative hybrid technology providing customers with fast cure, low odour, crack bridging and easy to clean finishes for concrete and asphalt substrates as well as overcoating existing membranes.

Versatile Specifications for Every Eventuality

Specially formulated Deck**Protect**⁺ systems will cope with most eventualities but should your needs change then our product range can be interchanged to suit. BespokeDeck**Protect**⁺ specifications can be utilised to provide you with the most appropriate solution for your car park.

How do I specify the correct system

Choosing The Correct System

At first glance the choice is diverse, but understanding the options and reviewing your particular requirements with the help of an expert from Pitchmastic PmB makes the decision process straightforward.

A

Exposed Decks & Ramps (including over occupied premises)

DeckProtect+ Blueshield Premium heavy duty system which provides optimum waterproof protection.

Page 6 & 7



B

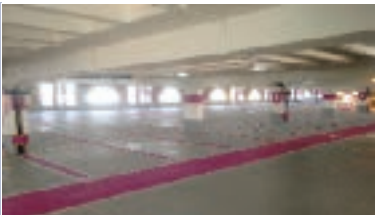
Internal Decks, Rough & Uneven

DeckProtect+ HB Toughflex Tough flexible two layer high build levelling system.

Page 8

DeckProtect+ HB Rapid MMA Rapid curing high build levelling system.

Page 8



C

Internal Decks, Rapid Return To Service

DeckProtect+ Rapidflex Rapid curing, flexible intermediate deck system.

Page 9

DeckProtect+ Rapid MMA Fast cure intermediate deck system.

Page 9



D

Internal Decks, Heavily Trafficked

DeckProtect+ Tough Tough intermediate deck system for heavily trafficked areas.

Page 10

DeckProtect+ HB Toughflex Tough flexible two layer high build levelling system.

Page 10



E

Internal Decks, Excellent Crack Bridging

DeckProtect+ Rapidflex Rapid curing, crack bridging flexible intermediate deck system.

Page 11

DeckProtect+ Flex Excellent elastomeric and flexible properties.

Page 11



F

Underground Parking

DeckProtect+ Rapidflex Rapid curing, water vapour permeable, flexible intermediate deck system.

Page 12

DeckProtect+ Flex Excellent elastomeric and flexible properties.

Page 12





G

Surface Car Parks

DeckProtect+ Rapidflex Rapid curing, flexible intermediate deck system where a fast return to service is required.

Page 13

DeckProtect+ Flex Excellent elastomeric and flexible properties make this system ideal for surface car parks.

Page 13



H

Service Decks

DeckProtect+ Blueshield MA Premium heavy duty system which provides optimum waterproof protection to decks over premises.

Page 13



I

Visual Rejuvenation

DeckProtect+ Light Economical system with good anti-skid properties.

Page 14



J

Fleece Reinforced PMMA

DeckProtect+ FR A fast curing, seamless, crack bridging and fully reinforced system

Page 14



Which System Should I Choose?

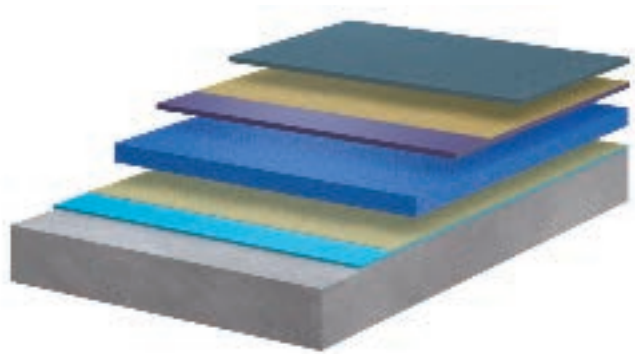
A

Exposed Decks & Ramps

Deck**Protect**⁺ **Blueshield**.

The exposed decks and ramps of a car park structure are the most vulnerable, however fully elastomeric and durable waterproofing systems will protect the decks from:

- Water ingress
- High shear turning and braking forces
- Carbon monoxide exhaust gases
- Harmful engine oils
- Diesel and petrol
- Alkaline cleaners
- Climatic changes
- UV radiation
- De-icing salts



Deck**Protect**⁺ **Blueshield**.

Premium heavy duty system which provides optimum waterproof protection to exposed decks and ramps. System comprises of:

- Adhesive primer coats which establish and maintain an excellent bond to the deck
- Elastomeric waterproofing providing continued flexible crack-bridging waterproof protection from deck movement
- Body and top coats promoting tough UV stable, chemically resistant, hard wearing anti skid durability. This ensures the continued safety of vehicles and an enduring aesthetic finish

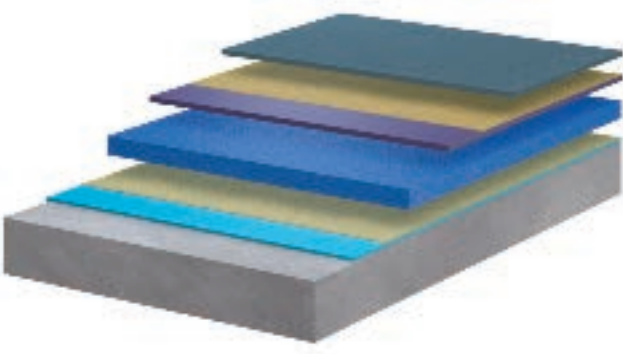
A

Decks & Ramps Over Occupied Premises

Deck**Protect**⁺ **Blueshield**.

Car park decks that are immediately over occupied premises are often seen as a higher risk due to the retail or commercial space below. Fully elastomeric waterproof systems are therefore essential to provide robust protection from:

- Water ingress into the habitable space below
- Potential cracking of a rigid or reinforced coating
- Potential loss of revenue/damaged stock
- Wear due to high shear turning and braking forces
- Deterioration due to carbon monoxide exhaust gases
- Degradation caused by harmful engine oils
- Diesel and petrol damage



Deck**Protect**⁺ **Blueshield**.

Premium heavy duty system which provides optimum waterproof protection to exposed decks and ramps. System comprises of:

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Which System Should I Choose?

B

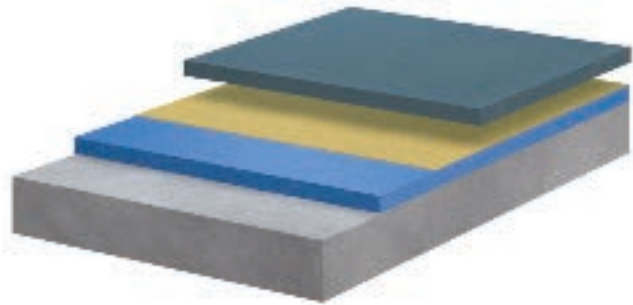
Internal Decks Rough & Uneven

DeckProtect+ HB Toughflex.
DeckProtect+ HB Rapid MMA.

Internal car park decks can often have sections or an entire deck of rough and uneven concrete or asphalt. Consideration should be given to the use of a High Build specification to:

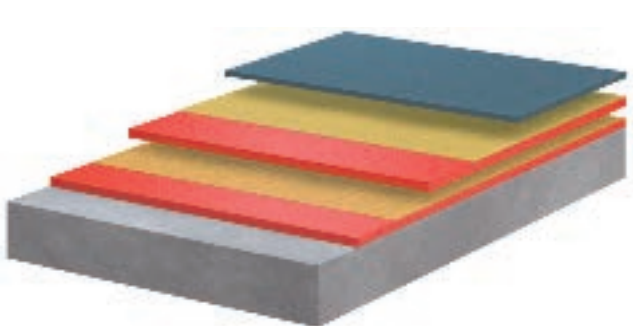
- Reduce structural stress caused by traffic
- Enhance aesthetics
- Protect from water and chemical ingress into the concrete
- Give hard wearing protection
- Add longevity to the finish
- Improve anti skid qualities

DeckProtect+ HB Toughflex.



Tough flexible two layer high build levelling system where substrate regulation, hard wearing protection, durable anti-slip and a quality aesthetic finish is required.

DeckProtect+ HB Rapid MMA.



Rapid curing high build levelling system where a fast return to service and regulation of the substrate deck profile is essential.



C

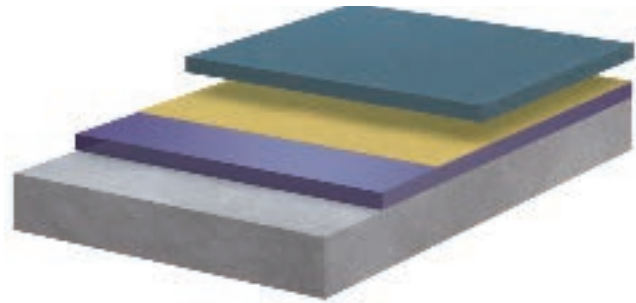
Internal Decks Rapid Return To Service

DeckProtect+ Rapidflex.
DeckProtect+ Rapid MMA.

The requirement to keep a car park open during a refurbishment is often vital. Good programming and the use of rapid Polyaspartic and/or Methyl Methacrylate (MMA) systems will ensure the maximum number of spaces can be maintained during this process.

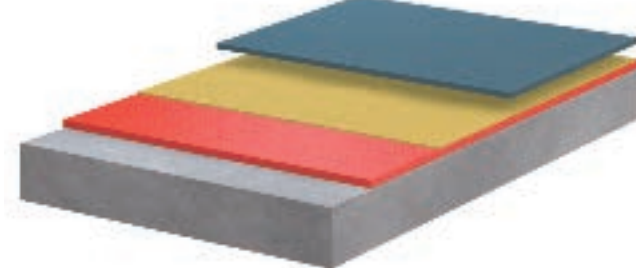
- Minimise disruption
- Can be trafficked within 2 hours
- Prevent water and chemical ingress into the concrete
- Allows application in cold temperatures
- Provide the same durable and crack bridging qualities as tough and flexible systems

DeckProtect+ Rapidflex.



Rapid curing, flexible intermediate deck system where a fast return to service, tough, crack-bridging, anti skid and aesthetic finish is required.

DeckProtect+ Rapid MMA.



Rapid curing intermediate deck system where a fast return to service and a hardwearing, anti skid finish is required.



Which System Should I Choose?

D

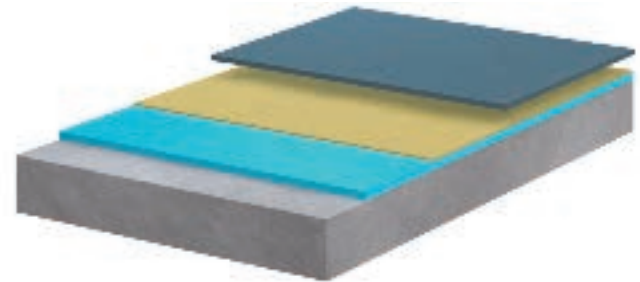
Internal Decks Heavily Trafficked

DeckProtect+ Tough.
DeckProtect+ HB Toughflex.

Internal car park decks driving aisles and ramps are constantly subjected to heavy traffic. In such areas and where the substrate of the deck is in good condition a more robust Epoxy (EP) car park system can be employed to:

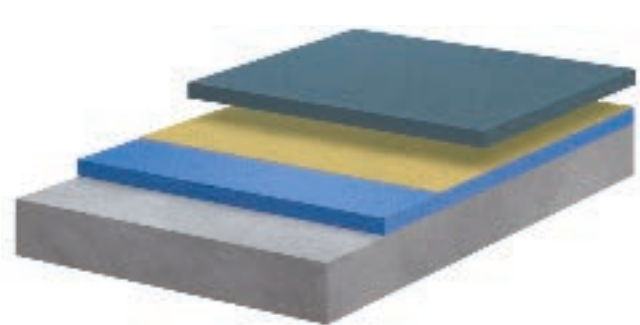
- Provide tough hard wearing protection
- Enhance aesthetics
- Add longevity to the finish
- Prevent water and chemical ingress into the concrete
- Achieve an exceptional bond to the deck

DeckProtect+ Tough.



Tough intermediate deck solution for heavily trafficked areas. This system provides hard wearing protection, anti-slip and quality aesthetics for decks and ramps with limited movement.

DeckProtect+ HB Toughflex.



Tough flexible two layer high build levelling option where substrate regulation profile, hard wearing protection, durable, anti-slip and a quality aesthetic finish is required.



E

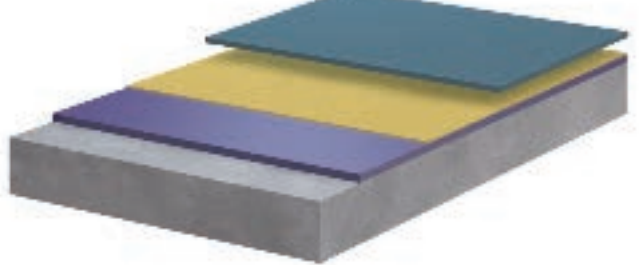
Internal Decks Excellent Crack Bridging

DeckProtect+ Rapidflex.
DeckProtect+ Flex.

Decks that are subject to deflection and cracking require highly elastic systems to maintain the substrate's integrity. It is essential that the proposed system does not allow static, dynamic or shrinkage cracks to transverse through to the car park coating.

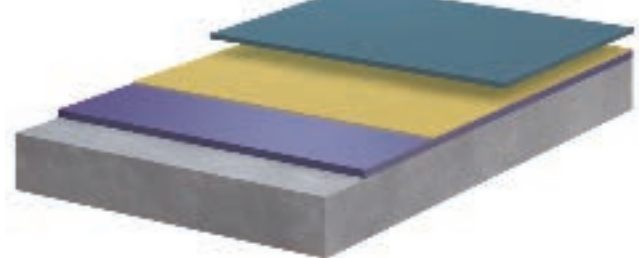
- Provides excellent elongation and crack-bridging properties
- No requirement for secondary fleece or scrim band coats
- Moves with the deflection of the deck
- Gives hard wearing protection
- Prevents water and chemical ingress into the concrete
- Achieves an exceptional bond to the deck
- Enhances aesthetics

DeckProtect+ Rapidflex.

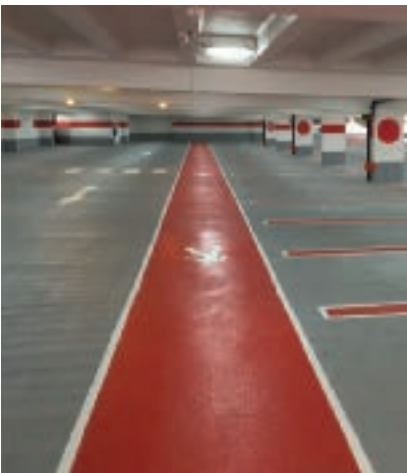


Rapid curing, crack-bridging flexible intermediate deck system where a fast return to service, tough, anti-slip and aesthetic finish is required.

DeckProtect+ Flex.



Excellent elastomeric and flexible properties make this system ideal for decks that are susceptible to cracking or require a crack-bridging system.



Which System Should I Choose?

F

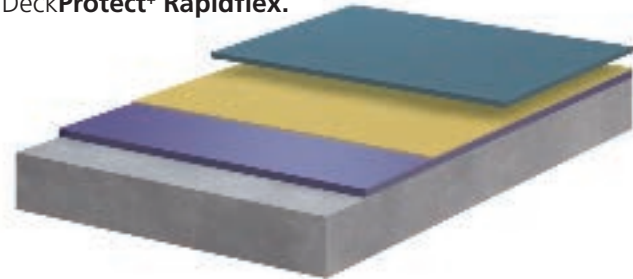
Underground Parking

DeckProtect+ Rapidflex.
DeckProtect+ Flex.

Underground car park decks exhibit a unique set of conditions, with a need for an aesthetically pleasing safe and secure parking environment. Using a flexible, breathable system will ensure:

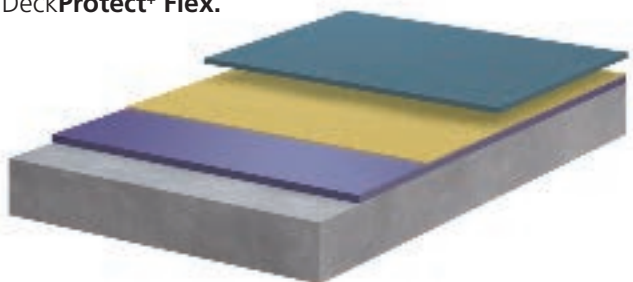
- Water vapour permeability
- Enhanced aesthetics to lighten dark areas
- Excellent elongation and crack-bridging
- Achievement of an exceptional bond to the deck
- Rapid return to service

DeckProtect+ Rapidflex.



Rapid curing, crack-bridging flexible intermediate deck system where a fast return to service, tough, anti-slip and aesthetic finish is required.

DeckProtect+ Flex.



Excellent elastomeric and flexible properties make this system ideal for decks that are susceptible to cracking or require a crack-bridging system.



G

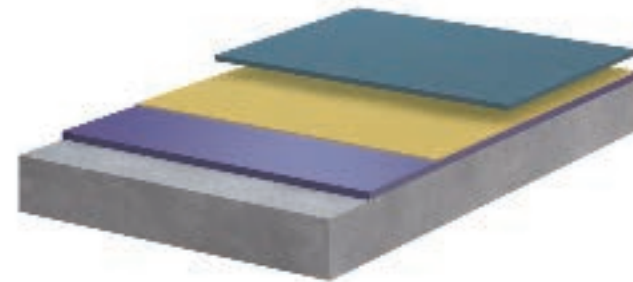
Surface Car Parks

DeckProtect+ Rapidflex.
DeckProtect+ Flex.

Surface car parks have a similar build up to roads with often heavily textured asphalts. To meet the requirements of an asphalt surface a flexible protective coating ensures:

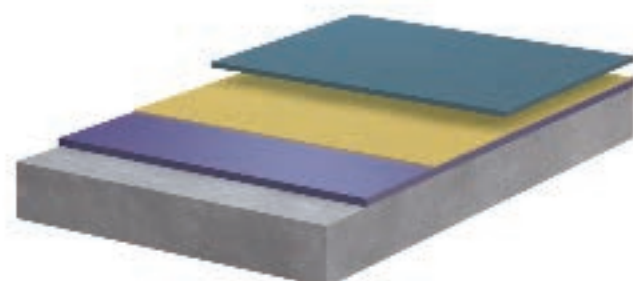
- Quality delineation and aesthetics
- Prolonged longevity of anti-slip surface
- Management of the movement of an asphaltic substrate
- Protection of the asphalt from freeze thaw

DeckProtect+ Rapidflex.



Rapid curing, crack-bridging flexible intermediate deck system where a fast return to service, flexible, tough, anti-slip and aesthetic finish is required.

DeckProtect+ Flex.



Excellent elastomeric and flexible properties make this system ideal for substrates that are susceptible to movement or require a crack-bridging system.



H

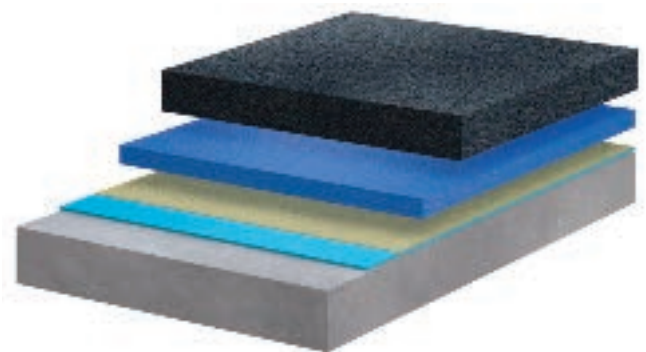
Elevated Service Decks

DeckProtect+ Blueshield MA

The use of buried elastomeric waterproofing with a thick layer of heavy duty sacrificial asphaltic topping or trafficable paving maintains:

- Waterproof protection
- Excellent elongation (300%) and crack-bridging
- Reduced and dispersed effect of high shear turning forces and weight
- Longevity of system integrity

DeckProtect+ Blueshield MA



Premium heavy duty solution which provides optimum waterproof protection to service decks over occupied premises. Comprises of:

- Adhesive primer coats which establish and maintain an excellent bond to the deck
- Elastomeric waterproofing providing continued flexible crack-bridging waterproof protection from deck movement
- Mastic asphalt or trafficable paving wearing surface designed to protect the waterproof membrane beneath, whilst able to withstand constant high shear forces from heavy vehicular traffic

Which System Should I Choose?

I

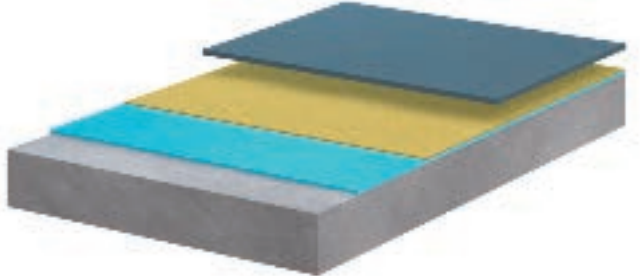
Visual Rejuvenation

DeckProtect+ Light.

When a car parks wear course has passed its useful life and has experienced a reduction in anti-slip properties, the waterproof coating beneath can often still be in excellent condition. To reinvigorate the deck by adding a new lightweight water based epoxy system you can:

- Reduce the refurbishment costs by over coating the existing system
- Maintain a functioning car park
- Improve and modernise aesthetics
- Protect the original system
- Make safe by improving the anti-slip properties

DeckProtect+ Light.



Economical coloured anti skid system. Ideal for giving new life to a dull fading car park.



J

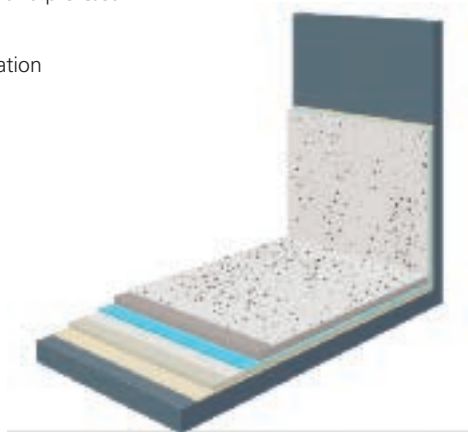
Fleece Reinforced PMMA

DeckProtect+ FR.

The DeckProtect+ FR waterproofing system is a fast cure, seamless and crack bridging waterproofing system designed to withstand mechanical stresses. It contains a highly flexible and fleece-reinforced waterproofing layer as well as abrasion-resistant system layers for vehicle and foot traffic. Where a particular structure may warrant a fully fleece reinforced PMMA system, DeckProtect+ FR can be installed, using a localised de-bonding phenomenon to bridge live cracks. Where a highly flexible and crack bridging PU system cannot be used, DeckProtect+ FR provides a high performing alternative.

Its fleece-reinforced waterproofing layer makes the DeckProtect+ FR waterproofing system particularly suitable for areas that include joints or that are highly susceptible to cracking. The heavy-duty wearing layer, with modifiable anti-skid or anti-slip characteristics and the extensive surface design options provide the necessary flexibility to meet the individual requirements of car park projects.

- Seamless waterproofing layer with fleece reinforcement
- Heavy-duty wearing layer for vehicle and foot traffic
- Fully bonded to the substrate, therefore no flow paths for water
- Can be applied to almost any substrate
- Liquid application ensures seamless incorporation and secure waterproofing of the most complex upstands
- Permanently flexible and crack-bridging even at extreme sub-zero temperatures
- Permanently weather-resistant (resistant to high and low temperatures, UV rays, hydrolysis)
- Resistant to most commonly used acids and alkali solutions
- Ideal for steel frame and pre-cast plank structures
- Easy and fast application



RAL Colour Chart

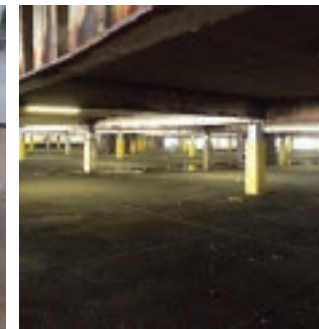
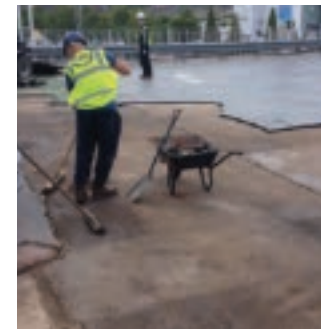
Other colours are available

Please consult Pitchmastic PmB technical services for alternative RAL/BS/Pantone/Corporate colour options.

Line Markings

Line markings are generally installed using either a single or twin pack epoxy system. Please consult Pitchmastic PmB technical services for further guidance on other compatible products.

Case Study



USL & intu Scoop Award For Best Refurbishment 2016

intu's Merry Hill Shopping Centre car park has been hailed as the UK's best refurbishment following the prestigious British Parking Association awards in London.

intu Merry Hill is one of the UK's most successful shopping centres and is the focal point of a 220 acre mixed-use complex in the heart of the West Midlands.

The 140,800 square metre shopping centre provides over 220 stores and has an annual footfall of 23.5 million shoppers. The complex includes 40 places to eat, an Odeon cinema, external retail park and over 8,000 car parking spaces. The centre is joint owned by intu Properties plc and QIC.

Structural Motivations

The Purple Car Park at intu Merry Hill is a three storey car park providing a series of permanent openings along the east and west elevations at ground and first floor levels. The top storey provides roof level parking and is approximately 6.1m above ground level.

The middle deck of the three storey Purple Car Park had been closed for four years, amounting to a loss of 350 parking spaces. In addition, the lower and upper deck were in need of complete refurbishment.

The refurbishment of the Purple Car Park became necessary following the discovery that some of the car park's steel support beams, soffits and columns had become severely corroded over time from water ingress from the upper (top) deck. The corrosion had also had an impact on the applied fire protection to the car park's structure. In some areas, there was no existing fire protection at all as the fire boarding had crumbled as a result of water ingress. There was significant deterioration of the mastic asphalt wearing surface on the upper deck, which had been exacerbated by the application of an inappropriate and incompatible liquid coating years earlier.



Environmental Considerations

As a super-regional centre, intu Merry Hill provides free parking for all its 23.5 million visitors per annum and at peak times of the year there are parking pressures which affect overall satisfaction for visitors.

To keep the majority of the car park open across the duration of refurbishment, USL took possession of just 50 per cent of the car park's upper deck, setting up a temporary traffic management system to allow the other 50 per cent to be kept in use.

Whilst the asphalt was replaced to the upper parking deck, Pitchmastic PmB's DeckProtect+ Rapidflex was chosen to protect and enhance the 18,000m2 of internal parking decks. The fast curing, flexible and easy to clean finish was installed in contrasting colours.

Close liaison between intu centre management and USL was critical throughout the project to ensure that sufficient parking bays were available for customers, particularly at weekends. This was made easier by the fast cure properties of the DeckProtect+ polyaspartic top coat.

Customer Motivations

The car park has fully monitored CCTV coverage and Help Points on every level. The safety standards have been recognised by the Association of Chief Police Officers (ACPO) and have accredited the scheme with the prestigious Car Park Award.

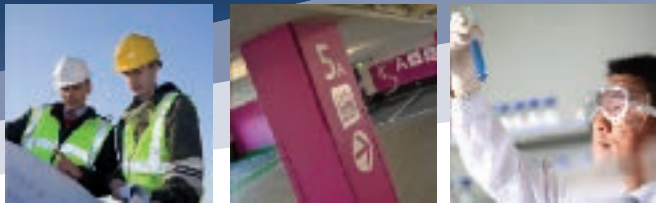
Security considerations include a full lighting refurbishment undertaken to comply with British Standard requirements. This includes the provision of new, energy efficient high-lumen LED light fittings to all levels.

John Taylor, Director at USL said "we're honoured that our efforts, and intu Properties commitment to the Merry Hill car park has been recognised by the parking industry. This truly represents a complete transformation of what was an ailing and tired car park that needed a full and focussed refurbishment. Rather than simply repairing the structure, we have taken into account environmental factors along the way, utilising Pitchmastic PmB's market leading deck coatings whilst considering whole life costs".

Image left shows George Reiling (Contracts Manager) with Cllr Steve Waltho, Mayor of Dudley and intu Merry Hill's Shopping Centre Manager

intu Merry Hill is a major player in the retail and community life of Dudley residents and I was delighted to formally open the car park which intu have bought back into service very quickly since they took over the centre. It will be a real boost to shoppers!

The Complete Structural Solution



Structural Surveys & Testing

Through licenced applicators Pitchmastic PmB undertake detailed structural surveys and testing of multi storey car parks as required by our client's specific needs.

This can include reinforcement cover surveys, depth of carbonation measurements, half-cell potential testing and dust sample analysis to determine chloride ion and cement content.

These tests allow the client to fully understand the condition of their car park and form the basis for a remedial scope of works including the provision of a Life Care Plan for the asset.

Concrete Repair / Structural Strengthening / Cathodic Protection

Pitchmastic PmB is able to offer a wide range of concrete repair and corrosion mitigation services, ranging from traditional methods through to advanced solutions such as cathodic protection.

Pitchmastic PmB is also able to offer resin injection where extensive cracking is being experienced.

- Compliant with European Standard EN 1504 and BS EN 12696
- Concrete repairs fully compatible with deck coating systems
- High build and lightweight repair systems

Anti-Carbonation Coatings

Pitchmastic PmB manufacture a range of anti-carbonation coatings designed to drastically reduce the diffusion rate of carbon dioxide into concrete. These systems also provide a highly durable, weather resistant surface and will maintain their anti-carbonation properties over many years.



Movement Joints

As market leaders in the manufacture of mechanical movement joints, our car park units utilise the proven design technology successfully used by Highways England, and are extensively used throughout Britain's motorway and trunk road network.

Research & Development

To ensure that we remain at the forefront of the industry, we develop and constantly innovate. Pitchmastic PmB has in-house research and development facilities to carry out testing to BS EN 1504, European Technical Approvals and DIN Standards.

Manufacturing & Environmental

All Pitchmastic PmB systems are manufactured under the international ISO 9001 Quality Management standard ensuring that our products satisfy the customers quality requirements and comply with any industry relevant regulations.

All systems have been manufactured under the International ISO 14001 Environmental Management standard confirming our commitment to the minimisation of the environmental impact of our activities. In the interests of ecological corporate development we strive to achieve constant improvements in our company's environmental awareness.

Technical & On-Site Support

All of our clients receive the same level of technical service, support and backup right through to the delivery of the finished project.

To assist our clients in the selection and design of the most effective solutions for their car park projects, our technical team are pleased to offer the following services completely free of charge:

- On-site surveys, reports and recommendations
- System / product samples
- Bespoke specifications
- Budget costings
- Market leading guarantee templates
- Render visualisations
- Attendance at site meetings as required

