

PITCHMASTIC PmB

International

Solutions for Bridges

- High Performance Waterproofing Systems
- Expansion Joints
- Combined Kerb & Bridge Drainage

www.pitchmasticpmb.com

Pitchmastic PmB International has in-house knowledge, practical application and technical experience that spans over 70 years. Even from the early days Pitchmastic PmB International's research and development was key to its success in an embryonic, technically challenging and rapidly evolving construction marketplace.

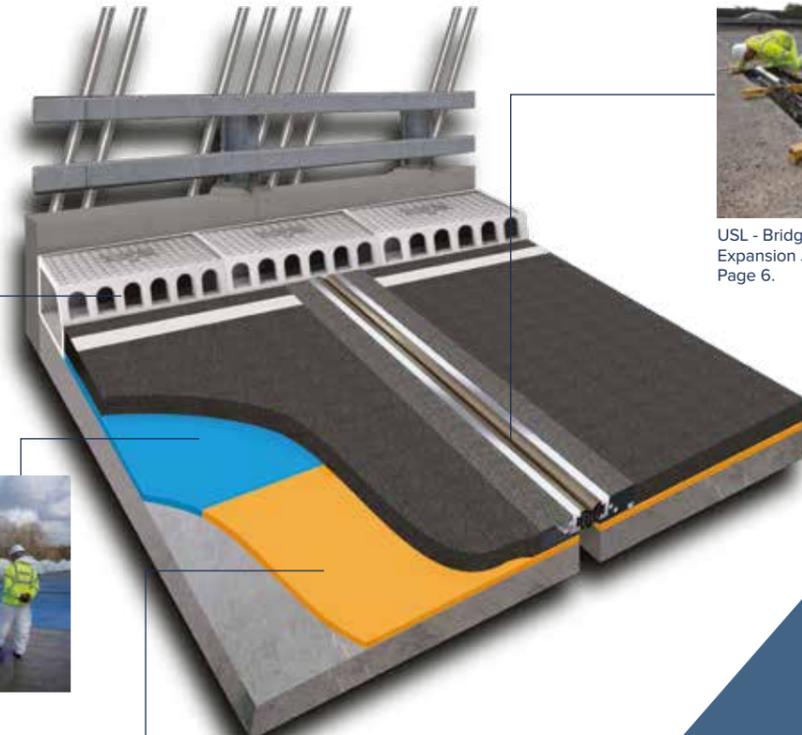
Pitchmastic PmB International's global activities are dealt with from a number of offices around the world and managed through the company's Middle East office located in the UAE as well as regional branches in Qatar, Oman, Kuwait and Singapore. Pitchmastic PmB International has a dedicated management team, technicians, equipment and material warehousing to support all their client needs.

Backed by parent company RPM Inc, Pitchmastic PmB International continues to strive and develop opportunities around the world by providing clients with professional customer care, full technical, operational and product support.

Pitchmastic PmB International is a specialist manufacturer supplier and installer of high performance waterproofing systems, expansion joints and combined kerb & bridge drainage on a global basis.



PDS - Combined Kerb & Bridge Drainage. Page 7.



USL - Bridge Expansion Joints. Page 6.



PmB - Polyurethane Waterproofing System. Page 4.



Britdex MDP - Methyl Methacrylate Waterproofing System. Page 5.

Bridges are at constant attack and under stress as water, chlorides, acid rain, de-icing salts and freeze-thaw cycles act on them. Extreme weather cycles, the impact of traffic and vibration place bridges under further stress. As steel reinforcing bars corrode and expand, concrete can crack and deteriorate. The costly disruption caused by resulting repair work impacts on both traffic and safety.

Bridge repairs can often amount to 10-30% of the updated construction cost, and large repairs may even exceed the updated construction cost and still be the preferred option when compared to the cost of traffic interruption and demolition. As moisture is the most significant factor in concrete deterioration, incorporating sufficient waterproofing at the design stage is by far the most cost-effective option.

PmB is a two part, spray applied, durable corrosion protection and waterproofing material. The high performance system is 100% polyurethane containing no fillers or additives and is VOC free. Once applied, PmB has exceptional bond strength to all commonly used substrates, has excellent crack bridging capability and a life expectancy in excess of 30 years.

The system has gained British Board of Agrément (BBA) approval for use as a damp proof and waterproofing membrane for internal and external tanking. The system holds approvals in many continents including Europe, North America, the Middle East and Far East.

Features & Benefits

- Roads and Bridges as well as Tunnels
- Two component PUR spray system 100% solids reactive resin content Solvent free
- No fillers
- Rapid setting – 5-8 seconds gel time Tack free after approximately 1 minute
- Can be walked on after approximately 10 minutes
- Elastic after approximately 45 minutes

Fast and Easy Installation

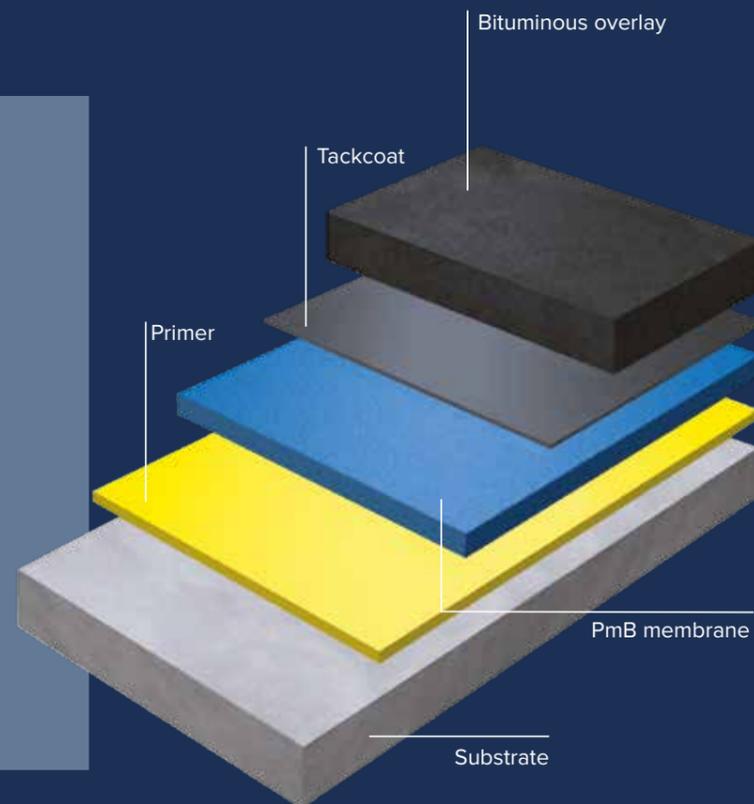
PmB membrane is quicker and easy to install and is applied as a single coat or in multiple layers. The two component materials of the membrane system are mixed at the spray gun and applied to the substrate using compressed air.

The spray equipment allows complete mobility, spraying vertical surfaces, overhead, behind pipe bays or over corners and edges quickly and effectively. This is achieved due to the membranes ability to gel in seconds preventing curtaining and providing instant protection.



Key material performance

- Class leading adhesion to substrates
- Weather resistance
- Crack bridging
- Tear resistance
- Abrasion resistance
- Water vapour and gas permeability
- Chemical resistance
- Resistant to root and microbial attack
- Sound insulation
- Homogenous watertight seal



Britdex MDP is a 100% effective seamless bridge deck waterproofing membrane, flexible and tough enough to outlast the design life of many structures. Comprising of rapid cure, cold spray applied MMA resin material to be applied by the conventional spray method, brush or roller and as a one or two coat system.

Features & Benefits

- Seamless coating without vulnerable joints
- Quick and easy sprayable application with rapid cure
- Excellent crack bridging capability
- Durable effective protection against corrosion
- Excellent adhesion to steel
- Versatile system—accommodates all surface contours, horizontal and vertical
- Application by one or two coats

The system can be applied across a wide range of climatic conditions allowing application virtually all year round. When applied to dry surfaces Britdex MDP is unaffected by moisture, rain or high humidity.

The system is durable, resisting damage during surface operations and has excellent cohesive and bond strength to the bridge deck and surfacing.

Typical applications include:

- Concrete bridge decks
- Steel bridge decks
- Bridge piers
- Culverts
- Tunnels



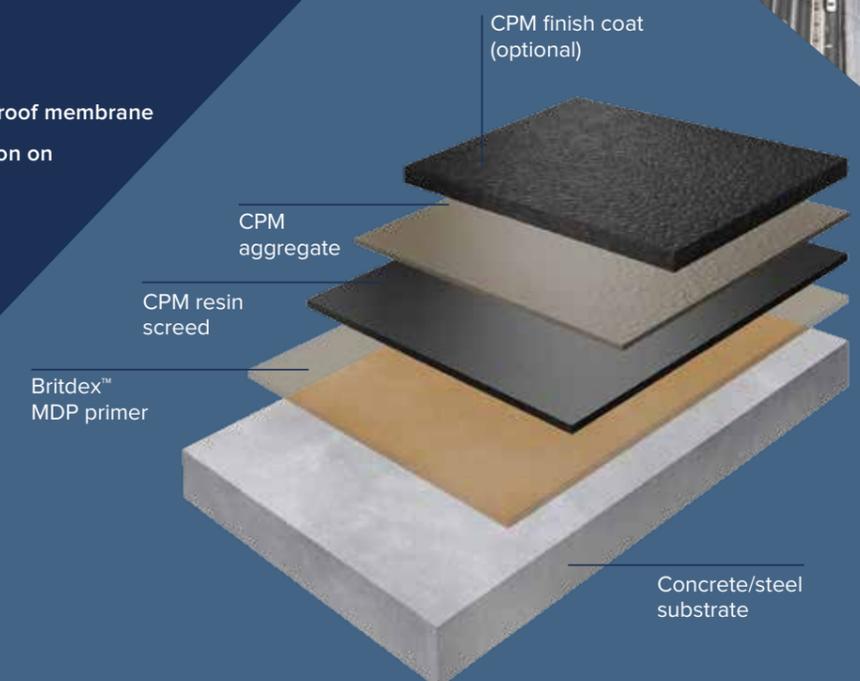
Britdex CPM TredSeal

CPM TredSeal is a combined waterproof wearing system, offering 100% effective waterproofing, wearing course and skid-resistance in a single surfacing layer, many times lighter than mastic asphalt.

Ease and speed of application to concrete, asphalt, steel or aluminum substrates results in minimal possession times and a faster return to service. CPM TredSeal can be used on a wide range of structures subject to differing traffic conditions, allowing them to be lighter by design.

Features & Benefits

- Cost Effective
- Based on BBA approved technology
- Rapid set can be trafficked within two hours
- Easy and quick application
- Aesthetically pleasing finish
- Tough, flexible and hard wearing waterproof membrane
- Versatile surfacing, suitable for application on a number of different surfaces
- This system can be applied even at low temperatures
- Waterproof

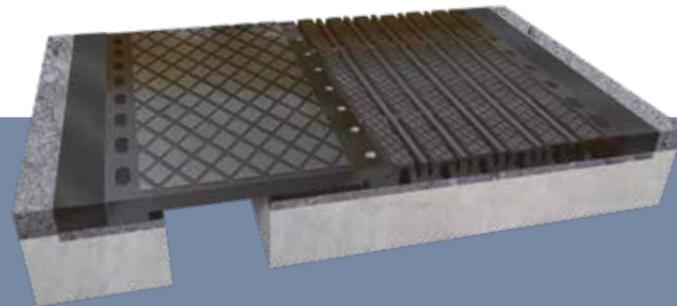


Pitchmastic PmB International has extensive experience in the supply and installation of expansion joints which have been carefully developed to provide safe, efficient and economical methods of sealing construction gaps.

The bridge expansion joint range of product caters for movements from 12mm – 1600mm and includes the “Britflex BEJ” which is one of the most popular joints used on highway and trunk roads throughout the world.

Features & Benefits

- Rapid on site assembly
- Minimal disruption to traffic
- Perfectly suited for lane by lane installation
- Minimised future maintenance costs
- Easy to install and detail at design stage
- Adaptable to numerous applications
- Excellent global track record



Movement Table

	Movement (mm)											
	0	20	40	60	80	100	200	500	1000	1600	2000	
Uniflex (Type 1)	█		20mm									
Feba Joint (Type 2)	█			40mm								
Britflex NJS (Type 3)	█	12mm										
Britflex NJ (Type 4)	█			40mm								
Transflex (Type 5)	█							380 mm				
Transflex HM (Type 5)	█										1600mm	
Britflex BEJ (Type 6)	█					150mm						
MEJS (Type 6)	█										2000mm	
Comb/Finger Joint (Type 7)	█								1000mm			
LJ (Longitudinal Joint)	█					220mm						
UCP (Footbridge Joint)	█			70mm								

Combined kerb drainage units are now widely used and specified on bridge decks whether they are new build or part of a refurbishment scheme. Drainage is an essential requirement on all bridges. Deck mounted systems provide continuous surface & sub surface drainage.

Existing systems are traditionally metallic, which are heavy, raising Health and Safety issues for the installers. Metallic units place additional weight on the structure.

In addition, metallic units are prone to oxidization which can spoil the appearance of a structure, particularly as the systems are a highly visible element of a project. This results in on-going expensive maintenance.

Selection of RAL Colours

- █ Light Grey (RAL 7035)
- █ Buff (RAL 1014)
- █ Oxide Red (RAL 3009)
- █ Traffic White (RAL 9016)
- █ Traffic Black (RAL 9017)

Features and Benefits

- Units comply with manual handling legislation
- Aesthetically pleasing
- Hydraulics - Produces smooth high quality channel invert
- Chemical resistance
- Impact resistance
- High quality
- Compliant to BS EN 1433 specification
- Lightweight non metallic
- Precision manufacturing
- Colour coding options
- Half battered and 45 degree splayed
- Wide range of widths and depths available
- Surface and subsurface drainage capability



EnviroKerb

EnviroBridge

EnviroCover

DriDeck

EnviroDeck

EnviroChamber

Contracting Capability

Pitchmastic PmB International has the capability of supplying and installing all products offering their clients the comfort of single source responsibility, whether it be undertaking complex expansion joint projects or large waterproofing schemes requiring multiple crews.



Project Support



Pitchmastic PmB International's team liaise closely and offer technical support and site assistance to all commercial clients, consultants and main contractors - they stay involved through the whole project life cycle:

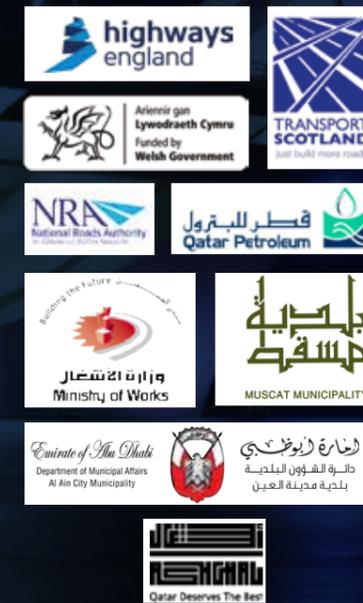
Delivering exceptional projects worldwide

- Step 1:** Technical support & consultancy
- Step 2:** Formulator & manufactured solutions
- Step 3:** Comprehensive quotation - specialist sub-contractor
- Step 4:** Expert local knowledge & labour resource
- Step 5:** Supply & install solution provider
- Step 6:** Quality control & guarantee
- Step 7:** Project completion & financial closure
- Step 8:** Repeat business & recommendations

International Test Accreditation

- Department of Transport BD47/99, BBA HAPAS UK
- LSETR Cert RAT 9359 Finland
- BAM Institute ZTV-BEL B3/87 Germany
- LTA Singapore
- EMPA Cert 4944-1-2-3 Switzerland
- THSR Specification 07140 Taiwan
- New Jersey Rail, New York DOT
- Various approvals GCC wide

International Approvals





Project: RA167 Jamal Al Naser Street – Construction, Completion and Maintenance of Roads, Overpasses, Storm Water Drainage, Sewer and Other Services
Client: Ministry of Public Work - Kuwait
Main Contractor: ROBT JV
Project in brief: 420,000m² of PmB Bridge Deck Waterproofing was applied to 15km of Elevated Segmental Viaducts and Ramps.



Project: Bosphorus 1 Bridge, Turkey
Product: Britdex MDP
Main Contractor: EPO
Project in brief: Britdex MDP waterproofing applied to steel bridge deck of this world famous structure.



Project: Metro Manila Skyway, Philippines
Product: Britflex BEJ
Client: Philippines Highways Department
Main Contractor: Citra Marga
Project in brief: Installation of 414 metres of Britflex BEJ.



Project: Rontal Bridge, Lucerne, Switzerland
Product: Kerb and drainage units
Client: Basler & Hofmann
Project in brief: 1500 linear metres of Envirodeck units were supplied to this major project in Switzerland.

Second Severn River Crossing, UK World leaders in Structural Protection



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