

PITCHMASTIC PmB

PROTECTING INFRASTRUCTURE ASSETS

Innovative Waterproofing
for Bridges & Tunnels



www.pitchmasticpmb.com



ABOUT

Pitchmastic PmB International are part of the RPM Group of companies a \$5 billion construction materials conglomerate. We are at the forefront of technological developments in the world of structural waterproofing and were established over 70 years ago with a commitment to developing new and more effective ways of waterproofing structures.



Pitchmastic PmB International has established local applicator partnerships in Europe, Middle East, America, Africa and APAC. Over 12,000,000m² of PmB has been applied to structures globally including more than 11,000 bridges.

Our Markets



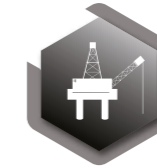
Bridges



Rail



Underground Construction



Oil & Gas

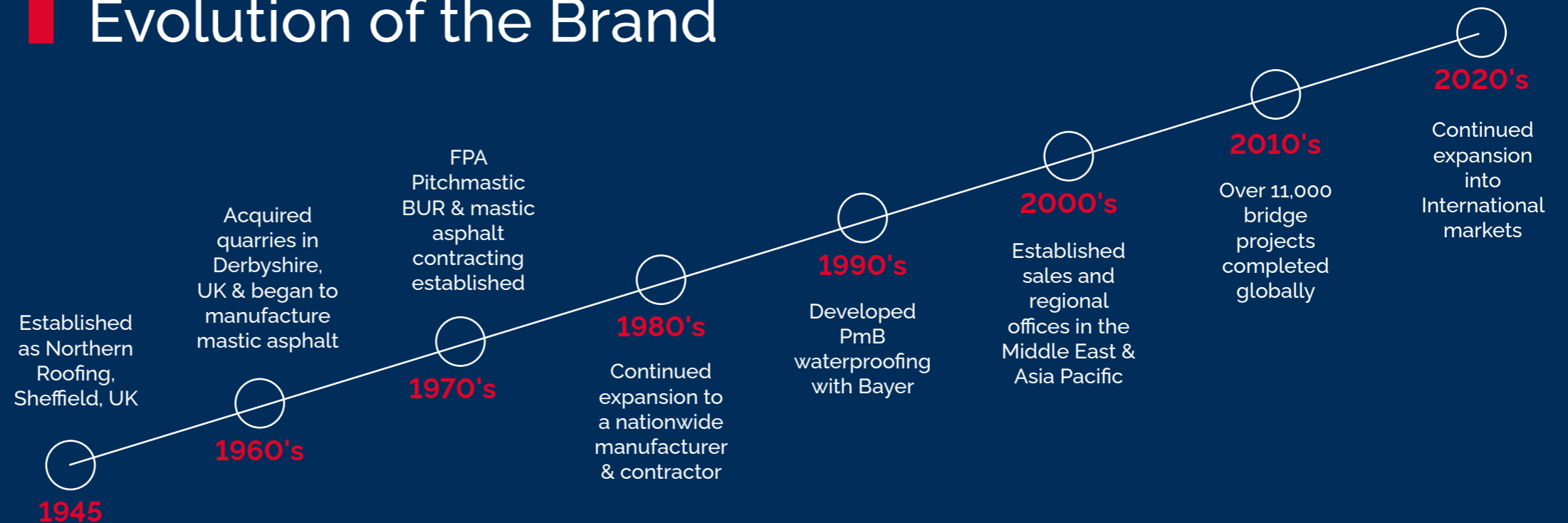


Renewable Energy



Airports

Evolution of the Brand



WHY WATERPROOF STRUCTURES?

The Effects Of Structural Corrosion

- Constant repair & maintenance
- Reduction in the service life of structures
- High cost of remediation
- Operational shut down cost caused by water ingress & repairs

Key Engineering Considerations

CRACK BRIDGING

- New cracks require infinite elongation
- Tensile strength
- Bond to substrate



TYPICAL DESIGN LIFE

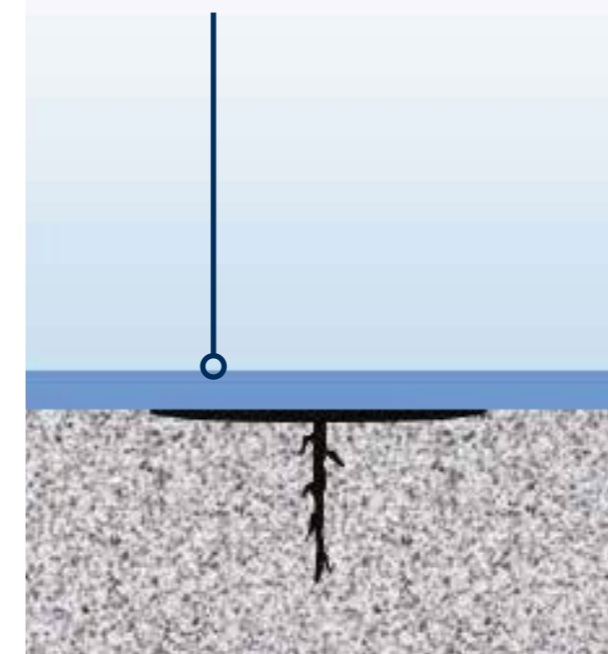
- 120 years
- Non-degradable
- Durable & robust



RESISTANCE TO CHEMICALS & CHLORIDES



PmB Waterproofing Layer



Key Design Considerations



RESISTANCE TO ABRASION



CRACK BRIDGING



RAPID INSTALLATION



WEATHER RESISTANCE



ADHESION



RESISTANCE TO FIRE



WATER TIGHTNESS

UK History of Bridge Deck Waterproofing Policy

- 1945** Ministry of Transportation stipulate waterproofing as being beneficial to bridge stock
- 1960** Waterproofing concrete bridges becomes mandatory
- 1975** UK National standard BE27 Introduced or concrete bridge deckwater proofing requiring BBA testing and certification
- 1986** UK DoT Appoints TRL to carry out study after premature failures causing issues with existing bridge stock
- 1987-1989** TRL study defective systems and recommend improvements inspecifications
- 1994** Introduction of BD47 standard to replace BE27 improving performance criteria
- 1999** Formal introduction of BD47 to UK market is made mandatory. DoT reduced systems approved from twenty five under BE27 to two approved in UK. Only liquid spray systems that meet BD47 and HAPAS used in the UK
- 2007** IAN 96/07 published surfacing and tack coat guidelines
- 2010** HAPAS provides additional testing to enhance performance and products
- 2011** Installer accreditation BDWA led scheme to ensure all applicators are fully trained
- 2016** European Standard ETA for Liquid applied systems



HISTORY



Dr Otto Bayer

of Bayer Group
invented
Polyurethane in
1937

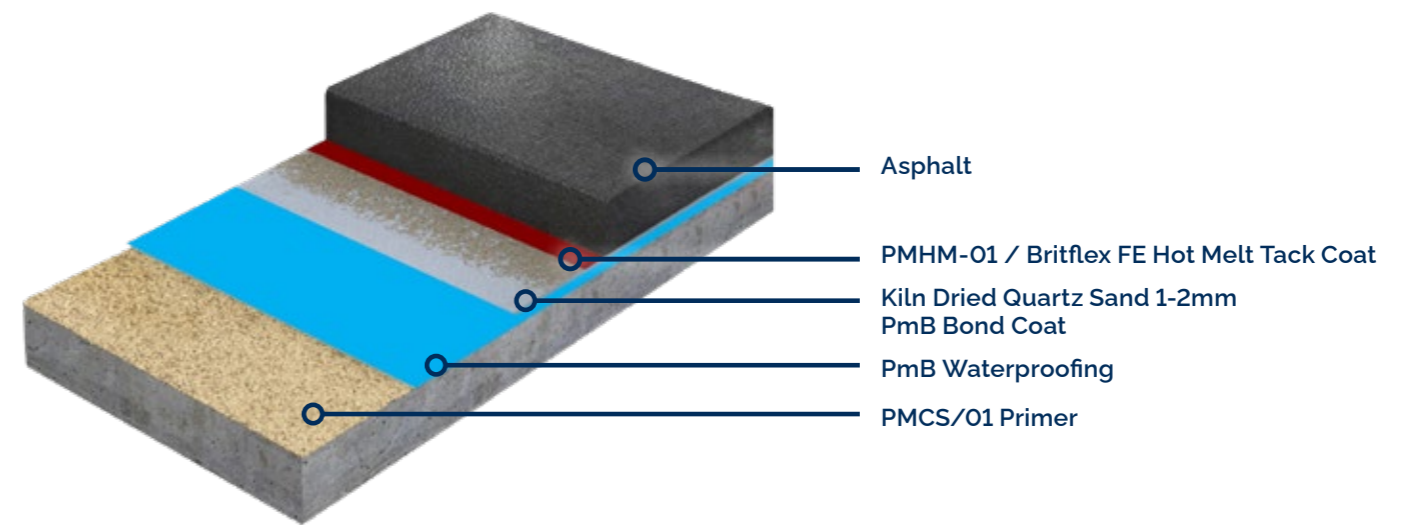


Bayer Group
developed an
Elastomeric
Polyurethane
system
(Baytec) in
1966.

1966	Baytec Elastomer Developed by Bayer AG
1967	PmB first applied to pipelines and marine applications
1970	PmB first applied to bridge deck and swimming pools
1975	Application of PmB to bridges and tunnels
1986	Pitchmastic UK developed PmB with Bayer based upon Baytec technology
1994	Signed global agreement with Bayer
1995	First applications in GCC and APAC
1996	Second Severn Crossing - Largest Bridge in the UK at the time!
2000	Dubai International Airport, UAE waterproofed using PmB
2001	Structures protected in Republic of Ireland with PmB for the first time
2005	Palm Jumeriah Gateway and Crescent Bridge, UAE
2010	Sheikh Zayed Bridge, UAE completed
2012	Marina Coastal Expressway, Singapore C485 Completed
2014	Danube Bridge, Bulgaria completed
2016	Connected RA166 and RA167 Projects in Kuwait totaling 52,000m ²
2018	Completed Doha Link, Kuwait one of the largest structures of it's kind in the Middle East totaling 13.7km long
2019	Over 11,000 bridge projects completed globally
2023	ETA Achieved

The PmB System

PmB forms a flexible, chemically resistant seamless membrane tough enough to outlast the design of many structures. PmB has exceptional bond strength to all commonly used substrates, has excellent crack bridging capability and a life expectancy in excess of 30 years. Tested and approved throughout the world to the highest standards, recently gaining European Technical Approval (ETA).



SYSTEM BENEFITS



Durable effective protection against corrosion



Significant crack bridging capabilities



Rapid set time



Excellent global track record



Seamless coating



ETA Certified, BBA & HAPAS approved.



INSTALLATION PROCESS



PRE INSTALLATION CHECKS

SURFACE PREPARATION

- o No system will perform if preparation is not carried out satisfactorily
- o Clean, dry and free of contamination



PRIMER

- o Applied by airless spray or roller

MEMBRANE

- o PmB two part Polyurethane spray applied elastomer
- o Installed using computerised two component spray machines



SPRAY TECHNOLOGY

- o Versatile to suit access, application area and clients programmes and productivity requirements

QA/QC APPLICATION



APPLICATION LAYER

TACKCOAT

- o Polymer modified
- o 95°C Softening point Bitumen emulsion
- o Applied by squeegee over sanded key layer



SANDED KEY APPLICATION LAYER

- o Primer PMCS01
- o 1-3mm Silica sand Provides enhanced bonding to overlay

APPLICATION QA/QC – PINHOLE CHECK



QA/QC QUALITY TESTING

QA/QC QUALITY THICKNESS





INTERNATIONAL TEST ACCREDITATION

HAPAS
FibreGrid Ltd
t/a Pitchmastic
3 Walton Road
Kingston House
Washington NE38 8QA

Tel: 01914 02300
e-mail: info@pitchmasticpmb.co.uk
website: www.pitchmasticpmb.co.uk

BBA APPROVAL INSPECTION TESTING CERTIFICATION

HAPAS Certificate
24/H7223
Product Sheet 1 Issue 1

PITCHMASTIC BRIDGE DECK WATERPROOFING SYSTEM
PmB BRIDGE DECK WATERPROOFING SYSTEM

This Product Sheet is issued by the British Board of Agreement (BBA), The Highways Authorities Product Approval Scheme (HAPAS) is supported by National Highways (NH) (acting on behalf of the Overseeing Organisations of the Department for Transport, Transport Scotland, the Welsh Government, and the Department for Infrastructure, Northern Ireland), the Association of Directors of Environment, Economy, Planning and Transport (ADEPT), the Local Government Technical Advisers Group and industry bodies.
(1) Hereinafter referred to as 'Certificate'

This Certificate relates to the PmB Bridge Deck Waterproofing System, for use on concrete decks of highway bridges, in accordance with the Design Manual for Roads and Bridges (DMRB) CD 358, and the Manual of Contract Documents for Highway Works (MCHW) Volume 1, Series 2000.

The BBA has awarded this Certificate to the company named above for the system described herein. This system has been assessed by the BBA as complying with the requirements of the BBA HAPAS Certification Scheme according to the assessments set out in this Certificate.
On behalf of the British Board of Agreement
Date of issue: 22 August 2024
Handy Giesler
Chief Executive Officer

British Board of Agreement
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Authorised and notified according to Article 29 of the Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011

MEMBER OF EOTA

European Technical Assessment ETA-23/0462 of 2023/08/21

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the construction product:	Pitchmastic PmB (one coat) bridge deck waterproofing system
Product family to which the above construction product belongs:	Liquid applied bridge deck waterproofing system
Manufacturer:	Pitchmastic PmB Ltd Cavendish House, Unit 1, Enterprise 36, Tankersley, Barnsley, S75 3DZ, UK Internet www.uslsp.com
Manufacturing plant:	Pitchmastic PmB Ltd Cavendish House, Unit 1, Enterprise 36, Tankersley, Barnsley, S75 3DZ, UK
This European Technical Assessment contains:	8 pages including 1 annex which is an integral part of the document
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:	European Assessment Document (EAD) No. EAD 030675-00-0107: Liquid Applied Bridge Deck Waterproofing Kits
This version replaces:	

Global Accreditations

- Abu Dhabi DOT
- ADA Saudi Arabia
- Al Ain Municipality
- Dubai RTA
- Lusail Development, Qatar
- Ashghal, Qatar
- Muscat Municipality & MOTC
- Kingdom of Bahrain Roads & Housing
- Qatar Petroleum
- Department of Transport BD47/9, BBAHAPAS 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
- Kuwait MPW
- MASS DOT Highways, USA
- European Technical Approval Guidelines (ETAG)
- India Highways Authorities

CE **قطر تستحق الأفضل**
Qatar Deserves The Best

BAM

قطر للبترول
Qatar Petroleum

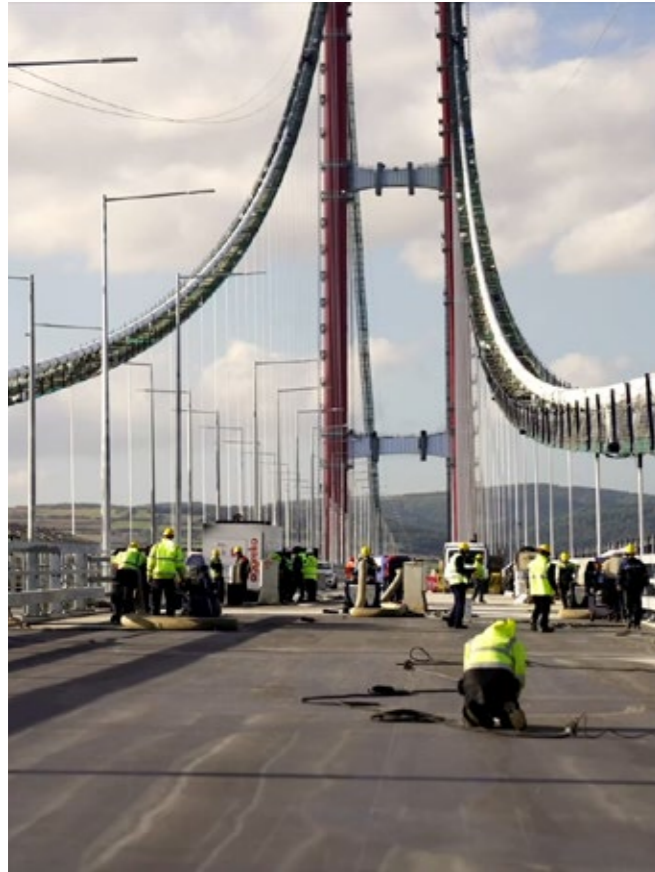
Building the Future **المبنى المستقبلي**
وزارة الأشغال
Ministry of Works

بلدية
MUSCAT MUNICIPALITY

Emirate of Abu Dhabi
Department of Municipal Affairs
Al Ain City Municipality

إمارة أبوظبي
دائرة الشؤون البلدية
بلدية مدينة العين

CRADLE TO GRAVE STRATEGY



We liaise closely and offer technical support and site assistance to all commercial clients, consultants & main contractors – we stay involved through the whole life cycle of the project.

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

PROJECT CASE STUDIES



MTHL Mumbai Trans Harbour Link

Supply and installation to the 12th largest seabridge in the world and the longest in India. The bridge spans more than 21km in length and totalled over 350,000m² of Pitchmastic PmB waterproofing used to protect this structure.



CASE STUDIES

Doha Link Kuwait

Supply and installation of 280,000m² PmB structural waterproofing.



New Spire Bridge UK

9,000m² of PmB waterproofing was applied to the concrete bridge deck.



King Abdullah Aziz Flyover, Riyadh, KSA

3100m² of PmB structural waterproofing was applied to the main steel deck and approach bridges.



Second Severn River Crossing UK

Application of 176,000m² of PmB spray applied waterproofing.



Sheikh Zayed Bridge UAE

58,000m² of PmB waterproofing applied to this prestigious bridge.



Tinsley Viaduct UK

8,400m² of PmB structural waterproofing, aggregated key coat and hot melt applied to bridge deck. 2,000m² combined waterproofing and high friction surfacing was applied to the steel walkway plates



The logo for Pitchmastic PmB, featuring the word "PITCHMASTIC" in white on a dark blue background and "PmB" in white on a red background.

PITCHMASTIC PmB

The logo for Pitchmastic PmB Limited EUROPE, featuring a dark blue square followed by the text "Pitchmastic PmB Limited" and "EUROPE" in dark blue.

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The logo for Pitchmastic PmB Limited INTERNATIONAL, featuring a red square followed by the text "Pitchmastic PmB Limited" and "INTERNATIONAL" in red.

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The logo for Pitchmastic PmB Limited NORTH AMERICA, featuring a dark blue square followed by the text "Pitchmastic PmB Limited" and "NORTH AMERICA" in dark blue.

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