



Fosroc Solutions for Bridge Deck Waterproofing

www.fosroc.com



constructive solutions

ABOUT FOSROC INTERNATIONAL

Since the company's beginnings over 80 years ago, Fosroc has developed into an International leader in delivering Constructive Solutions for projects across a broad range of market segments including transport, utilities, industrial and general buildings.

Fosroc's commitment to customer service and technical support is second to none. We work closely with architects, structural engineers, contractors and owners to best understand their requirements. Together we can develop a bespoke solution for a construction project, adding value and becoming more than just a materials supplier, but a solution provider.

Fosroc has an extensive network of offices and manufacturing locations across Europe, the Middle East, India, North and South Asia, and is further represented in other regions across the world by distributor and licensee partners.

Selecting from the full portfolio of Fosroc products and services and integrating expert technical support, world class customer service and innovation, Fosroc goes beyond just product selling to ensure that we partner with our customers to deliver complete constructive solutions.

- > Admixtures
- > Adhesives
- > Protective Coatings
- > Concrete Repairs
- > Industrial Flooring
- > Grouts & Anchors
- > Joint Sealants
- > Surface Treatments
- > Grinding Aids
- > Waterproofing



FOSROC DELIVER SOLUTIONS NOT JUST PRODUCTS

CAD Details

A library of standard CAD details are available, bespoke CAD details can be created for your specific project

Project Specifications

Dedicated specification managers on hand to assist with correct system choices and tailored solutions

Site Support

Expert product and application support made available from our specialist teams.

Seminar & Training

Comprehensive programme of seminars and training courses designed to expand and reinforce your knowledge.

Leader in delivering
Constructive Solutions
Worldwide!

FOSROC BRIDGE EXPERTISE

FOSROC's experience in providing constructive solutions to many projects around the world has been built on a broad portfolio of products. These include protective coatings, grouting, repair mortars, joint sealants, waterproof coatings and membranes, structural strengthening, mechanical bridge joints, bridge bearings and concrete admixtures.

At Fosroc we recommend the best technology for each project to deliver what is best for our customers. We have been involved in many large scale projects around the world, the Saadiyat Link Freeway project in the UAE was one such project where we provided anticarbonation and anti chloride coatings to protect over 200,000m² of bridge structures.





The Systems

Bridges are exposed to severe stress, their lifetime depends on a variety of factors including: frequency and quality of maintenance, concrete/steel quality, physical exposure, chemical exposure, climatic conditions and bridge design. The Fosroc Matacryn bridge deck waterproofing systems address these issues and provide good quality 100% effective seamless waterproofing preventing water, chemicals and de-icing salts from penetrating into the structural deck concrete – thus preventing the steel reinforcing bars corroding.

Fosroc have three main waterproofing systems offering design engineers and clients effective solutions for the main application areas of bridge deck waterproofing, and when combined with Fosroc's extensive portfolio for bridges and excellent customer service this gives a class leading offer for all your bridge protection needs.

FOSROC MATACRYL 3 MAIN SYSTEMS

Fosroc Matacryn WPM

Waterproofing of bridge structures with asphalt overlays

Fosroc Matacryn WS

Waterproofing and final wearing layer for bridge structures

Fosroc Matacryn RB

Waterproofing of railway bridge structures with ballast overlays

FOSROC MATACRYL WPM

The PUMA technology Fosroc Matacryn WPM system is specifically designed for waterproofing of bridge decks which will receive an overlayment of asphalt. Generally a 2mm thick layer of membrane is required which can be spray or



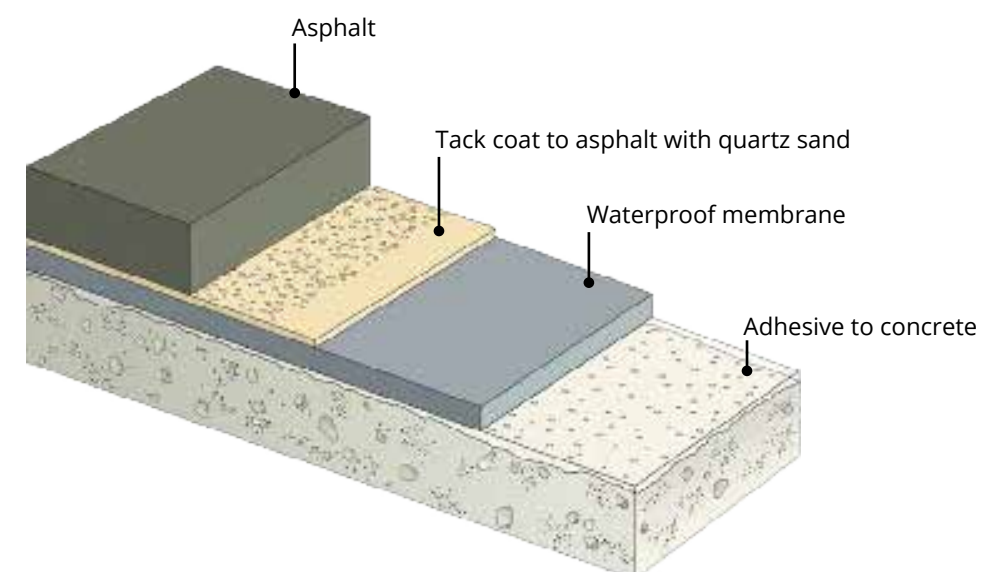
A superior high performance waterproofing system is essential:

- Deck concrete may not always be in compliance with specifications (absorption, porosity and permeability)
- Cheaper lower performance systems sometimes fail to deliver expected long term performance
- Damage can occur by third parties during construction phases
- Chloride ion ingress may compromise structural integrity of concrete or steel decks

Fosroc Matacryn WPM performance advantages for bridge deck waterproofing:

- Based on PUMA technology giving the best quality of both PU and MMA
- Very few limitations for installation at broad range of temperatures
- Rapid setting and curing minimises costly road possession time, and facilitates almost immediate use
- Non absorbent and impermeable
- Tenacious bond to concrete and steel substrates
- Excellent crack-bridging even at -20°C
- Chemical fusion bonding between subsequent coats minimises potential debond
- Seamless waterproofing protection
- BBA / HAPAS Independent test certification
- Easily repaired if required

SYSTEM BUILD UP



INSTALLATION BENEFITS

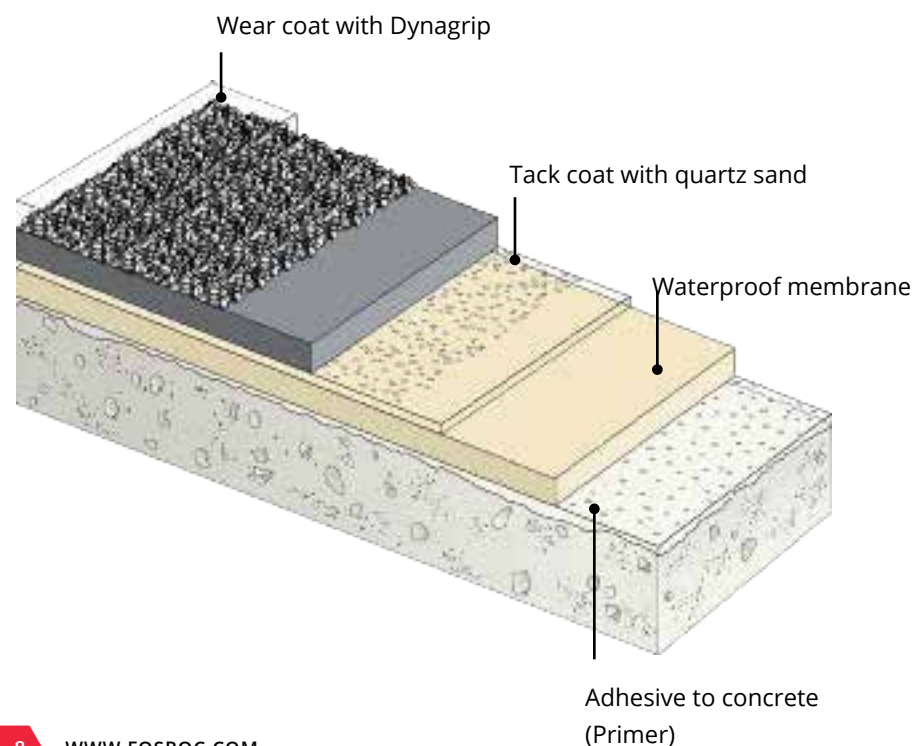
- Cold applied - does not require heating equipment or conditioning
- Manual or Spray applied - quick installation rates, no equipment for hand-applied grade
- Chemical inert - no special requirements for disposal
- Solventless - VOC compliant
- Rain resistant - rain resistant within 30 minutes of application



FOSROC MATACRYL WS

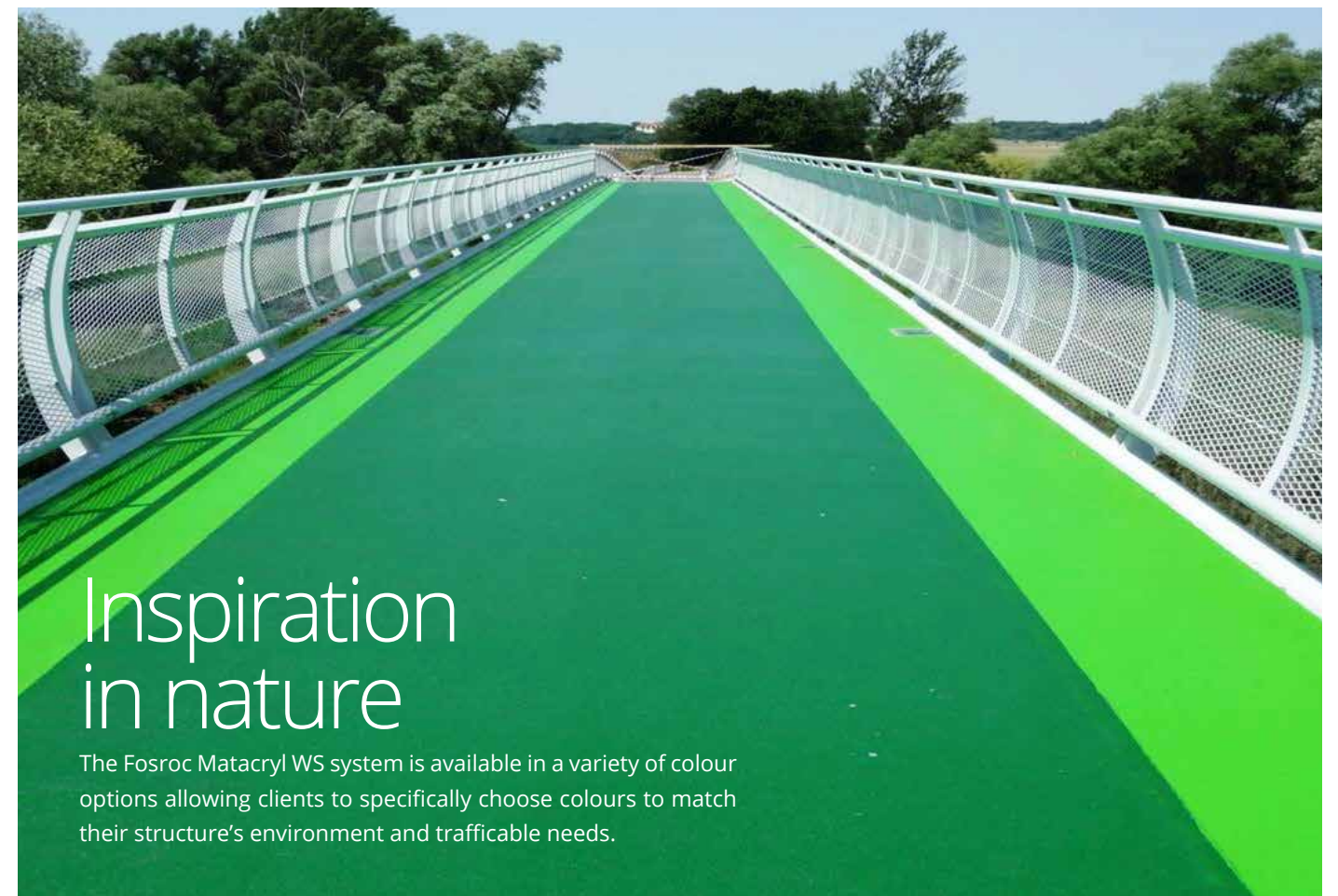
The PUMA technology Fosroc Matacryl WS system is a waterproofing system used where the system forms the final wearing surface. Different grades of aggregate can be broadcast to give excellent abrasion resistant surfaces for pedestrian or vehicular

SYSTEM BUILD UP



Fosroc Matacryl WS performance advantages for bridge deck waterproofing:

- Very few limitations for installation at broad range of temperatures
- Rapid setting and curing minimises costly road possession time, and facilitates almost immediate use
- Superior wear resistance compared to conventional wearing courses
- Non absorbent and impermeable
- Tenacious bond to concrete and steel substrates
- Excellent crack-bridging even at below zero temperatures
- Chemical fusion bonding between subsequent coats minimises potential debond
- Seamless waterproofing protection
- Quicker installation than conventional asphalt applications
- Easily repaired if required



Inspiration in nature

The Fosroc Matacryl WS system is available in a variety of colour options allowing clients to specifically choose colours to match their structure's environment and trafficable needs.



Time saving solutions

All three Fosroc Matacryl waterproofing systems are rapid return to service systems resulting in many hundreds of sqm's of finished application being completed during tight closure times.

FOSROC MATACRYL RB

The PUMA technology Fosroc Matacyl RB system is a waterproofing system designed for use where heavy ballast will be placed on top of the waterproofing. This is a common application for railway bridges. Fosroc Matacyl RB has been independently tested for these specific applications and has been successfully installed in many railway bridge structures around the world.

Fosroc Matacyl RB performance advantages for bridge deck waterproofing:

- Very few limitations for installation at broad range of temperatures
- Rapid setting and curing minimises costly rail possession time, and facilitates almost immediate use
- Resists indentation by ballast
- Non absorbent and impermeable
- Tenacious bond to concrete and steel substrates
- Excellent crack-bridging even at below zero temperatures
- Chemical fusion bonding between subsequent coats minimises potential debond
- Seamless waterproofing protection
- AREMA Ballast indentation independent certification
- Quicker installation than conventional asphalt

A.R.E.M.A. Test



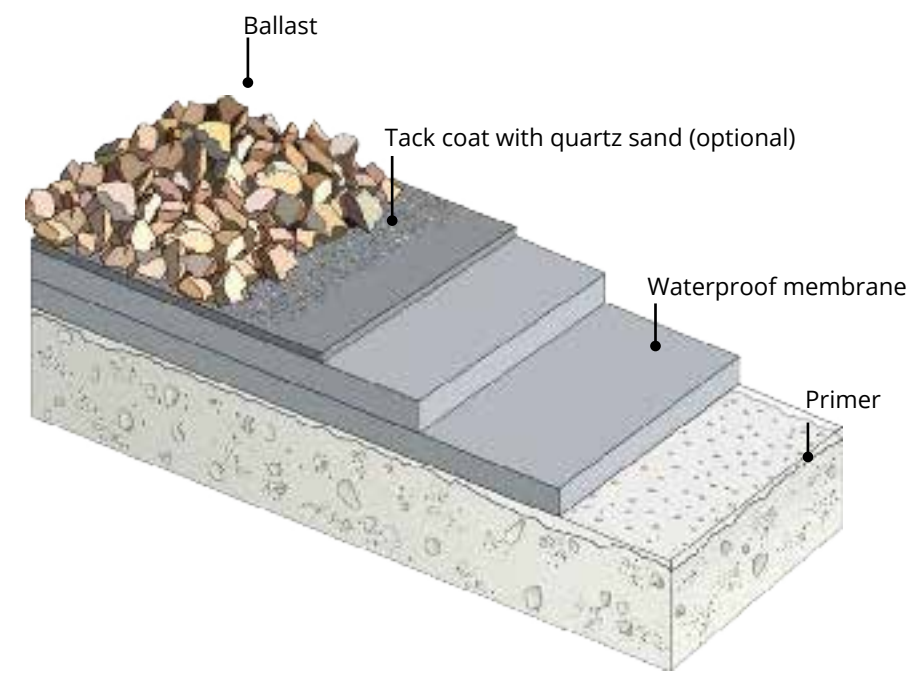
American Railway Engineering & Maintenance Association



Fosroc Matacyl RB passed test, which involves 2M cycles of abrasion from ballast directly on top of the membrane



SYSTEM BUILD UP



INSTALLATION BENEFITS

- Cold applied - does not require heating equipment or conditioning
- Manual or Spray applied - quick installation rates, no equipment for hand-applied grade
- Chemical inert - no special requirements for disposal
- Solventless - VOC compliant
- Rain resistant - rain resistant within 30 minutes of application





The **Fosroc ETIC EJ** range of toothed mechanical bridge joints comprise of either aluminium or galvanised steel elements manufactured in lengths.

The range is capable of accommodating movements from 85mm up to 650mm resulting from temperature, creep, shrinkage and traffic. The units are supplied in 1m lengths, they are bolted down to the bridge structure using pre-stressed tie bolts which are tensioned under control by using a torque wrench or hydraulic jack.

An elastomeric profile is inserted between the metallic elements to prevent any penetration of water, it is located below the road surface level and is not subject to traffic loading.



FOSROC ETIC MECHANICAL JOINTS

An important part of any bridge deck waterproofing system is compatibility with the mechanical joints at either end of the structure, and at all joints in between., over piers for example.

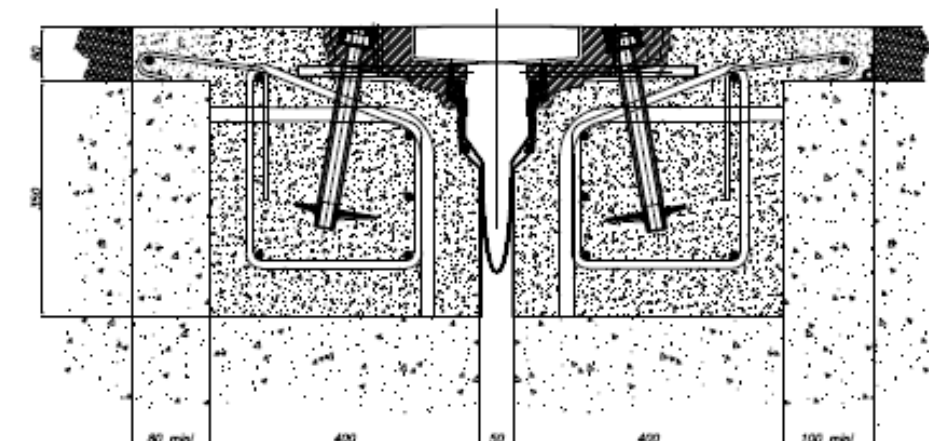
Fosroc Matacryn waterproofing WPM / WS and RB can be used in conjunction with Fosroc ETIC mechanical bridge joints to effect a complete waterproofing bridge solution.

Fosroc ETIC EJ range of mechanical bridge joints are manufactured using Neoprene, steel or aluminium depending on your specific bridge joint requirement.

Movements up to 650mm can be accommodated.

Contact your local Fosroc representative who will provide a bespoke solution to meet the demands of your bridge structure.

TYPICAL JOINT SECTION EJ250





Aggressive environmental conditions can cause steel reinforcement corrosion within the bridge structure's concrete resulting in delamination and spalling of reinforced concrete members, which if not resolved can lead to a deterioration in structural strength. Fosroc's comprehensive **Renderoc** range of concrete repair products can cater for any repair need, and if a full reinstatement of a protective barrier coating is required then products are available from the **Dekguard** range.

Carbon-fibre structural strengthening systems can be utilised if required, a full portfolio of types are available from the **Nitowrap** range.

Foundations / retaining walls / abutments can be protected against water and/or chemical attack from within the ground soil with Fosroc's premium waterproofing system **Proofex** range.

For less aggressive conditions Fosroc offer a full range of **Nitoproof** liquid-applied coatings.

Where pre-stressed post-tensioned bridge segments are used these segments must be adhered with high quality bonding adhesive.

Fosroc **Nitobond SBA** epoxy resin has been specially formulated for this purpose giving excellent adhesion, high strength and non-sag performance.

TRANSPORT SOLUTIONS

From waterproofing of foundations to applying a full protective coating to soffits, piers and parapets, Fosroc have a wide range of solutions that will meet your needs, ensuring that your bridge structure will stand the test of time. A long track record in the Middle East and Gulf Regions positions Fosroc as the supplier of choice with proven product solutions, experienced specification assistance backed with excellent customer service.

Fosroc understands that ease and simplicity of application are important factors. All our bridge solution products are supported by detailed technical literature, giving method statements and requirements before, during and after application. In addition, by partnering with our customers at all stages, we aim to give full support adding value as well as providing the best possible project solution with long term benefits.



System Type	Example of application use	Fosroc Product Name
Protective Coatings	Piers, soffits, abutments	Fosroc Dekguard S and E2000
Grouts	Bridge bearings	Fosroc Conbextra EP range and BB80
Cable Grouts	Post tensioned/Pre stressed cables	Fosroc Cebex and Conbextra Cable Grout
Bonding Adhesive	Bridge segments	Fosroc Nitobond SBA
Joint Sealants	Expansion joints	Fosroc Colpor 200 and Nitoseal MS300
Structural Strengthening	Piers, soffits, abutments	Fosroc Nitowrap range
Concrete Repair	Piers, soffits, abutments	Fosroc Renderoc range
Waterproofing	Foundations	Fosroc Nitoproof and Proofex range
Waterproofing	Bridge decks	Fosroc Matacryl WPM/WS/RB
Bearings	Bridge beams / Decks	Fosroc ETIC System
Mechanical Joints	Bridge decks	Fosroc ETIC System

Fosroc offers a full range of construction chemical solutions, helping to protect structures throughout the world. Please refer to our brochures, which include:



Details of your local Fosroc office can be found at
www.fosroc.com

Important Note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation, specification or information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation or information given by it.



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