Fosroc®
Polyurea WPE110

constructive solutions

Fast setting, pure polyurea elastomeric waterproof membrane

Uses

Anti-corrosion, waterproof and protective membrane for concrete and steel in a wide range of environmental conditions.

Typical applications include:

- Below grade waterproofing
- Tank coating
- Waste water tank lining
- Marine environments
- Roof waterproofing
- Aquarium lining
- Landscape & water containment
- Waterparks
- Secondary containment

Advantages

- Very low VOC
- Excellent chemical resistance, thermal stability and UV resistance (some discolouration may occur)
- Very fast turn-around time. The coated substrate can be put into service within an hour
- Excellent impact, abrasion and puncture resistance
- Seamless and monolithic, including field joints
- Significantly enhances the durability of reinforced concrete
- Low permeability values
- Suitable for use in potable water applications - (when substrate is primed with Nitomortar 903)

Standards Compliance

Fosroc Polyurea WPE110 complies to AS4020-2018; AWQC Report 308401.

Copies of the report are available on the Fosroc website.

Description

Fosroc Polyurea WPE110 is a spray-applied, 100% solids, flexible, two-component, rapid curing pure Polyurea system, designed as a waterproofing and protective coating. It combines the advantages of seamless coating with very long life cycles and high durability.

The system offers excellent surface properties and overall physical properties.

Properties

Typical physical properties @ 21°C unless stated otherwise

Property	Result
Colour (mixed):	White
Solids by Volume:	100%
VOC content (SCAQMD 304-91):	11.15g / litre
Viscosity A component @ 25°C:	500-600 cPs
Viscosity B component @ 21°C:	750 - 950 cPs
Density component A:	1.12 kg/L
Density component B:	1.04 kg/L
Tensile Strength (ASTM D412):	15 MPa
Tear strength (ASTM D624):	60 - 65 N/mm
Elongation @ 24°C (ASTM D412):	>350%
Shore D (ASTM D2240):	40
Abrasion resistance 1kg, H18 wheels (ASTM D4060):	95 mg / 1000 cycles
Water Vapour Transmission (E96-05 (B)):	4.30g/m².24h
Water Absorption (AS 3558.1):	<1.0%
Cure time, walkable	2 minutes

Processing parameters

Block temperature:	60°C to 70°C
Hose Temperature:	60°C to 70°C
Volume ratio:	1:1
Pressure:	2000 to 2500 psi
Gel time:	5 to 10 seconds
Trafficable (light):	15 to 20 minutes
Post cure:	24 hours

Refer to Fosroc Polyurea WPE110 Application Guide for further details.

Application Instructions

Surface preparation

All surfaces should be clean, dry and free from contamination. The surface should be assessed and treated in accordance with ISO 8504.

Concrete

Dry abrasive blasting, wet abrasive blasting, vacuum-assisted abrasive blasting, and centrifugal shot blasting, as described in ASTM D4259, may be used to remove contaminants, laitance, and weak concrete, to expose blow holes, and to produce a sound concrete surface with adequate profile and surface porosity. All blow holes and minor surface imperfections shall be filled with recommended filler (Nitomortar AP) prior to application of Primer.

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Bare Steel

All surfaces should be grit blasted to meet the requirements of AS1627.4 Class 2½. The lining work should be programmed so that newly cleaned steel is coated before the reformation of rust or scale.

Priming

After preparation, the substrate shall be primed with the appropriate primer

For concrete, apply Nitomortar 903, at an application rate of 250 - 300ml per m^2 or Nitoprime 320PU, at an application rate of 150g per m^2. Nitoprime 320PU is tinted red for ease of control of application thickness.

Broadcast of fire-dried sand is recommended for optimum adhesion properties.

Where compliance with AS4020:2018 is required, substrate is to be primed with Nitomortar 903.

Nitoproof 510 applied at 5m^2/litre is an alternative primer for concrete when the concrete is more porous or when the concrete has an elevated moisture content.

For steel substrates, apply Nitomortar 903 at a rate of 150ml per m^2.

The primer shall be allowed to become tack free prior to application of Fosroc Polyurea WPE110.

Refer to the Fosroc Polyurea WPE110 Application Guide for further details.

Spray Equipment

A high pressure spray proportioning machine/ spray gun for plural heated polyurea components.

A list of appropriate equipment is listed in the Fosroc Polyurea WPE110 Application Guide.

Application

Product must be applied by specialist applicators experienced in the application of polyurea products.

Do not dilute Fosroc Polyurea WPE110 or associated primers under any circumstances.

Normal recommended minimum applied thickness of Fosroc Polyurea WPE110 is 1.5mm DFT for external waterproofing and 2.5mm to 3.0mm DFT for water retaining structures.

Use Fosroc Solvent 10 for the flushing of equipment. If material has been stored for a period of time prior to use, thoroughly mix the Fosroc Polyurea WPE110 Part B component with a drum mixer until a homogenous mixture and colour is obtained.

Refer to the Fosroc Polyurea WPE110 Application Guide for further detail.

Colour

It should be noted that Fosroc Polyurea WPE110 is an aromatic polyurea; therefore, as with all aromatics, over a period of time colour change will occur if exposed to UV rays. This will not have any negative effect on the physical properties of the product.

Disposal Considerations

Cured Fosroc Polyurea WPE110 and cured Nitomortar 903 can be disposed of without restriction. The uncured A and B components should be disposed of according to local environmental laws and ordinances.

“Drip free” containers should be disposed of according to local environmental laws and ordinances.

Refer to material safety datasheets for all relevant information on Fosroc Polyurea WPE110 Part A and Fosroc Polyurea WPE110 Part B.

Cleaning

Fosroc Polyurea WPE110 should be removed from tools and equipment with Fosroc Solvent 10 immediately after use. Cured material can only be removed mechanically.

Supply

Polyurea WPE110 Part A 22.5 kg:	FC007088-22.5KG
Polyurea WPE110 Part A 225 kg:	FC007088-225KG
Polyurea WPE110 Part B 21 kg:	FC007089-21KG
Polyurea WPE110 Part B 212kg:	FC007089-212KG
Nitoprime 320PU 20kg:	FC007092-20KG
Nitomortar 903 Part A Base 20 litre:	FC381019-20L
Nitomortar 903 Part B Hardener 10 litre:	FC381018-10L
Nitoproof 510 Part A 10 litre:	FC000625-10L
Nitoproof 510 Part B 10 litre:	FC000626-10L
Fosroc Solvent 10 4 litre 20 litre:	FC600800-4L FC600800-20L

Yield

Polyurea WPE110 Part A 22.5 kg:	20.1 litres
Polyurea WPE110 Part B 20 kg:	19.2 litre
Polyurea WPE110 Part A 225 kg:	201 litres
Polyurea WPE110 Part B 200kg:	192 litres

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Coverage

Nitomortar 903 as primer:	approx. 4m^2 / litre on concrete
Nitoprime 320PU:	approx. 6.5m^2 / kg
Nitoproof 510 as primer:	approx. 5m^2 / litre on concrete
Fosroc Polyurea WPE110:	1.0 to 3.0 litres / m^2 depending on specification*

* Note: 1.0 litre/m^2 coverage rate is the minimum and requires a highly experienced operator for even and effective coverage, with a cross-hatch spray pattern.

Normal minimum recommended coverage is 1.5 litres/m^2.

3.0 litres/m^2 rate is the maximum coverage rate for a single coat application.

Storage

Fosroc Polyurea WPE110 has a shelf life of 24 months from date of manufacture if kept in a dry store in the original, unopened drums.

Storage conditions

Store in dry conditions in the original, unopened containers. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced.

Safety handling

Avoid contact with eyes and skin. Wear suitable protective clothing, gloves and eye/face protection at all times. Ensure adequate ventilation and avoid inhalation of vapour and aerosol. Use a “supplied air” hood.

Fosroc Polyurea WPE110 Part A, Nitoprime 320PU and Nitomortar 903 may cause sensitisation by inhalation and skin contact.

In case of eye contact, first aid must be administered immediately. The eyes should be held open while flushing with a continuous low pressure stream of water for at least 15 minutes. Seek medical advice immediately. If swallowed, seek medical attention immediately - do not induce vomiting.

The use of barrier creams provides additional skin protection. Please refer to material safety datasheets for detailed information.

Important notice

A Safety Data Sheet (SDS) is available from the Fosroc website. Read the SDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

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