

Polyurea WH150

Fast setting, hybrid polyurea elastomeric waterproof coating



Uses

Waterproof and protective coating for concrete and steel in a wide range of environmental conditions.

Typical applications include:

- Podyum decks
- Terraces
- Stadium stands
- Cut and cover tunnels

Advantages

- Environment friendly – zero VOC
- Good thermal stability and UV resistance *
- Fast turn-around time.
- Excellent impact, abrasion and puncture resistance
- Seamless and monolithic, including field joints
- Enhances the durability of reinforced concrete
- Low permeability values
- Colour stable when coated with Nitoproof UVR Topcoat or Nitoproof Aliphatic Top **
- Designed for service temperatures from -20°C to +80°C

Description

Fosroc Polyurea WH 150 is a spray-applied, 100% solids, flexible, two-component, rapid curing hybrid Polyurea system, designed as a waterproofing and protective coating. It combines the advantages of seamless coating with long life cycles and high durability.

Fosroc Polyurea WH 150 consists of two main components.

The system offers excellent surface properties and overall physical properties.

Specification

Where mentioned in the contract drawings, the protective and waterproofing coating shall be Fosroc Polyurea WH 150, a 100% solids, flexible, two-component, rapid curing hybrid Polyurea coating system providing high corrosion resistance, abrasion and waterproofing resistance.

Properties

Typical properties	
Solids by volume	%100
Colour	Grey
Initial cure	15 seconds
Walkable	10 minutes
Light trafficable	24 hours
Fully cured	2-3 days
Shore A hardness (EN ISO 868)	> 85
Viscosity	
Component A	6.0 ± 3.0 poise
Component B	16.0 ± 3.0 poise
Density at 25°C	
Component A	1,05 ± 0.03 g/cm ³
Component B	1,12 ± 0.03 g/cm ³
Working temperature	-20°C - +80°C
Tensile strength at 7 days	
ASTM D 412	> 15 MPa
Elongation at Break at 7 days	
ASTM D 412	> 500%
Abrasion resistance (EN ISO 5470-1)	
H22, 1000 g, 1000 cycle	< 350 mg
Tear strength at 7 days	
ASTM D624C	> 85 MPa
Bonding Strength (EN 1542)	
Nitoprime 31 + Polyurea WH150	≥ 2.0 MPa
Nitoflor DPM + Polyurea WH150	≥ 2.0 MPa
Application instructions	
Mixing ratio	1 – 1 by volume
Equipment temperature	> 65°C – 75°C
Hose temperature	> 65°C – 75°C
Equipment pressure	> 150 bar
Application temperature	+5°C - +35°C

Note: For high&low temperature working consult your local Fosroc office

Clarification of property values

The typical physical properties given above are derived from independent verified testing of Fosroc Polyurea WH 150 spray-applied in accordance with the Fosroc Polyurea Method Statement with Probler P2 gun in controlled laboratory environment and tested after a minimum of 14 days cure.

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Results derived from testing field-applied samples may vary dependent on circumstances beyond our control such as the type and condition of equipment utilised, static and dynamic working pressures, application temperatures and weather conditions, film thickness, test and curing conditions and age of samples tested. A water sinking test must be carried out and a “pass” achieved (sample sinks in water) prior to spraying

Project Log

A Project Log should be maintained for each polyurea site application. For details of Project Log requirements refer to the Fosroc Polyurea Method Statement..

Instruction for use

Surface preparation

The long term durability of any resin floor system is determined by the adhesive bond achieved between the flooring material and the substrate. It is most important therefore that substrates are correctly prepared prior to application.

New concrete floors

These should normally have been placed for at least 28 days and have a moisture content of less than 5%. Floors should be sound and free from contamination such as oil and grease, mortar and paint splashes or curing compound residues. Excess laitance deposits are best removed by light mechanical scabbling, grinding or grit/captive blasting followed by vacuum cleaning to remove dust debris.

Old concrete floors

A sound, clean substrate is essential to achieve maximum adhesion. As for new concrete floors dry removal of laitance deposits are best removed by light mechanical scabbling, grinding or grit/captive blasting. Oil and grease penetration should be removed by the use of a proprietary chemical degreaser or by hot compressed air treatment. Any damaged areas or surface irregularities should be repaired using one of the Fosroc repair mortar range products.

Bare Steel

All welding seams must have a surface finish which ensures that the quality of the paint system will be maintained in all respects. Holes in welding seams, undercuts, cracks, etc. must be avoided. If found, they must be remedied by welding and/or grinding. All weld spatters must be removed. All sharp edges must be removed or rounded off in such a way that the specified film thickness can be built-up on all surfaces. The radius of the rounding must be minimum 2 mm.

The steel must be of first class quality and must not have been allowed to rust more than corresponding to grade B of ISO 8501-1:2007. Any laminations must be removed. Blast cleaning to Sa 2½. (ISO 8501-1:2007).

Roughness: using abrasives suitable to achieve a coarse surface of Grade Medium G (50-85µm, Ry5) (ISO 8503-2).

Priming

Following correct preparation, the substrate must be primed. For sound, dry concrete and at ambient/substrate temperatures of >10°C, prime using Fosroc Nitoprime 31, Nitoprime 52, Nitoprime UR T or Nitoprime UR DT. For steel surfaces use Fosroc Primer 195, for other surfaces consult Fosroc for advice.

For concrete, suggested application rate is 0.25kg per m²; For steel substrates, a suggested rate of 0.15kg per m². A broadcast of fire-dried sand is recommended for optimum adhesion properties..

The primer shall be allowed to become touch-dry prior to application of Fosroc Polyurea WH 150.

Refer to Fosroc Polyurea Method Statement for full details.

Sprey Equipment

A high pressure spray proportioning machine/ spray gun for plural heated polyurea components such as those manufactured by WIWA or Graco should be used for this product. A list of appropriate equipment is provided in the Fosroc Polyurea Method Statement.

Coloured top coat

If colour stability is required, a minimum 0.2mm film of Fosroc Nitoproof UVR Topcoat or Nitoproof Aliphatic Top Coat should be applied. See product data sheet.

Topcoat should be applied to the clean, dry Polyurea WH 150 surface typically 30 - 60 minutes after application of the polyurea, but within 48 hours. If >48 hours has elapsed since polyurea application, polyurea surface should be reactivated using a Fosroc Nitoprime 150 wipe and allowed to dry prior to application of Nitoproof UVR Topcoat.

Refer to Fosroc Nitoproof UVR Topcoat product data sheet and Fosroc Polyurea Method Statement for further detail.

Application

The client/ main contractor must be satisfied that the applicator has suitable equipment and expertise, and will follow the procedures detailed in this datasheet and in the Fosroc Polyurea Method Statement.

Do not dilute Fosroc Polyurea WH 150, Fosroc Nitoprime 31 or Fosroc Primer 195 under any circumstances.



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Normal recommended minimum applied thickness of Fosroc Polyurea WH 150 is 1.5mm, using cross-hatch spray pattern. Applied product can be walked on carefully after approximately 10 minutes; is light duty trafficable (e.g. light foot traffic) after approximately 24 hours, and fully serviceable after 2-3 days.

For temperatures below +5°C, longer cure times must be anticipated – contact Fosroc for further advice.

When lapping new sprayed coat of Polyurea WH 150 to existing polyurea surface >12 hours after the existing polyurea surface was applied, a Fosroc Nitoprime 150 wipe is required, and allowed to become touch-dry prior to fresh polyurea application.

Use appropriate non-solvent chemical for the flushing of equipment.

Refer to Fosroc Polyurea Method Statement for further detail.

Packaging	
Polyurea WH150 Component A	200 kg drum
Polyurea WH150 Component B	220 kg drum
Nitoprime 31	14 kg packs
Primer 195	20 kg packs
Trafficguard Primer PA	15 kg packs
Nitoflor DPM	25 kg packs
Nitoprime 150	1 lt tin
Nitoproof UVR Topcoat	10 kg packs
Nitoproof Aliphatic Top Coat	10 kg set
Consumption	
Polyurea WH150	1,5 – 3,0 kg/m ²
Nitoprime 31	350 - 500 gr/m ²
Primer 195 steel	150 gr/m ²
Trafficguard Primer PA Concrete	220 gr/m ²
Nitoproof UVR Topcoat	300 gr/m ² at 2mm
Nitoproof Aliphatic Top Coat	150 gr/m ²

* Normal recommended coverage is 1.5 litres per m². 3.0 litres/m² rate is the maximum coverage rate for a single coat application.

** Nitoproof UVR Topcoat should be applied as a minimum 0.2mm film, to achieve 100% opacity.

Cleaning

Sprey equipment has to be cleaned according to the instructions of the producer company after use.

Limitations

Do not proceed with application if atmospheric relative humidity is >85% or if the surface temperature is <3°C above the dew point.

For a bonded polyurea coating application, concrete substrate must have achieved at least 75% of its design strength.

Concrete relative humidity must be ≤75%. Do not proceed with application if the substrate temperature or the ambient temperature is, or is anticipated to be, <+5°C during the application.

For work in exposed areas, do not proceed with application if precipitation is imminent. If in doubt, contact Fosroc for advice.

It should be noted that Fosroc Polyurea WH 150 is an aromatic polyurea; therefore, as with all aromatics, over a period of time significant colour change will occur if exposed to UV rays. This will not cause any negative effect on the physical properties of the product.

Technical support

Fosroc offers a comprehensive technical support service to specifiers, end users and contractors. It is also able to offer on-site technical assistance, an AutoCAD facility and dedicated specification assistance in locations all over the world.

Storage

Shelf Life

Fosroc Polyurea WH 150 has a shelf life of 12 months if kept in a dry, air conditioned store between +5°C and +30°C in the original unopened containers. Any changes in colour have no negative effect on reactivity and physical properties of the coating.

Disposal

Cured Fosroc Polyurea WH 150, cured Fosroc Nitoprime 31, cured Fosroc Primer 195 and cured Nitoproof UVR Topcoat can be disposed of without restriction. The uncured Part A and Part 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.

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Precautions

Health and Safety

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 supplied air hood.

Fosroc Polyurea WH 150, Fosroc Nitoprime 31, Fosroc Primer 195 and Fosroc Nitoproof UVR Topcoat may cause sensitisation.

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.

Refer to product safety data sheets for detailed information

Fire

Nitoproof UVR Topcoat, Nitoproof Aliphatic Top Coat are flammable. Keep away from sources of ignition. No Smoking. In the event of fire, extinguish with CO₂ or foam. Do not use a water jet.

For further information, refer to the Product Safety Data Sheet

Additional Information

Fosroc manufactures a wide range of complementary products which include :

- waterproofing membranes & waterstops
- joint sealants & filler boards
- cementitious & epoxy grouts
- specialised flooring materials

Fosroc additionally offers a comprehensive package of products specifically designed for the repair and refurbishment of damaged concrete. Fosroc's 'Systematic Approach' to concrete repair features the following :

- hand-placed repair mortars
- spray grade repair mortars
- fluid micro-concretes
- chemically resistant epoxy mortars
- anti-carbonation/anti-chloride protective coatings
- chemical and abrasion resistant coatings

For further information on any of the above, please consult your local Fosroc Office.

** Denotes the trademark of Fosroc International Limited
† See separate data sheet*



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Important Note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Service. All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the latest version.

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