



# Fosroc® Nitoflor N

(Previously known as Duraflor N)

**Highly chemically resistant novolac epoxy clear binder, producing various coating and topping application systems.**

## Uses

Nitoflor N is a highly chemically resistant Novolac epoxy coating/topping system suitable for a number of surfaces including concrete, steel and masonry.

It is principally designed for acid proofing within the mining processing industry and other similar installations where high chemical resistance is required.

## Advantages

- High chemical resistance
- Suitable for a range of substrates
- Fast cure properties
- Excellent wear and abrasion resistance
- Versatile - Enables a variety of application techniques

## Description

Nitoflor N is a novolac epoxy for concrete and other hard substrates where aggressive chemical spillages occur and where high wear resistance is required.

Supplied as a clear binder, Nitoflor N may be used neat as a clear coating system or added to a variety of fillers to produce various application systems, such as a trowel floor.

A non-slip finish can be obtained to a desired result by the use of any of the Fosroc non-slip aggregates applied between two coats of the clear coating system.

When sealing joints in floors coated with Nitoflor N, Nitoseal SC600, a purpose formulated chemically resistant joint sealant should be considered as part of the overall protection system.

## Technical Support

Parchem offers a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance.

## Specification Clause

### Chemical Resistant Epoxy Floor Coating

The designated area shall be surfaced with Nitoflor N, a chemical resistant, solvent free, epoxy floor coating. The coating shall be applied in a two coat application to a nominal thickness of 400 microns, strictly in accordance with the manufacturers instructions

## Properties

### As a clear coating

Mixing ratio:	3:2 (base: hardener by volume)
Pot life*:	30 minutes @ 23°C
Tack free:	4 hours @ 23°C
Maximum overcoat time:	24 hours @ 23°C
Trafficable:	24 hours @ 23°C
Full cure:	7 days @ 23°C
Compressive strength:	85 MPa @ 7 days
VOC content:	28g / litre

**NOTE:** \*Usable pot life time on site will be greatly reduced if the product is mixed and left in the can - exothermic reaction will occur. (refer to Mixing section)

### As a trowel floor

Components:	1.5 litre base: 1 litre hardener of clear binder + 12.5 litres (20kg) Nitomortar F4 Fillers
Compressive strength:	60 MPa @ 7 days

## Chemical Resistance

Chemical	Clear Coating	Trowel Floor
Sulphuric Acid 25%	R	R
Sulphuric Acid 75%	Rc	Rc
Sulphuric Acid 98%	Rc	Rc
Nitric Acid 10%	R	R
Nitric Acid 20%	Rc	Rc
Nitric Acid 32%	Rc	Rc
Nitric Acid 63%	Os	Os
Acetic Acid 25%	S	S
Lactic Acid 10%	R	R
Lactic Acid 25%	S	S
Hydrochloric Acid 10%	R	R
Hydrochloric Acid 36%	Rc	Rc
Phosphoric Acid 25%	Rc	Rc
Citric Acid (Saturated Sol.)	R	R
Tartaric Acid 15%	R	R
Sodium Hydroxide 10%	R	R
Sodium Hydroxide 30%	R	R
Sodium Hydroxide 50%	R	R
Ammonium Chloride 20%	R	R
Dichloromethane	Os	Os
Saturated Salt Solution	R	R
Acetone	Os	Os
Toluene	R	R
Xylene	R	R
Ammonium Nitrate	R	R

## Chemical Resistance Coding

- R = Resistance to long term immersion (up to 60 days).  
Rc = Resistance to regular contact, but discolouration may occur.  
S = Resistance to short term immersion (24 hours).  
Sc = Resistance to short term immersion (24 hours), but discolouration may occur.  
Os = Resistance to occasional splashes.  
X = Not resistant.  
NB: The above resistance definitions are based on regular / sound housekeeping practices.

## Application Instructions

### Preparation

#### Concrete substrates

All concrete should be sound, clean, dry and free from contaminants. Hydro-blasting, captive shot blasting or grit blasting equipment is necessary to ensure that adequate substrate preparation is achieved. Concrete substrates should be blasted with either high pressure water (<3000psi) or steel shot to remove the weak surface layer from the concrete and vacuum cleaned prior to the application of Nitoflor N. In bund areas or where uneven substrates are being experienced, wet sand blasting and grinding followed by efficient vacuuming may be required.

#### Steel surfaces

Steel substrates to be blast cleaned (min Sa 2<sup>1/2</sup> standard of cleanliness). An angular profile amplitude of at least 75 microns is recommended for high-build applications. Application of Nitoflor N should be applied as quickly as possible to prepared steel surface before corrosion occurs.

#### Priming

All substrates on completion of the preparation are to be primed with Nitoflor N clear binder or Nitomortar 903 to provide a minimum wet film thickness of 150 microns. More than 1 coat may be required depending on the porosity of the substrate. When using the clear coating system, the first coat acts as a primer coat. When high build applications are required on vertical upturns or overhead, seeding the wet primer with a suitable clean grit will prevent the screed coat from sliding and provide an additional mechanical key.

## Mixing and placing

### Clear Binder

Using accurate measuring jugs, add 1.5 litres of base resin to every 1.0 litre of hardener into a suitable mixing vessel. Accuracy is essential to ensure the product is mixed in ratio to achieve the required cured properties.

Mix thoroughly for a min of 3 minutes using a slow speed mechanical stirrer and a suitable spiral epoxy mixing paddle.

### Clear coating

Mix the required quantity as per Clear Binder instructions without the addition of fillers.

**IMPORTANT:** Once mixed the product should be poured into flat, open paint trays to maximise pot life working time. Holding the product in the original mixing can will lead to an exothermic reaction which will significantly reduce the pot life.

Apply first coat by brush or roller at 4-5m<sup>2</sup> per litre or slightly heavier if a slip-resistant grit is to be used. When using a slip resistant aggregate broadcast chosen aggregate onto the still tacky first coat at required rate. When the first coat is hard (typically next morning – refer Properties section) sweep off excess grit (if applicable) and re-coat in same manner. It is recommended to apply the second coat at right angles to the first.

If a coloured finish is required, the use of coloured Nitoflor FC150 HP as the first coat followed by a second coat of the Nitoflor N clear coating should be considered.

### Trowel floor

While continuing to mix 2.5 litres mixed binder (1.5 litre base + 1.0 litre hardener) add 12.5 litres Nitomortar F4 Fillers (by volume). Once all the components have been added, continue to mix for a further two (2) minutes.

Once mixed apply the Nitoflor N trowel floor by spreading the material over the wet or tacky, not tack free, primed surface and compact to achieve a dense 5 mm seamless screed. Finish to a desired texture with a steel trowel and allow to cure.

## Limitations

Nitoflor N should not be applied on to surfaces known to have rising damp or having a relative humidity reading greater than 80% (ie. moisture content greater than 5%). Nitoflor N should be applied only when the substrate temperature and the ambient temperature is above 10°C or when the ambient relative humidity is below 85% at the time of placement. Best performance life expectancy is enhanced by the use of sound housekeeping. The chemical resistance of Nitoflor N is reduced slightly due to the addition of fillers therefore when the maximum chemical resistance or stain resistance is required a finishing coat of Nitoflor N Clear Coating should be considered.

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## Estimating

### Supply

#### Nitoflor N:

Nitoflor N Base 15 litre:	FC605170-15L
Nitoflor N Hardener 10 litre:	FC605175-10L
Nitomortar F4 Fillers 20 kg:	FC312060-20KG

#### Yields / Coverage:

Nitoflor N	Yield / Coverage
As a Clear Coating	5 m <sup>2</sup> / litre / coat
1.5 litres base resin : 1.0 litre hardener	(mix yield 2.5 litres)
As a Trowel Floor	3 m <sup>2</sup> @ 5 mm thick
1.5 litre Base + 1.0 litre Hardener) : 12.5 litres (20kg) Nitomortar F4 fillers	mix yield 14.9 litres

The coverage figures given are theoretical - due to wastage factors and the variety and nature of possible substrates, practical coverage figures may be reduced.

### Shelf life

Nitoflor N has a shelf life of 36 months if kept in a dry store in the original, unopened pack. Refer to the Use by Date indicated on the packaging.

### Storage conditions

Store in dry conditions between 5°C and 30°C away from sources of heat and naked flames, in the original, unopened packs. If stored at high temperatures the shelf life may be reduced.

#### Important notice

A Safety Data Sheet (SDS) and Technical Data Sheet (TDS) are available from the Parchem website or upon request from the nearest Parchem sales office. 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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