

Durafloor N (Novolac)

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

USES

Durafloor N is an all purpose, 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.

ADVANTAGES

- High chemical resistance
- Suitable for a range of substrates
- Fast cure properties
- A total system for all application types
- Can be coloured (trowel floor & self smoothing floor)
- Excellent wear and abrasion resistance
- Versatile - Enables a variety of application techniques

DESCRIPTION

Durafloor N is a complete protection system for concrete and other hard substrates where aggressive chemical spillages occur and where high wear resistance is required. Supplied as a clear binder, Durafloor 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 and self smoothing floor. If aesthetics are important, a standard colour range is available for the trowel floor & self smoothing floor system.

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

When sealing joints in floors coated with Durafloor N, Emer-Seal CR, a purpose formulated chemically resistant joint sealant should be included 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.

PROPERTIES

PROPERTIES - CLEAR BINDER

Mixing ratio:	3:2 (base: hardener by volume)
Colour:	clear / light straw
Pot life:	30 minutes @ 23°C
Tack free:	4 hours @ 23°C
Trafficable:	24 hours @ 23°C
Overcoat time:	24 hours (maximum) @ 23°C

PROPERTIES - APPLICATION SYSTEMS CLEAR COATING

Full cure:	7 days @ 23°C
Components:	3:2 (base hardener by volume of clear binder)
Compressive strength:	85 MPa @ 7 days

TROWEL FLOOR

Components:	1.5 L base: 1 L Hardener of clear binder + 12.5L DurafloorTF Fillers (20kg) + 1 x Durafloor 0.5kg Colour Pack
Compressive strength:	60 MPa @ 7 days

SELF SMOOTHING FLOOR

Components:	6L Base: 4L Hardener of clear binder + 8L Durafloor SL Fillers (10kg) + 1 x Durafloor 0.5kg Colour Pack
Compressive strength:	90 MPa @ 7 days

STIFF PASTE

Components:	1.5L Base: 1L Hardener of clear binder + 5L Nitomortar F4 fillers (7.4kg)
Compressive strength:	60 MPa @ 7 days

CHEMICAL RESISTANCE:

Chemical	Clear	Natural	Coloured	Natural	Coloured
	Coating	Trowel Floor	Trowel Floor	Self Smooth Floor	Self Smooth Floor
Sulphuric Acid 25%	R	R	R	R	R
Sulphuric Acid 75%	Rc	Rc	Rc	Rc	Rc
Sulphuric Acid 98%	Rc	Rc	Os	Rc	Sc
Nitric Acid 10%	R	R	R	R	R
Nitric Acid 20%	Rc	Rc	Rc	Rc	Rc
Nitric Acid 32%	Rc	Rc	Rc	Rc	Rc
Nitric Acid 63%	Os	Os	X	Os	X
Acetic Acid 25%	S	S	S	S	S
Lactic Acid 10%	R	R	R	R	R
Lactic Acid 25%	S	S	S	S	S
Hydrochloric Acid 10%	R	R	R	R	R
Hydrochloric Acid 36%	Rc	Rc	Rc	Rc	Rc
Phosphoric Acid 25%	Rc	Rc	Rc	Rc	Rc
Citric Acid (Saturated Sol.)	R	R	R	R	R
Tartaric Acid 15%	R	R	R	R	R
Sodium Hydroxide 10%	R	R	R	R	R
Sodium Hydroxide 30%	R	R	R	R	R
Sodium Hydroxide 50%	R	R	R	R	R
Ammonium Chloride 20%	R	R	R	R	R
Dichloromethane	Os	Os	X	Os	X
Saturated Salt Solution	R	R	R	R	R
Acetone	Os	Os	X	Os	X
Toluene	R	R	R	R	R
Xylene	R	R	R	R	R
Ammonium Nitrate	R	R	R	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 Durafloor 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^{1/2} standard of cleanliness). An angular profile amplitude of at least 75 microns is recommended for high-build applications (eg: Trowel or Self Smoothing applications over 2 mm).

Application of Durafloor 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 Durafloor 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 suitable measuring jugs and mixing vessel, add 1.5 litres of base resin to every 1.0 litre of hardener.

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

Note: If fillers and colour packs are to be added, initially mix clear binder for only 2 minutes.

CLEAR COATING

Mix the required quantity as per Clear Binder instructions without the addition of colour packs or fillers. Apply first coat by brush or roller at 4-5m² 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 Durafloor HP as the first coat followed by a second coat of the Durafloor 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 Durafloor TF Fillers (by volume). If a colour finish is requested add 1 x 500 gram Durafloor colour pack of chosen colour at the start of this process.

Once all the components have been added, continue to mix for a further two (2) minutes.

Once mixed apply the Durafloor 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.

SELF SMOOTHING FLOOR

While continuing to mix 10 litres of the clear binder (above) add 1 x 10 kg bag of the Durafloor SL fillers. If a colour finish is requested add 1 x 500 gram Durafloor colour pack of chosen colour.

Once all the components have been added, continue to mix for a further 2 minutes.

Once mixed, apply the Durafloor N self smoothing floor topping by pouring the mixed material onto the cured, tack free primed surface and spread with a steel trowel to achieve a 2 - 4 mm seamless topping.

After allowing the screed material to set for approx 10-15 minutes, remove any air entrapment by a spike rolling and then allow to cure.

LIMITATIONS

Durafloor 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%).

Durafloor 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 Durafloor N is reduced slightly due to the addition of fillers and colour packs therefore when the maximum chemical resistance or stain resistance is required a finishing coat of Durafloor N Clear Coating should be considered.

Durafloor N (Novolac)



YIELDS / COVERAGE:

ESTIMATING

	Mix Ratio	Yield/Coverage
Durafloor N (Novolac)	Application Systems	
As a Clear Coating	1.5 litres Base: 1.0L Hardener	5 m ² / L / coat (2 coats)
As a Trowel Floor	1.5L Base: 1.0L Hardener + 12.5L TF Fillers (20kg) + 1 Colour Pack	2.32 m ² @ 5 mm thick (11.6L)
As a Self Smoothing Floor	6.0L Base: 4.0L Hardener + 8.0L of SL fillers (10kg) + 1 Colour Pack	7.5 m ² @ 2 mm thick 3.75 m ² @ 4 mm thick (15.0L)
As a Stiff Paste	1.5L Base: 1.0L Hardener + 5.0L Nitomortar F4 fillers (7.4 kg)	(5.7 L)

SUPPLY

Durafloor N (Novolac) Clear Binder:

- base: 15 litre pail
- hardener: 10 litre pail

Durafloor TF Fillers: 20 kg bag (12.5L)

Nitomortar F4 Fillers: 20 kg bag (13.5L)

Durafloor SL Fillers: 10 kg bag (8.0L)

Emer-Seal CR: 600 ml sausage

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

STORAGE

Durafloor N has a shelf life of 36 months if kept in a dry store in the original, unopened pack.

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



DURAFLOOR
INDUSTRIAL FLOORING

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www.parchem.com.au	7 Lucca Road, Wyong NSW 2259	Sales 1800 801 108	Technical 1800 812 864	ABN 80 069 961 968
				4