

HIGHLY CHEMICAL RESISTANT NOVOLAC EPOXY COATING AND BEDDING MORTAR SYSTEM

DESCRIPTION

Floorgard N is a complete protection system for concrete and other hard substrates for applications where aggressive chemical spillages occur and high wear resistance is required. The **Floorgard N** system enables a variety of application techniques to be used including troweling, self-levelling or top coating. If aesthetics are important, a standard colour range is available for any of the preferred application procedures.

USES & ADVANTAGES

Floorgard N is an all purpose, highly chemical resistant novolac epoxy coating system suitable for a number of surfaces including concrete, steel, masonry and wood. Its principle development is for acid proofing within the mining, steel, chemical processing industry and other similar installations.

Advantages include :

- Highly chemical resistance.
- Suitable for a number of substrates.
- Fast cure properties.
- A total system for all application types.
- Can be coloured.
- Excellent wear and abrasion resistance.
- Non-slip.

PROPERTIES @ 25°C

Clear Coat System

Components : 2 Part A - Base
 Part B - Hardener
Colour : Clear/light straw
Pot life : 30-50 min.
Tack free : 4 hrs.
Re-coat time : 16 - 24 hrs.
Full cure : 7 days
Mix ratio : A : B
 3.3 : 1 by weight.

Screed System/Trowel Floor System (EBN)

Components : 4 Part A - Base
 Part B - Hardener
 Part C - Colour pack (optional)
 Part D - Filler
Colour : Natural sand colour (unpigmented)
 other colors available on request.
Mixed density : 1.80 ± 0.05 Kg/L.
Mix ratio : A : B : C : D
 3.3 : 1 : 0.30 : 30 by weight.
Working time : 40 - 60 mins.
Compressive strength : 60 N/mm² @ 7 day
(ASTM C579, Method B)
Full cure 7 days

Flowable Grout System (EGN)

Components : 3 Part A - Base
 Part B - Hardener
 Part C - Filler
Colour : Black when mixed.
Mixed density : 2.1 ± 0.05 Kg/L.
Mix ratio : A : B : C
 3.3 : 1 : 12 by weight.
Working time : 40 - 60 mins.
Compressive strength : 70 N/mm² @ 7 day
(ASTM C579, Method B)
Full cure : 7 days.

Self Smoothing Floor System (SLTN)

Components : 4 Part A - Base
 Part B - Hardener
 Part C - Colour pack
 Part D - Filler
Colour : Various colour.
Mixed density : 1.70 ± 0.05 Kg/L.
Mix ratio : A : B : C : D
 3.3 : 1 ; 0.30 : 4 by weight.
Pot life : 40 - 60 mins.
Compressive strength : 90 N/mm² @ 7 day
(ASTM C579, Method B)
Full cure : 7 days

High Build Top Coat System (HPN)

Components : 4 Part A - Base
 Part B - Hardener
 Part C - Colour pack
 Part D - Filler
Colour : Various colour.
Mixed density : 1.60 ± 0.05 Kg/L.
Mix ratio : A : B : C : D
 3.3 : 1 : 0.30 : 3 by weight
Pot life : 40 - 60 mins.
Compressive strength : 75 N/mm² @ 7 day
(ASTM C579, Method B)
Tack free : 4 hrs.
Re-coat time : 16 - 24 hrs.
Full cure : 7 days

SURFACE PREPARATION

Concrete substrates

Concrete substrates should be blasted with either high pressure water or steel shot to remove the weak surface layer from the concrete and vacuum cleaned prior to the application of **Floorgard N**. All concrete should be sound, clean, dry and free from contaminants. An angular profile amplitude of at least 75 microns is recommended on steel.

Steel surfaces

All steel substrates should be blast cleaned to a minimum Sa 2½ standard of cleanliness. High build applications (e.g. trowel or Self-leveling applications over 2 mm) will occur. Application of the **Floorgard N** should be as quickly as possible to the prepared steel surface before corrosion occurs.

Wooden surfaces

Floorgard N can be applied onto clean dry timber substrates.

APPLICATION

Priming : All substrates on completion of the preparation are to be primed with **Floorgard N** clear binder or **Floorgard 903** to provide a minimum wet film thickness of 50 microns. More than one coat may be required depending on the porosity of the substrate. Where **Floorgard N** top coat system is used, the first coat acts as the primer coat. Where 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. Allow the primer coat to cure for an additional 2 hours after becoming tack-free prior to commencement of the main application of the **Floorgard N**. If the application does not occur within a 36 hour period (at ambient temperature of 25°C) mechanically abrade the primed surface, followed by an additional primer coat.

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Chemical Resistance Chart

Chemical	Clear Coating	Natural Screed Floor	Coloured Screed Floor	Natural SL Floor	Coloured SL Floor	Flowable Grout	Top Coat
Sulphuric Acid 25%	R	R	R	R	R	R	R
Sulphuric Acid 75%	Rc	Rc	Rc	Rc	Rc	Rc	Rc
Sulphuric Acid 98%	Rc	Rc	Sc	Rc	Sc	Rc	Sc
Nitric Acid 10%	R	R	R	R	R	R	R
Nitric Acid 20%	Rc	Rc	Rc	Rc	Rc	Rc	Rc
Nitric Acid 32%	Rc	Rc	Rc	Rc	Rc	Rc	Rc
Nitric Acid 63%	Os	Os	X	Os	X	Os	x
Acetic Acid 25%	S	S	S	S	S	S	S
Lactic Acid 10%	R	R	R	R	R	R	R
Lactic Acid 25%	S	S	S	S	S	S	S
Hydrochloric Acid 10%	R	R	R	R	R	R	R
Hydrochloric Acid 36%	Rc	Rc	Rc	Rc	Rc	Rc	Rc
Phosphoric Acid 25%	Rc	Rc	Rc	Rc	Rc	Rc	Rc
Citric Acid (Saturated Sol.)	R	R	R	R	R	R	R
Tartaric Acid 15%	R	R	R	R	R	R	R
Sodium Hydroxide 10%	R	R	R	R	R	R	R
Sodium Hydroxide 30%	R	R	R	R	R	R	R
Sodium Hydroxide 50%	R	R	R	R	R	R	R
Ammonium Chloride 20%	R	R	R	R	R	R	R
Dichloromethane	Os	Os	X	Os	X	Os	x
Saturated Salt Solution	R	R	R	R	R	R	R
Acetone	Os	Os	X	Os	X	Os	x
Toluene	R	R	R	R	R	R	R
Xylene	R	R	R	R	R	R	R

Chemical Resistance Coating

- R** = Excellent resistance to long term immersion / regular contact.
Rc = Excellent Resistance to long term immersion / 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.

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MIXING & PLACING

Clear Coat System

Mix preweighed resin & hardener by adding hardener into base container.

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

Screed/Trowel floor

While continuing to mix preweighed of the clear binder (above) add 1 bag of fillers. If a colour finish is required add 1 x 300 gram colour pack of chosen colour.

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

Once mixed apply the **Floorgard EBN** trowel floor by spreading the material over the wet or tacky, primed surface and compact to achieve a dense seamless screed. Finish to a desired texture with a steel trowel and allow to cure.

Self-leveling floor

While continuing to mix preweighed of the clear binder (above) add 1 x 4 kg bag of the **SLT** fillers. If a colour finish is required add 1 x 300 gram colour pack of chosen colour.

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

Apply the **Floorgard SLTN** floor topping by pouring the mixed material onto the primed surface and spread with a steel trowel to achieve a 2-4 mm seamless topping. After allowing the material to set for approx 10 to 15 minutes, remove any air entrapment by a spiked roller and then allow to cure.

Top Coat

Floorgard N coloured top coat is a 4 component kit comprising of a base, hardener colour pack and fillers. Stir the base and hardener prior to mixing for approximately 30 seconds each. Add 1 x colour pack to the base component and mix for 1 minute. Add hardener component and continue to mix for a further minutes, then add the filler part & mix for 2 mins.

Apply the first coat of **Floorgard HPN** top coat by brush or roller at the rate of 4-5 m² per litre or slightly heavier if a non slip finish is required. To the still wet coating broadcast clean dry grit until the surface is covered.

When the first coat is hard (usually next morning - refer properties section) sweep off excess grit (if applicable) and recoat in the same manner. It is recommended that the application of the 2nd coat is at right angles to the first.

Flowable grout

A flowable structural grout can be produced by adding filler to preweighed clear mixed binder.

Once all the 1 x 12 kg fillers have been added to the clear binder continue to mix for an additional 2 minutes.

To eliminate the entrapment of air, continuous flow is essential and is achieved by the use of a feeding hopper system and having sufficient mixed grout prior to pouring to ensure no disruption to a continuous flow. The mixed grout should be poured steadily from one side of the base plate only.

LIMITATIONS

Floorgard 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%). In these cases consult Cormix International.

Floorgard N should not be applied at temperatures below 10°C.

YIELD/COVERAGERATE

- 1) **Floorgard N-Clear Coat** : 5 m²/L/Coat@ 150 u DFT.
Recommended at least 2 Coats i.e 300 u DFT.
- 2) **Floorgard EBN** : 3.9 m²/Set of 19.2 L @ 5 mm.
Min thickness : 3 mm.
Max thickness : 20 mm.
- 3) **Floorgard SLTN** : 1 m²/L @ 1 mm.
Min thickness : 1 mm.
Max thickness : 4 mm.
- 4) **Floorgard HPN** : 4m²/L/Coat @ 200 u DFT.
Recommended at least 2 Coats i.e 400 uDFT.
- 5) **Floorgard EGN** : 16.3 kg (7.7 Ltr/Set)
Min thickness : 10 mm.
Max thickness : 70 mm.

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

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PACKSIZE

- 1) **Floorgard N-Clear Coat** : 4 kg/Set (3.5 L)
- 2) **Floorgard EBN** : 34.6 kg/Set (19.2 L)
- 3) **Floorgard EGN** : 16.3 kg/Set (7.7 L)
- 4) **Floorgard SLTN** : 8.6 kg/Set (5 L)
- 5) **Floorgard HPN** : 7.6 kg/Set (4.75 L)

STORAGE & SHELF LIFE

Floorgard N series of products have a shelf life of up to 12 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.

HEALTH & SAFETY

Floorgard N clear binder and top coat systems should not come in contact with the skin and eyes, or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Some people are sensitive to resins, hardeners and solvents. Wear suitable protective clothing, gloves and eye protection. If working in confined areas, suitable respiratory protective equipment must be used. The use of barrier creams provide additional skin protection.

If poisoning occurs, contact a Doctor or Poisons Information Centre. If swallowed, do not induce vomiting - give a glass of water. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a Doctor. If skin contact occurs, remove contaminated clothing and wash skin thoroughly.

TECHNICAL SERVICE

The Cormix International Technical Service Department is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.

ADDITIONAL INFORMATION

Cormix international Ltd. manufactures a wide range of products specifically designed for the specialist flooring industry. These include liquid-applied, chemically-resistant coatings, self-smoothing epoxy toppings and trowel-applied, highly abrasion-resistant screeds. Among them, are products suitable for use in the food and drinks industry, the pharmaceutical industry and in areas subjected to heavy industrial use. Where the control of static electricity is an important consideration. Cormix International Ltd. has developed conductive and dissipative seamless floor systems. In addition, a wide range of complementary products is available. This includes joint sealants, waterstops, waterproofing membranes and specialised products for the repair and refurbishment of damaged reinforced concrete.

For further information about products or publications, contact Cormix International Limited.

QUALITY ASSURANCE

ISO 9001 : 2008 verified by TUV Nord.

CONTACT DETAILS

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