



Rhinofloor[®] CRE

2K solvent-free chemical-resistant Epoxy Novalac industrial flooring system

Description

- 2-pack solvent-free chemical-resistant Epoxy Novalac industrial flooring system

Properties

- Excellent abrasion and wear resistance characteristics
- Outstanding chemical-resistant properties
- Resistant to a wide range of concentrated acids, alkalis, solvents, oils and fats
- Resistant to spillages of concentrated Sulphuric, Hydrochloric and Phosphoric acids at normal temperatures
- Low odour during application
- Can be applied to suitably prepared horizontal & vertical surfaces (Refer 'Mixing' recommendations)
- Can be applied as a non-slip protective coating when used in conjunction with appropriate anti-slip aggregates
- Resistant to temperatures up to 120°C dry heat (*For continuous temperatures above 100°C, please consult Rhinofloor Technical Department*)
- Cures at temperatures down to 5°C
- Excellent adhesion characteristics to suitably prepared concrete and mild steel substrates
- The management system governing the development and manufacture of this product is proudly ISO9001:2015 certified

Typical Applications

- Secondary containment linings
- Acid plants
- Fertiliser plants
- Oil refineries
- Steel mills
- C.I.P. rooms in food and beverage plants
- Food processing plants
- Meat and poultry plants
- Water treatment and sewerage plant infrastructure
- **This is an industrial grade product and is not recommended for use in domestic situations, or areas where exposure to strong organic acids and solvents is expected**
- **Not to be used for applications where the substrate will be immersed in concentrated Sulphuric Acid**
- **Refer RHINOFLOOR technical department for further information**

How To Specify

- The flooring system shall be "Rhinofloor[®] CRE" as supplied by Wagon Paints Australia Pty. Ltd.
- Please refer 'Application' section for substrate priming prior to application of Rhinofloor[®] CRE
- The degree of non-slip to be similar to 'Approved' sample, or to ramp rating classification of "R"

General Data

- Weather resistance Good
Note – Product will chalk and discolour on exposure to both U.V. & artificial light sources, and some particular chemicals, however film integrity is not compromised. Please refer RHINOFLOOR Technical Representative for further information.
- Solvent resistance Excellent (*Refer Rhinofloor Chemical Resistance Chart as attached for further details*)
- Chemical resistance Excellent (*Refer Rhinofloor Chemical Resistance Chart as attached for further details*)
- Abrasion resistance Excellent

Rhinofloor[®] CRE

Specifications (at 25°C and 50% relative humidity)

▪ Resin type.....	Epoxy Novalac / Polyamide
▪ Mixing ratio.....	<u>3 : 1 v/v</u> (A : B / by volume) OR <u>4.20 : 1 w/w</u> (A : B / by weight)
▪ Solids content.....	100% (by volume)
▪ S.G. (Density – kg/m ³).....	(Mixed A & B = 1.43) / (Pack A = 1.54) / (Pack B = 1.10)
▪ Number of coats required.....	1 - 2 rollcoats are highly recommended post-application of primer to substrate (Refer "Application" notes as per below)
▪ Typical film thickness (per rollcoat).....	200-250 microns (dry) 200-250 microns (wet)
▪ Theoretical coverage.....	4-5m ² / L @ 250 microns dry film thickness
▪ Trowel-coat application.....	5-6mm trowel-applied with specified aggregates (Refer "Application" notes as per below)
▪ Light pedestrian traffic.....	24 hours
▪ Light mechanical loading.....	1 - 2 days (Premature loading may cause coating damage / failure)
▪ Full cure.....	3 days
▪ Recoating.....	minimum 2 hours (Refer "Application" notes as per below)
▪ Pot life.....	20 – 30 minutes (Will be considerably reduced if ambient conditions / product temperature is elevated)
▪ Priming.....	Refer Rhinofloor Technical Department (Also - Refer "Application" notes as per below)
▪ Colour.....	Pipeline Grey N43 or Dark Grey N64 (Colour shades may vary from batch to batch)
▪ Shelf life.....	minimum 12 months (in cool & dry conditions)

Product Characteristics

- For optimum results, maintain a temperature of 5 - 35°C on air, substrate and components during application and curing.
- Do not apply when the air / surface temperature is below, or is likely to fall below 5°C, the air / surface temperature exceeds, or is likely to exceed 35°C, or relative humidity exceeds, or is likely to exceed 85%. Substrate temperature must be at least 3°C greater than the dew point at the time of application.
- At temperatures below 5°C, the application becomes more difficult and curing is retarded.
- At temperatures above 35°C, the application / working time decreases. Application in direct sunlight and rising surface temperatures may result in blistering of the coating due to expansion of entrapped air or moisture (I.e. Vapour pressure) in the substrate.
- Note – Materials should be kept as cool as possible – Reducing material temperature will increase pot life.
- Freshly applied coatings should be protected from all contact with chemicals, liquids, fluids, oils, solvents, thinners, damp, condensation and water for at least 3 days @ 25°C. Please refer RHINOFLOOR technical department for further information.

Surface Preparation (New and Old Concrete)

- All concrete surfaces to be coated must be in sound, stable condition, with moisture content not greater than 5.5%. New concrete substrates must be at least 28 days old prior to application of the Rhinofloor[®] CRE. The recommended preparatory method for the finishing of the concrete substrate, post-pouring, is either "Steel or Helicopter trowelled". Any traces of oil, grease or other contaminants must be completely removed by detergent wash. All excess water to be mopped up and concrete allowed to thoroughly dry. All surfaces to be coated must be captive shot blasted to a profile similar to that of 80 grit sandpaper (note: Diamond grinding is generally a suitable alternative to shot blasting except where concrete substrate is highly burnished). Care must be taken to ensure that all existing curing compounds/agents, loose or flaky material and laitance are completely removed. Diamond-grind all areas that are inaccessible to shot blast machine. All surfaces to be coated should be vacuum cleaned to remove dust and other loose particles immediately prior to application of the first coat of Rhinofloor[®] CRE.
- Repair any voids or structural cracks using Rhinoscreeed resin / filler system and abrade surface of these repairs prior to application of the Rhinofloor[®] CRE system – Refer data sheet for product information regarding Rhinofloor product recommendations for both repairs and priming.
- 'Acid-etching' is not a suitable preparation technique for concrete substrates specified to be applied with the Rhinofloor[®] CRE product. Please refer RHINOFLOOR Technical Representative for further information.
- 'Acid-etching' is not a suitable preparation technique for concrete substrates suspected of being pre-treated with 'Densifier' or 'Penetrating Sealer' type products. Preparation via mechanical abrasion of the substrate must be performed prior to application (I.e. Scabbling / Shot-blasting / Diamond-grinding) to permit maximum adhesion characteristics of the system as specified. Please refer RHINOFLOOR Technical Representative for further information.

Surface Preparation (Metal / Mild Steel)

- Abrasive blast to AS1627.4 (Sa3) for immersion conditions
- A specialist Rhinofloor / Transocean epoxy metal primer must be applied to metal substrates in immersion conditions - Please refer RHINOFLOOR Technical Representative for further information.
- Abrasive blast to AS1627.4 (Sa2.5) for all other conditions.
- Application of Rhinofloor[®] CRE system to take place as quickly as possible to prepared steel surface before corrosion occurs.

Thinning

Solvent must not be added to Rhinofloor[®] CRE under any circumstances, unless agreed in writing by Wagon Paints Technical Manager, for job or site specific applications. Most common solvents, including Acetone and Methylated Spirits, will be detrimental to the curing, structural integrity and intercoat adhesion characteristics of the specified Rhinofloor[®] CRE epoxy resin system. Please contact your RHINOFLOOR Technical Representative for further information.

Rhinofloor® CRE

Mixing recommendation

- NOTE – The Liquid (Pack A) to Hardener (Pack B) ratio **must not** be altered under any circumstances.
- Premix components separately (Pack A & B) prior to use.
- Mix only the quantity required for 20-30 minutes use.
- Please note that the 'Pot life' of the mixed material will be considerably reduced if the ambient conditions / product temperature is elevated.
- Mix Pack A & Pack B in the ratio of: **3 : 1 v/v** (A : B / by volume) OR **4.20 : 1 w/w** (A : B / by weight)
- Premix Rhinofloor® CRE (Pack A) for 2-3 minutes, avoiding excessive aeration of mix. Then add slowly the Rhinofloor® CRE Hardener (Pack B) and once again stir thoroughly for 2-3 minutes, avoiding excessive aeration of mix.
- We highly recommend mixing entire kits to avoid issues with mix ratios. If however smaller quantities are required for cutting-in, etc, we recommend that care be taken to make sure mix ratios are strictly adhered to.
- Stir thoroughly with a broad paddle or low-speed mechanical mixer (350 RPM) to ensure even mixing.
- NOTE – If multiple batches of same colour product is used on the same job, blending of these colour products is highly recommended to achieve consistent shade.
- Thinning is **not** recommended - Please refer RHINOFLOOR Technical Representative for further information – Refer "Thinning" note above.
- The addition of a small percentage of 'Thixotropic Additive' (Aerosil) may be required to reduce the potential for sagging when applied to vertical surfaces, especially when the product is to be applied in temperatures higher than usually specified or recommended. The gloss, rheology and visual / aesthetic appearance of the Rhinofloor® CRE system may also be affected by this addition. Therefore, it is recommended a small test sample be applied before adding the thixotropic additive to a full kit. Please contact your RHINOFLOOR Technical Representative for further information.
- If required as above, the thixotropic additive must be added to the premixed resin system (A+B), then stirred thoroughly and applied to the **vertical** surface. Please note that it is the full responsibility of the contractor / applicator to evaluate suitable addition quantities of the thixotropic additive to the Rhinofloor® CRE system, if applied to vertical surfaces.

Application

NOTES

- After adequate preparation of the substrate (Refer above preparation notes) prime the prepared substrate using the recommended Rhinofloor priming product (Eg. Transpoxy Masterbond 4.67N / Rhinofloor HBE) at the recommended application rate, prior to application of the Rhinofloor® CRE system.
- A key advantage of Rhinofloor® CRE is that it is relatively odour free during application.
- The Rhinofloor® CRE is recommended to be applied via squeegee / rolling or trowelling, depending on application criteria specified.
- For 'Cutting-in' and other small areas, the Rhinofloor® CRE product may be applied by brush.
- Roller** nap size.....10 - 15mm (Micro-Fibre) recommended
- Cleaning solvent**T3 Epoxy Thinner or T7 Xylene or T6 MEK or T24 Acetone

LIGHT DUTY ROLLCOAT APPLICATION

- The priming resin product should be applied firstly using squeegee, then back-rolled with roller apparatus to obtain uniform coverage.
- If the primer surface is affected by "Blow-holes", a further scratchcoat of the recommended Rhinofloor priming product may be required to render the surface void of these issues. Additional primer coat may also be necessary if substrate porosity is an issue.
- Exceeding recommended application rate of 4m² / L when "Roll-coating" is **NOT** recommended.
- 1 x 250um (micron) "Roll-coat" is highly recommended post-application of primer to substrate - Refer datasheet for minimum dry-to-recoat timeframes.
- All rollcoat resin products should be applied firstly using squeegee, then back-rolled with roller apparatus to obtain uniform coverage.
- The primacoat in this "Light Duty" application does not necessarily require broadcasting of nonslip aggregates, if smooth floor finish is specified. However, if nonslip application is specified, please apply system as per following. (Additional primacoat may be required if "Full broadcast" system is specified)
- Non-slip aggregates **must be** added to the system in between primacoat and topcoat, whilst primacoat is still wet (Aggregates must be "Kiln-dried")
- Non-slip aggregates **must be** lightly broadcast or broadcast to refusal / saturation into primacoat, with any excess aggregate swept-off / vacuumed-up prior to application of Rhinofloor® CRE topcoat.
- Strict recoat intervals apply to this system. If in any doubt, please contact your RHINOFLOOR Technical Representative for clarification.
- Please refer to RHINOFLOOR Technical Representative for selection of specific aggregates for various specified applications.

HEAVY DUTY ROLLCOAT APPLICATION

- The priming resin product should be applied firstly using squeegee, then back-rolled with roller apparatus to obtain uniform coverage.
- If the primer surface is affected by "Blow-holes", a further scratchcoat of the recommended Rhinofloor priming product may be required to render the surface void of these issues. Additional primer coat may also be necessary if substrate porosity is an issue.
- Exceeding recommended application rate of 4m² / L when "Roll-coating" is **NOT** recommended.
- 2 x 250um (micron) "Roll-coats" are highly recommended post-application of primer to substrate - Refer datasheet for minimum dry-to-recoat timeframes.
- All rollcoat resin products should be applied firstly using squeegee, then back-rolled with roller apparatus to obtain uniform coverage.
- Lightly abrade primed surface prior to applying Rhinofloor® CRE midcoat & topcoat.
- Non-slip aggregates **must be** added to the system in between midcoat and topcoat, whilst midcoat is still wet (Aggregates must be "Kiln-dried")
- Non-slip aggregates **must be** broadcast to refusal / saturation into midcoat, with any excess aggregate swept-off / vacuumed-up prior to application of topcoat.
- The visual appearance of the floor must be completely saturated with aggregate – There should be no visible signs of any "Wet or Resinous" looking areas prior to applying the topcoat, as this will cause severe issues with the intercoat adhesion characteristics of the system. Strict recoat intervals apply to this system. If in any doubt, please contact your RHINOFLOOR Technical Representative for clarification.
- Please refer to RHINOFLOOR Technical Representative for selection of specific aggregates for various specified applications.

ULTRA HEAVY DUTY TROWEL APPLICATION

- The priming resin product (Only use un-thinned Rhinofloor HBE 100% epoxy product for trowel application) should be applied firstly using squeegee, then back-rolled with roller apparatus to obtain uniform coverage.
- If the primer surface is affected by "Blow-holes", a further scratchcoat of the recommended Rhinofloor priming product may be required to render the surface void of these issues. Additional primer coat may also be necessary if substrate porosity is an issue.
- Exceeding recommended application rate of 4m² / L when "Roll-coating" the primacoat is **NOT** recommended.
- The Rhinofloor® CRE is to be trowel-applied at 5-6mm, once mixed with appropriate kiln-dried aggregates. It is recommended that when trowel applied, the Rhinofloor® CRE screedcoat be applied over wet or tacky primacoat (Only use un-thinned Rhinofloor HBE 100% epoxy product) to ensure adequate intercoat adhesion. Please refer RHINOFLOOR technical department for further information.
- Non-slip aggregates **must be** added to the system in between screedcoat and topcoat, whilst screedcoat is still wet (Aggregates must be "Kiln-dried")
- Non-slip aggregates **must be** broadcast to refusal / saturation into screedcoat, with any excess aggregate swept-off / vacuumed-up prior to application of topcoat.
- The visual appearance of the floor must be completely saturated with aggregate – There should be no visible signs of any "Wet or Resinous" looking areas prior to applying the topcoat, as this will cause severe issues with the intercoat adhesion characteristics of the system. Strict recoat intervals apply to this system. If in any doubt, please contact your RHINOFLOOR Technical Representative for clarification.
- Please refer to RHINOFLOOR Technical Representative for selection of specific aggregates for various specified applications.
- The chemical resistance properties of the Rhinofloor® CRE "Trowel-applied" system is reduced slightly due to the addition of these aggregates, therefore, when maximum chemical or stain resistance is required, a finishing coat of pure Rhinofloor® CRE should be applied. Further addition of full broadcast to refusal / saturation of nonslip aggregate may be required to conform to nominated slip rating for particular areas, therefore 2 topcoats may be required.

Rhinofloor® CRE

CHEMICAL RESISTANCE CHART

CHEMICAL	RESISTANCE PROPERTIES	CHEMICAL	RESISTANCE PROPERTIES	CHEMICAL	RESISTANCE PROPERTIES
ACETIC ACID (<10%)	R	FERRIC SULPHATE	R	PHOSPHORIC ACID (85%)	R
ACETIC ACID (GLACIAL)	NR	FERRIC & FERROCYANIDES	R	PHTHALIC ACID	R
ACETONE	S	FLUOROBORIC ACID	R	PICRIC ACID	S
ALUMINIUM CHLORIDE	R	FLUORINE GAS	NR	POTASSIUM DICHROMATE	R
ALUMINIUM FLUORIDE	R	FLUOROSILICIC ACID	R	POTASSIUM CHLORIDE	R
ALUMINIUM NITRATE	R	FORMALDEHYDE	S	POTASSIUM HYDROXIDE	R
ALUMINIUM SULPHATE	R	FORMIC ACID	S	POTASSIUM NITRATE	R
AMMONIA	R	GLYCERYL ACETATES	S	POTASSIUM SULPHATE	R
AMMONIUM CHLORIDE	R	HYDROBROMIC ACID	S	SALICYLIC ACID	R
AMMONIUM FLUORIDE	R	HYDROCHLORIC ACID (10%)	R	SKYDROL	R
AMMONIUM HYDROXIDE	R	HYDROCHLORIC ACID (37%)	R	SODIUM BICARBONATE	R
AMMONIUM NITRATE	R	HYDROCARBON FUELS	R	SODIUM BISULPHATE	R
AMMONIUM PHOSPHATE	R	HYDROCYANIC ACID	S	SODIUM CARBONATE	R
AQUA REGIA	S	HYDROFLUORIC ACID (10%)	R	SODIUM CHLORIDE	R
BARIUM CHLORIDE	R	HYDROFLUORIC ACID (50%)	S	SODIUM HYDROXIDE (10%)	R
BENZENE	R	HYDROGEN PEROXIDE	R	SODIUM HYDROXIDE (50%)	R
BENZOIC ACID	S	HYDROGEN SULPHIDE	R	SODIUM HYPOCHLORITE	R
BENZYL ALCOHOL	S	HYPOCHLOROUS ACID (10%)	R	SODIUM NITRATE	R
BORIC ACID	R	IODINE	S	SODIUM SULPHATE	R
BROMINE	S	LACTIC ACID (10%)	R	STEARIC ACID	S
BUTANOL	S	LACTIC ACID (88%)	NR	SULPHURIC ACID (<10%)	R
CADIUM SALTS	R	LEAD CHLORIDE	R	SULPHURIC ACID (50%)	R
CALCIUM CHLORIDE	R	LEAD NITRATE	R	SULPHURIC ACID (98%)	R
CALCIUM HYDROXIDE	R	MAGNESIUM CHLORIDE	R	TIN SALTS	R
CALCIUM HYPOCHLORITE	R	MAGNESIUM SULPHATE	R	TOLUENE	R
CALCIUM SULPHATE	R	MALEIC ACID	S	TOLUENE SULPHONIC ACID	S
CARBON DISULPHIDE	NR	MANGANESE SALTS	R	TRICHLOROETHYLENE	S
CARBON TETRACHLORIDE	S	METHANOL	R	TRISODIUM PHOSPHATE	R
CHLORINE DIOXIDE (WATER)	S	METHYL ETHYL KETONE	S	UREA	R
CHLORINE (LIQUID or GAS)	NR	METHYLENE CHLORIDE	S	URIC ACID	R
CHROMIC ACID (<10%)	R	NAPHTHALENE	S	WATER	R
CHROMIC ACID (>10%)	S	NICKEL SALTS	R	WATER (DEMINEALISED)	R
CITRIC ACID (10%)	R	NITRIC ACID (10%)	R	WATER (SALT)	R
CITRIC ACID (50%)	R	NITRIC ACID (40%)	S	XYLENE	R
COPPER SALTS	R	NITRIC ACID (70%)	NR	ZINC SALTS	R
CRESOL	S	NITROGLYCERINE	S		
ETHYL ACETATE	S	OILS (MINERAL)	R	FOOD PRODUCTS	
ETHANOL	R	OLEIC ACID	R	GLUTEN FLOUR	R
ETHYLAMINE	NR	OXALIC ACID	R	OILS (VEGETABLE)	R
ETHYLENE DICHLORIDE	S	PERCHLORIC ACID	S	PICKLE JUICE	R
ETHYLENE OXIDE	S	PHENOL	S	SPICES	R
FERRIC CHLORIDE	R	PHOSPHORIC ACID (50%)	R	VINEGAR	R

R = RECOMMENDED

S = SPLASH SPILLAGE

NR = NOT RECOMMENDED

ND = NO DATA

Your local RHINOFLOOR Technical Representative is:

Cameron O'Donnell

Technical Representative
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When curing under conditions of low temperatures and / or high humidity, exposure to water may cause the surface of the cured epoxy to discolour. This water sensitivity will eventually disappear, dependant on ambient conditions. The use of Rhinofloor® CRE will attenuate this spotting problem, but can only be used in suitable conditions, or as per recommendation of Wagon Paints Technical department.

The 'Rhinofloor / Transocean' floor-coating range has been designed / manufactured primarily to protect the concrete substrate. Please be aware that scratching, marring, colour-fading, gloss reduction, etc, will be evident, with the rate of film attack directly related to service conditions within the areas that these coatings have been applied. Wagon Paints, incorporating Rhinofloor Coatings, take no responsibility for film attack as mentioned, as these issues are a known fact inherent to all industrial epoxy and polyurethane floor coatings.

The Rhinofloor CRE 2-pack solvent-free chemical-resistant epoxy / novalac industrial flooring system may only be applied by a contractor approved by Wagon Paints Australia Pty. Ltd., so as to validate any warranty with regard to the performance of this coating system, implied or given. The approved contractors have also been selected to achieve consistent results with regard to both "Aesthetic appeal" and "Non-slip" conformity to the approved specification. If our approved contractors are not used for these Rhinofloor CRE applications, the warranty will be void. For details concerning Wagon Paints approved contractors, please contact your local RHINOFLOOR Technical Representative.

The information in this data sheet is provided to the best of our knowledge. However, we have no control over either the quality or condition of the substrate and other factors affecting the use and application of this product. Therefore, we cannot accept any liability whatsoever or howsoever arising from the performance of the product or for any loss or damage arising from the use of this product. We reserve the right to change the product, as well as the data sheet, without notice.

Authorised: A. De Mello (National Sales Manager)

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These technical data and recommendations are based on tests and information believed to be accurate at the time of printing. They should not be construed as containing any warranty, either expressed or implied. Users should conduct their own tests to determine final suitability of this product.

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