

RINOL PL 1 FLEX

FAST-CURING, ELASTIC POLYUREA MEMBRANE FOR DURABLE WATERPROOFING SOLUTIONS

RINOL



1 General Information

Product Description/Use

RINOL PL 1 FLEX is a 100% solid, liquid pure polyurea membrane, based on isocyanates and special flexible amines, for waterproofing, flooring, metal and concrete protection. RINOL PL 1 FLEX is an elastomeric formulation in liquid state that, after reaction, forms an elastic but resistant membrane, with no loss of weight or shrinkage; thanks to its rapid polymerisation, RINOL PL 1 FLEX can be applied even at low temperatures and relatively high humidity.

Application fields of RINOL PL 1 FLEX:

- Waterproofing of roofs, bridges, decks and tunnels
- Secondary containment structures
- Water retaining structures
- Waterproofing on floors and car park decks
- Abrasion resistant protective coating in industrial and manufacturing facilities

2 Application guide

Substrate Preparation

The substrate must have sufficient load bearing capacity (compressive strength at least 25 N/mm²). Adhesive tensile strength must be at least 1.5 N/mm². Compatibility with existing coatings must be checked by the installer. In this case we recommend a test application. The substrate must be clean and free from oil, release agents and any other contaminants. In general, it is important to check whether the substrate is open-pore, porous, etc. as in these cases blisters and pores may form in the coating. This should be checked by the applicator and corrected if necessary.

Before the application of RINOL PL 1 FLEX, the substrate must be primed with an epoxy or polyurethane primer, scattered with RINOL QS10 or RINOL QS20 quartz sand, according to the respective product data sheets.

Before application, the temperature should be at least 3°C above the dew point temperature to ensure good adhesion.

In case of damp substrates it is recommended to apply RINOL EP-P242 primer followed by another even coat of epoxy or polyurethane primer.

Care should be taken to ensure that RINOL PL 1 FLEX does not come into contact with silicone-containing materials or other materials that could interfere with the reaction, both before and during the curing phase.

Application

The product is supplied in two-component packages in pre-measured quantities.

Mix Component A, resin, thoroughly for a few minutes with a low-speed mechanical mixer until the mixture is smooth and uniform in colour. This step is essential to homogenise any sedimentation that may have occurred during storage.

A high-pressure plural-component spray unit equipped with a self-cleaning spray gun must be used to apply the RINOL PL1 FLEX membrane.

The high-pressure system must always be in perfect, clean and efficient working condition. The return lines/pumps must also be clean and efficient. Recirculate the product before starting spraying. In all cases, carefully follow

Technical data

Liquid material (A+B)

1	Density (A+B)	Approx. 1,05 g/cm ³
2	Packaging and mixing ratio (2-components)	43 kg / 430 kg 1:1 in volume
3	Shelf life / storage	6 months at 5–20°C, store above freezing and out of direct sunlight (even during transport)
4	Colors	See RINOL colour chart

Technical data

Cured material

1	Adhesion strength on concrete (UNI 8276/6)	>1,5 Mpa
2	Adhesion strength on metal (UNI 8276/6)	>7 Mpa
3	Tensile strength (UNI EN ISO 527/2)	>13 N/mm ²
4	Elongation at break (UNI EN ISO 527/2)	>450%
5	Elastic modulus (UNI 2876/6)	>20 N/mm ²
6	Shore A hardness (UNI EN ISO 868)	70-75
7	Water vapour permeability (UNI EN ISO 7783)	μ > 350

Technical data

Liquid material (A+B)

1	Material consumption	2-3 Kg/m ²
2	Application temperature	5 - 40°C
3	Rel. Humidity	Max. 80 %
4	Gel time (depending on application temperature)	Approx. 10 seconds
5	Full properties (20°C)	After 12 hours

the machine manufacturer's instructions.

The isocyanate component of the system is particularly sensitive and reactive in humid environments. It is therefore recommended to use desiccant filters or other suitable means to introduce dry air into the packaging. If isocyanate drums are not completely used, they must be checked for cleanliness and absence of contamination before reuse.

The guidelines in the Code of Good Practice for the proper application of polyurea, prepared by the PDA Europe Committee, should also be consulted.

Pay special attention to the following parameters during application:

Air temperature	From + 5°C to + 40°C
Air humidity	Maximum 80% RH
Temperature of the substrate	From + 5°C to + 40°C
Moisture of the substrate	Maximum 4%
Temperature of the two components	From + 60° C to + 80° C
Pipe temperature	From + 60° C to + 80° C
Application pressure	120 to 200 bar

Safety measures

For information on handling the product, refer to the current Safety Data Sheet and the Chemicals Regulations for the Handling of Coating Materials (M004/M023). Wear suitable protective clothing and goggles during application.

Skin contact with liquid resins can be harmful and may cause allergies.

Note

The technical data for the Company's products and systems have been compiled with due care. However, any recommendations or suggestions made with regard to the use of these products are made without guarantee as the conditions under which they are used are beyond the control of the Company. It is the responsibility of the customer to determine whether the products are suitable for the particular application and whether the conditions of use are appropriate for the particular product. No liability can therefore be derived from the product data sheet.

Please note that only the latest version of the data sheet is valid and replaces all previous versions. The technical data given are approximate values determined by us and do not constitute a guarantee of properties. Misprints, errors, translation errors and changes reserved. Please note that the information in the system datasheets may differ in different languages/countries. For further information please visit our website at www.rinol.com.

The technical data sheet does not exempt the user from carrying out his own application tests, if necessary, within the limits of his capabilities. Please refer to the RINOL Technical Guide for information on coating options and more detailed information on the installation of RINOL products.

Important note

Due to the aromatic composition, coatings with RINOL PL 1 FLEX tend to yellow over time when exposed to UV light. The yellowing does not affect the technical properties of the product, but in order to keep the colour stable we

recommend to protect the coating with the aliphatic coloured topcoat RINOL PU-S603.

Legal note

RCR Flooring Products Italia S.r.l. does not guarantee the results or adhesion, for whatever reason and/or legal nature, due to differences in materials, substrates and working conditions. The latest General Terms and Conditions of RCR Flooring Products Italia S.r.l. apply and can be requested from us or viewed and printed in their latest version at www.rinol.com. Product specifications are subject to change without notice.

CE marking

 RCR Flooring Products Italia S.r.l. Via V. Chiarugi 76/U I-45100 Rovigo 1119-CPR-0833 09 ¹ EN 1504-2	
Synthetic resin screed/coating for internal use in buildings (superstructures in accordance with techn. data sheets)	
Property	Value
Abrasion resistance (Taber test)	< 3000 mg
Capillary absorption and water permeability	< 0,1 kg·m ⁻² ·h ^{-0.5}
CO ₂ permeability	sD > 50 m
Water vapour permeability	Class I
Impact resistance	Class III
Adhesion by pull-off test	> 1,5 N/mm ²
Hazardous substances	See Safety Data Sheet

-1) the last two numbers of the year in which the CE marking was applied

-2) NPD = no performance determined;

European Regulation 2004/42 (Decopaint Directive)

The maximum VOC content (product category IIA/j type sb) allowed by European Regulation 2004/42 is 500g/l (limit 2010) in the ready to use state. The maximum content of RINOL PL 1 FLEX ready for use is < 500 g/l VOC.

GIS Code: PU40

Further information on the GIS code is available from Wingis online at <https://www.wingisonline.de>