

## Corrocoat PUA HF

Sprayed, hot-applied polyurea waterproofing membrane

Reference No.	TDS / PC / CCOPUAHF
Issue Date:	March 2017
Revision No.	2

### Product Features

**Corrocoat PUA HF** is a 2-component polyurea resin, which cures very fast into an elastic membrane with crack-bridging capacity. This product can easily be applied by 2-component spraying equipment. **Corrocoat PUA HF** can be combined with different geotextiles to obtain on-site applied, seamless liners.

### Typical Uses

**Corrocoat PUA HF** is typically used for waterproofing of concrete structures, roof waterproofing, traffic areas, cold rooms, buoys, jetties, bedliners, helidecks. When necessary it can be completed by **Corrocoat UVR**. **Corrocoat PUA HF** can also be used as a geomembrane lining for retention basins and secondary containment areas, ponds, landfills, tunnels, canals etc.

### Directions for Use

#### Surface Preparation

##### Concrete

In order to achieve good adhesion, the substrate must be levelled, compact and cohesive (pull off test must show a minimum resistance of 1,4 N/mm<sup>2</sup>) with an even and regular surface. It also must be free from visible cracks and fissures. If any are present they must be repaired using Corrotech Concrete Repair Systems.

Concrete surfaces particularly if new, should be fully cured with a maximum residual relative humidity (RH) of 75%, clean and free from contamination such as dust, oil, grease, organic growth, release agents and curing compounds.

Prepare concrete surfaces preferably by mechanical methods such as angle grinding to remove laitance, curing compounds and other loose materials to provide a mechanical key for **Corrocoat PUA HF**.

After preparation, fill all blow holes and surface imperfections using **Corromortar FC** (see separate data sheet) to provide a smooth even surface prior to priming. Allow 24 hours to cure at 25°C and lightly abrade before overcoating.

##### Steel

Mechanically prepare steel surface to SA $\frac{1}{2}$ , NACE No 2 or SSPC-SP 10.

A 50 - 75 micron profile to steel surfaces is desirable to ensure a good mechanical bond to the substrate.

#### Priming

##### Concrete

Prior to the application of **Corrocoat PUA HF**, prime the prepared surface using **Corroprime EP SF**.

### Technical Data

Properties	Test Standards	Typical Values			
<b>INFORMATION ON THE PRODUCT BEFORE APPLICATION</b>					
		<b>Component A</b>		<b>Component B</b>	
<b>Chemical description</b>		Polyol/Polyamide		Aromatic isocyanate prepolymer	
<b>Physical state</b>		Liquid		Liquid	
<b>Packaging</b>		180 litre		180 litre	
<b>Non-volatile content (%)</b>		Approx 100%		100%	
<b>Flash point</b>		>100°C		>100°C	
<b>Colour</b>		Dark yellow		Slightly yellow	
<b>Density</b>		<b>Temp</b>	<b>Density</b>	<b>Temp</b>	<b>Density</b>
		20°C	1.05 g/cm <sup>3</sup>	20°C	1.14 g/cm <sup>3</sup>
		60°C	1.02 g/cm <sup>3</sup>	60°C	1.10 g/cm <sup>3</sup>
<b>Viscosity</b> approximate Brookfield		<b>Temp</b>	<b>Viscosity</b>	<b>Temp</b>	<b>Viscosity</b>
		5°C	2400 mPa.s	5°C	2500 mPa.s
		10°C	1800 mPa.s	10°C	1800 mPa.s
		20°C	975 mPa.s	20°C	800 mPa.s
		30°C	550 mPa.s	30°C	450 mPa.s
		40°C	335 mPa.s	40°C	300 mPa.s
		50°C	230 mPa.s	50°C	200 mPa.s
		60°C	170 mPa.s	60°C	120 mPa.s
<b>A/B mixing ratio</b>		: 1:1 by volume			
<b>Density and viscosity of the mixture</b>		: Fast polymerization. See Pot life data			
<b>Colour</b>		: Dark yellow, but component A is pigmented by addition of pigment paste (Pigment Spray).			
<b>Pot life</b>		: Gel time mixture A+B (20 g) 8-9 s at 25°C 4-6 s at 60°C			

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Technical Data			
Properties	Test Standards	Typical Values	
<b>INFORMATION ON THE FINAL PRODUCT</b>			
<b>Final state</b>		: Solid elastomeric membrane	
<b>Colour</b>		: Variable, depending on the chosen pigmentation.	
<b>Hardness (shore)</b>		: 90A/40D (ISO 868)	
<b>Elongation at break</b>		: 400%	
<b>Tensile strength</b>	EN-ISO 527-3	: 14 MPa	
<b>Chemical resistance</b>		: Permanent contact (7days, 80°C 0=worst, 5=best)	
		<b>Chemical</b>	<b>Result</b>
		Water	5
		Ammonia (3%)	5
		Hydrochloric acid 3M (9%)	4
		Isopropyl alcohol	1
		Xylene	0
<b>Adhesion strength</b>		<b>Substrate</b>	<b>Adhesion strength</b>
		Concrete (EP 100 primer)	> 1.5
		Steel (PU primer)	> 2.0
<b>UV resistance</b>		: Good resistance to UV-induced degradation. Aromatic polyureas undergo change of colour under sunlight. Additional UV protection can be achieved by application of <b>Corrocoat UVR</b> .	
<b>Static indentations</b>	UNE EN ISO 12236:2007	: Liners obtained by combination of <b>Corrocoat PUA HF</b> and selected geotextiles achieve a static indentation resistance above 3200 kN	
<b>Fire resistance</b>		: Class B2	
<b>Tear strength</b>	ISO 34-1 Method B	: 69 N/mm	

Note: All values given are subject to 5 - 10% tolerance.

Thoroughly stir both parts of **Corroprime EP SF** together in full for at least 2-3 minutes until a homogenous consistency is achieved.

Apply **Corroprime EP SF** using a brush or roller to the prepared concrete surface at the rate of 8-10 m<sup>2</sup> per litre per coat. Allow the primer to become tack free before applying **Corrocoat PUA HF**.

Work the primer well into the concrete surface using a stiff brush to give an even, continuous, unbroken coating.

A second priming coat may be required if the substrate is particularly porous.

Re-prime if the primer coat has not been over coated within 18 hours.

Dust and surface contamination must be removed prior to subsequent application of **Corrocoat PUA HF**.

#### Mixing

Stir and homogenize separately both components using suitable mixing equipment before being loaded into the machine. Add the required pigment to the A-component and stir before loading at low speed for a few minutes. Excess stirring may lead to undesirable moisture pick up. Recirculate both components while heating up to the required application temperatures

#### Application

**Corrocoat PUA HF** must be applied using a 2-component heated airless spray pump. Recommended temperatures are:

- Component A: 70°C
- Component B: 65°C
- Hose: 65°C

Outlet pressure should be 170 bar.

During application, check layer thickness and curing speed. For most applications spray **Corrocoat PUA HF** at approximately 2 litre per m<sup>2</sup> at 2 mm thickness. Wind speeds in excess of 25 km/h may result in excessive loss of exotherm and interfere with the mixing efficiency of the spray gun affecting polyurea surface texture, cure, and physical properties and will cause overspray issues.

Required thickness can be obtained in a single coat. If this is not possible, apply a second coat immediately afterward to achieve desired thickness.

#### Curing

**Corrocoat PUA HF** cures to touch after a few minutes after application.

Approximate hardness values are provided as reference only (1 mm, polypropylene support, 25°C 50% RH).

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Under most usual conditions (25°C, 50% rh), the membrane is resistant to rain droplets after 15 minutes, and able to resist light pedestrian traffic in 1 hour. After 2 days, 90% of the final properties are reached.

Time	Hardness (shore A/D)
10 min	74/27
20 min	77/29
1 hr	80/30
24 hr	88/35

#### Hot Weather Conditions

For application above 40°C we recommend adopting the following guidelines:

Store unmixed materials in a cool preferably air conditioned environment.

Avoid exposure of mixed & unmixed materials to direct sunlight.

Keep equipment that will be in contact with the product cool and away from direct sunlight.

Avoid application during the hottest time of day.

#### Cleaning

Clean tools & equipment immediately after use with detergent and water.

#### Limitations

On application air temperature should be between 10°C and 40°C. Relative air humidity should be less than 85%.

For application in temperatures above 40°C please refer to hot weather condition recommendations.

Substrate temperatures should be above 5°C and rising.

Avoid application if the work area may be subject to the onset of rain or moving water.

Do not part mix under any circumstances.

All products should be used within the pot life. Materials not used within the specified time should be discarded.

If the above general application details do not meet with your requirements, please contact Corrotech for a project specific method statement.

#### Estimating

**Corrocoat PUA HF** pack size: 180 litres drum each component A and component B

All coverage rates given are theoretical and subject to actual site conditions. We recommend trial areas are done to establish practical consumption particularly for primers.

#### Health & safety

Always use appropriate PPE including gloves, goggles and a barrier cream to avoid contact with skin and eyes.

Should contact with skin or eyes occur, wash immediately with plenty of clean water and seek medical advice.

If swallowed, seek medical attention immediately. Do not induce vomiting.

Avoid inhalation and ensure adequate ventilation or suitable respiratory equipment if working in confined spaces.

Do not expose products to fire or naked flames under any circumstances.

Always refer to the product Material Safety Data Sheet (MSDS) for full health & safety and handling recommendations.

#### Storage

**Corrocoat PUA HF** has a maximum shelf life of 12 months from the date of manufacture.

To maximize shelf life always store products in their original, unopened packaging in a dry environment, away from direct sunlight with a minimum temperature of 10°C but not exceeding 30°C.

Component B may become hazy upon storage at low temperatures. Reheat mildly before use.

Product is hygroscopic, must be protected from moisture.

Damaged packaging, high humidity or extreme temperatures may reduce the shelf life.