



Technical Data Sheet

GEPOTECH®-11/22

Very heavy duty sprayable waterproof coating

Art.-No. 5 55211

CE 1119	
SCHOMBURG GmbH & Co. KG Aquafinstraße 2-8 D-32760 Detmold 11 5 55211	
EN 15042 GEPOTECH-11/22 Surface protection product - Coating	
Principle 5.1/6.1	
Capillary water absorption and water permeability	$w < 0.1 \text{ kg/m}^2 \times \text{h}^{-1}$
Tensile adhesion strength by pull-off test	$\geq 1.5 [1.0] \text{ N/mm}^2$
Abrasion resistance	Loss in mass $\leq 3000 \text{ mg}$ Class III
Impact resistance	Class III
Resistance to strong chemical attack	Loss in hardness $< 50\%$
Reaction to fire	Class E
Hazardous substances	In compliance with 5.3 of EN 1504-2



- Storage tanks
- Reservoirs
- Channels
- Pipe coating
- Sewerage works etc.

Technical Data:

Basis:	Polyurea
Solids content:	100%
Standard colour:	natural (yellowish, similar to RAL 1014)
Viscosity (Isocyanate) at +23° C:	1900 +/- 50 mPas
Viscosity (Amine) at 23° C:	450 +/- 20 mPas
Density (Isocyanate) at +23° C:	1.12 g/cm ³
Density (Amine) at +23° C:	1.00 g/cm ³
Mixed density at +23° C:	1.10 g/cm ³
Shore hardness (D) (24 hrs/ +23° C/50% RH):	approx. 50
Abrasion resistance (Darmstadt pipe tilting jig):	0.03 mm (250,000 load cycles)
Tensile strength:	approx. 25.0 N/mm ²
Elongation at break:	approx. 350%
Impact resistance:	$\geq 20 \text{ N m}$ (Class III, ISO 6272)
Mixing ratio:	1:1 by volume
Application temperature (Amine/Iso):	70 – 85° C
(Tank and hose assembly the same in each case):	
Application pressure:	160 – 180 bar
Gel time:	2-4 seconds
Tack free:	6-7 seconds
Final cure at +23° C:	2 days
Recommended film thickness:	minimum 2.5 mm

Properties:

GEPOTECH-11/22 is a high quality, two component reaction resin based on polyurea with the following properties:

- solvent free
- 100% solids
- extremely rapid setting
- high impact and abrasion resistance
- high chemical resistance
- resistant to weathering
- suitable for use in water pollution control systems
- crack-bridging up to 2.0 mm
- protects against corrosion
- impermeable to liquids
- high temperature resistance (temporarily up to +200° C)
- exceptional bond to reinforced concrete, steel, GRP, wood etc.

Areas of application:

GEPOTECH-11/22 is used mainly as a surface protection and waterproofing system in exterior and interior areas on concrete and steel surfaces with heavy duty exposure to mechanical stresses and chemicals e.g. for

- Bund walls
- JGS plants
- Processing vessels

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Packaging:

45 kg unit:

1 x 21 kg Amine component A

1 x 24 kg Isocyanate component B

400 kg unit:

1 x 190 kg Amine component A (barrels)

1 x 210 kg Isocyanate component B (barrels)

The weight ratios given relate to a balanced volume ratio of 1:1. Before filling the heated spray equipment containers, thoroughly mix the pigmented polyamin (A) component until a homogeneous even colour is achieved. Use an appropriate drum stirrer.

Shelf Life:

12 months in the original unopened packaging (on pallets) when stored dry at a room temperature of +15°C to +25°C.

Substrate:

Concrete, PCC mortar, render, brickwork, GRP panels, carbon steel, V2A and V4A steel. The substrate must be load-bearing, clean, dry or damp and free from materials that will impair adhesion. Unstable surfaces, or poorly bonded layers e.g. oils, greases, release agents or surface finishes and paint residues must be completely removed.

Notes on the topic:

Residual moisture in cement-based substrates: dry or damp (in accordance with Def. RiLi StB) *

- "Guidelines for the protection and restoration of concrete sections" part 2, clause 1.2.5 "concrete moisture".

"Dry"

After chopping out a fresh piece, about 2 cm deep, it may not visually lighten due to drying out. (In the case of doubt, the concrete is deemed dry if it exhibits an equilibrium moisture content in a climate of 23/50 i.e. dependent on the concrete quality, other absolute values are deemed "dry").

"Damp"

The surface has a matt-damp appearance but there may not be a shiny film of water. The pore system of the concrete substrate must not be saturated i.e. water dropped onto it must be absorbed and after a short time the surface must look matt again.

Dependent on the condition of the substrate to be treated, suitable means of preparation are to be employed such as e.g. high pressure washing, scabbling, shot blasting, planing.

Dependent on the particular substrate the following additional minimum requirements for cement-based surfaces must be fulfilled:

Concrete quality: min. C 20/25

PCC mortar: in accordance with
DIN EN 1504-3

Tensile adhesion strength: mean value: 1.5 N/mm²
lowest value: 1.0 N/mm²
P III

Render: Tensile adhesion strength: mean value: 0.8 N/mm²
lowest value: 0.5 N/mm²

Masonry work: Tensile adhesion strength: mean value: 0.5 N/mm²
lowest value: 0.3 N/mm²

Important advice:

Oil contaminated substrates pose a particular problem; we recommend contacting our Technical Services Department.

Prior to the application of GEPOTECH-1 1/22, the substrates mentioned above are to be properly prepared with the following primers:

With concrete/PCC mortar, masonry work:

INDUFLOOR-IB1248

INDUFLOOR-IB1240 (for oil contaminated substrates)

With steel/stainless steel (V2A, V4A):

Primer-2000

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System component for secondary containment system GEPOTECH-11/22-GWS:

General technical accreditation:

- Accreditation No. Z-59.12-357

Primer: INDUFLOOR-IB1248

Finish coat: GEPOTECH-11/22

Product installation:

A pre-requisite for the use of GEPOTECH-11/22 is professional hot spray equipment, which permanently supplies the necessary pressure and temperatures and ensures regular working conditions. We recommend the use of qualified professionals with experience in handling high performance polymers and spray applied coatings.

Always maintain a surface temperature of approx. +5° to +30°C and a relative humidity of max. 85%. Especially in higher temperatures and/or higher humidity the substrate temperature should be a minimum of +3°C above the dew point during the coating process. GEPOTECH-11/22 can be applied in one or several operations to achieve the desired film thickness. The product is to be applied one coat at right angles to the other including on vertical surfaces or overhead areas.

Warning: When spraying there will be atomised spray. The appropriate precautionary measures must be met.

Mixing instructions:

GEPOTECH-11/22 may never be diluted. Two component products must always be mechanically mixed before use. In particular the pigmented Amine (component A) is to be vigorously mixed until a homogenous single coloured material is produced. Use a drum mixer.

Ensure that no air is mixed into the material. The Isocyanate (component B) requires little or no effort to mix but must, however, be protected from humidity and desiccated as necessary. As necessary provide protection against drying (e.g. gel filter).

Working equipment:

To apply GEPOTECH-11/22 heatable, two component high pressure spray equipment is required. We recommend: DuoMix 2K-apparatus from IMT.

Both components are to be brought to an operating temperature of approx. +75° – +85°C over separate heating elements, in order to achieve the optimum viscosity. The tempered material is transported via a heated pipe feeder. During the application the temperature is kept constant.

The two components are mixed together in the mixing head of the spray gun and must be carried out at a pressure of 160-180 bar. Tools must be cleaned immediately with an organic solvent. Pipework can be rinsed out e.g. with Mesamoll. Cured residues can only be mechanically removed.

Advice:

- Only open the drums when commencing the installation work and protect both components from damp with appropriate means such as desiccant or nitrogen.
- Do not spray onto wet surfaces.
- Keep the drums at the specified temperature and pre-warm as necessary.
- GEPOTECH-11/22 changes colour with exposure to UV rays.
- Before starting work, read all product information, application instructions, technical data sheets and Health & Safety data sheets.
- Wear eye protection and protective clothing during application.
- Applications that are not clearly explained in this technical data sheet may only be carried out after consultation with and written confirmation from the Technical Services Department of SCHOMBURG.
- All publications may be expanded or changed by the manufacturer without advance notice.
- When using in extremely heavy duty areas exposed to mechanical stresses and/or chemicals, please contact our technical services department. Please respect the data in the table below regarding chemical resistance.

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Chemical resistance of GEPOTECH®-1 1/22

Material classification and evaluation according to the DWA regulatory work A-786, TRwS "Installation of waterproof surfaces" for bund walls, storage containers (LAU plants)

Media group	PG	Classification		
		Low resistance (≤ 8 hours)	Medium resistance (≤ 72 hours)	High resistance (≤ 14 days)
Petrol to DIN EN 228 with a maximum (Bio) ethanol content of 5% by volume to DIN EN 15376	1		■	
Petrol to DIN EN 228 and DIN 51626-1 with the addition of biofuel components to RL 2009/28/EU up to a total content of max 20% by volume (including Gr. 1)	1a	■		
Aviation fuel (Kerosine)	2			■
- Heating oil to DIN 51603-1 - Unused internal combustion engine motor oil - Unused automobile gear oil - Mix of saturated and aromatic hydrocarbons with an aromatic content of ≤ 20% by weight and a flash point of > 55°C	3			■
Diesel fuel to DIN EN 590 with the addition of Biodiesel to DIN EN 14214 up to a total content of max 20% by volume	3b			■
All hydrocarbons as well as benzene containing mixtures with a max 5% by volume of benzene with the exception of automotive fuel (including Gr. 2, 3, 4b, excepting Gr. 1, 1a, 3b and 4a)	4			■ ¹
Benzene and benzene containing mixtures	4a	■		
Crude oils	4b			■
Monovalent and multi-valent alcohols with max 48% by volume of methanol and ethanol, glycol, polyglycols as well as their monoethers (including Gr. 5b)	5	■		
All halogenated hydrocarbons (including Gr. 6 and 6b)	6a	■		
All organic esters and ketones excluding Biodiesel (including Gr. 7a)	7			■ ¹
Aromatic esters and ketones excluding Biodiesel	7a			■
Biodiesel to DIN EN 14214	7b			■
Aqueous solutions of aliphatic aldehydes up to 40%	8			■
Aqueous solutions of organic acids (carboxylic acids) up to 10% as well as their salts (in aqueous solution)	9			■
Inorganic acids (mineral acids) up to 20% as well as acidic hydrolyzing inorganic salts in aqueous solution (pH < 6), excluding hydrofluoric acid and oxidizing acids and their salts	10			■

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Media group	PG	Classification		
		Low resistance (≤ 8 hours)	Medium resistance (≤ 72 hours)	High resistance (≤ 14 days)
Inorganic alkalis as well as alkaline hydrolyzing inorganic salts in aqueous solution (pH > 8), excluding ammonia solutions and oxidizing salt solutions (e.g. hypochlorite)	11			■
Aqueous solutions of inorganic non-oxidizing salts with a pH value between 6 and 8	12			■
Amines and their salts (in aqueous solution)	13		■	
Aqueous solutions of organic surfactants	14			■

PG = test group / test liquid

■ ¹ Resistant in the classification group although slight surface swelling and discolouration possible.

Do you have a particular application, which is not discussed in the table? We have tested the behaviour of GEPOTECH®-11/22 with many inorganic and organic chemicals and on request, will happily supply further information or carry out appropriate tests where there is a firm demand.

All values were determined under laboratory conditions at 20°C, variations due to higher temperatures, local factors and ambient conditions are possible. Slight optical surface changes or minor swelling without affecting the functionality of the waterproof membrane cannot strictly be excluded. If there is any doubt, we recommend that site trials are carried out.



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