



# TIBCHEMICALS

## PROTEGOL® EP Coating 32-99

Solvent-free, airless sprayable two-component epoxy coating,  
1 or 2-component airless hot-spray system application

### Description

PROTEGOL® EP Coating 32-99 is a solvent-free two-component epoxy coating.

The product is applied by two component airless hot spray or one-component airless equipment.

Bending of the pipes after applying the coating is not intended.

### Uses

Internal coating of iron and cast iron for

- fittings
- valves
- containers / tanks

### Benefits

- Solvent-free
- Fast-curing
- Coating thickness up to 900 µm per operation

### Product Data

The following data have been obtained at +20°C unless otherwise stated:

Type	Two-component material
Base	Epoxy
Solvents	None
Volume solids	100 %
Viscosity Comp. A Comp. B	Liquid (ca. 4,000 mPa) Liquid (ca. 4,000 mPa)
Density Comp. A Comp. B Comp. A + B	Ca. 1.43 g/cm <sup>3</sup> Ca. 1.66 g/cm <sup>3</sup> Ca. 1.50 g/cm <sup>3</sup>
Mixing ratio comp. A : B	60 : 40 parts by weight Ca. 1.75 : 1 parts by volume *
Application method	Two-comp. airless hot spray system

Application thickness	Approx. 900 µm/operation on vertical surface
Sag resistance	900 µm
Application temp.	Substrate > 10°C Comp. A 30°C to 50°C Comp. B 30°C to 50°C
Processing time 100 g batch (A + B)	At 20°C 50 min At 60°C ca. 9 min
Application method	One comp. airless spraying
Equipment	High efficient airless pump with a delivery rate of about 10 l/min and a possible pressure ratio of about 66:1, hose diameter 3/8 inch
Spray tip nozzle orifice:	0.021"- 0.026 "
Nozzle pressure:	200 to 240 bar typically
Waiting periods between applications	Approx. 4 hours
Tack free (0.5 mm coating)	After approx. 5 hours
Hard dry	Depending on temperature 12 to 18 hours
Exposure to mechanical and chemical load	After five days
Shore D**	80 ± 3
Cleaning material	Solvent D or G

\* Volumetric mixing ratio determined on processing conditions.  
\*\* After the coating has fully reacted and cured.

### Colours

Ivory, RAL 5015 Sky Blue, other colors on request.

### Coverage

Approx.: 0.15 kg/ 100 µm dft / m<sup>2</sup> (theoretical value)

### Packaging

- Comp. A and comp. B each in 200 ltr. (250 kg) non-returnable drums (Drums with PE inlay upon request.)

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### Storage

In a cool and dry place, approx. 24 months in tightly closed original containers.

Before material withdrawal, the component A and the component B has to be mixed thoroughly.

Component A can become solid due to crystallisation. It can be melted by heating (e.g. in water quench, in furnace at 50 °C).

### Storage and transport data

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	Flash point	RID / ADR	ICAO / IATA-DGR
Comp. A	> 100 °C	-	Cl. 9, UN 3082 / II
Comp. B	> 100 °C	-	Cl. 8, UN 2289 / II
Solvent D	25 °C	A II	Cl. 3, UN 1263 / III
Solvent G	ca. 7 °C	A I	Cl. 3, UN 1263

### Application

#### Substrate

The steel surfaces to be coated must be dry, clean and free from dust, have a good profile and be free from all matter acting as release agents (e.g. oil, grease, old paint). In order to obtain the necessary conditions, suitable substrate preparation methods such as blasting must be used.

Steel surfaces must be abrasive blast cleaned to near white (degree of cleanliness according to DIN EN ISO 12944-4 degree of cleanliness at least Sa 2½). The first coating must be applied immediately after blast cleaning.

The constructional design of steel and iron shall comply with DIN EN 14879, part 1. The surface profile should be between 50 µm and 70 µm. The blasting material shall be angled-shot.

#### Two-component application

Ensure that the temperature of the substrate is at least 3 °C above the dew point to avoid condensation of the substrate to be coated due to humidity.

PROTEGOL® EP Coating 32-99 is applied using a two-component airless hot-spray system. Dosing for each component must be very precise with a tolerance of ± 3%.

Relative humidity during application and curing of the coating must be < 80 %.

Depending on the field of use, small quantities can be mixed manually and applied by brush.

Both components should be stored at room temperature which will make application easier at lower temperatures whereas at high summer temperatures the drums shall be stored in a cool place, by no means expose them to direct sunlight.

#### One-component application

#### Mixing

Both components should be stored at room temperature which will make application easier. At high summer temperature the drums shall be stored in a cool place. Optimum material temperatures for a good spray result are 20 °C to 25 °C.

Thoroughly mix the two components with a slow speed mechanical stirrer (e.g. drill fitted with a stirring paddle running at about 400 rpm). Take care that there is no air entrapment. Component B shall be added to component A while stirring. Then the whole content is put to another new and clean container. Any adhering residues are stripped off with a spatula and then added to the new container while still stirring, until the material has been mixed homogeneously.

#### Application

To ensure a good spray result the material temperature in the spray gun has to be 20 °C minimum, this is the reason why we recommend the usage of a flow heater on the high pressure side of the airless pump. Put the pump immediately after mixing directly in the

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mixing vessel and start spray application. Take care that after every 15 to 20 min. this vessel has to be changed to avoid that reacted material flows into the pump. After every interruption of the pump, the hose and the spray gun have to be cleaned with solvent.

Depending on the area of use small quantities can be mixed manually and applied by brush.

### Maintenance of tools

Immediately after use all instruments should be cleaned with Solvent D or G.

### Health and Safety

Although PROTEGOL® EP Coating 32-99 is solvent-free, it may, if processed at elevated temperatures, develop vapours which may cause irritation to the skin. It must be ensured by suitable measures, such as continuous ventilation, mechanical extraction or respiratory protection that such vapours and any mist eventually forming during the spraying process are not inhaled. Therefore we recommend wearing filter or fresh air masks.

When using PROTEGOL® EP Coating 32-99, all safety precautions applicable to handling epoxy resins and their hardeners must be observed. They are listed in the "Merkblatt für die Verarbeitung von Polyester- und Epoxidharzen" (Application advice for polyester and epoxy resins) published by the German liability insurance association of the chemical industry (order number "M 023", Jedermann-Verlag, Heidelberg).

Notes on dangers and safety advice on the containers must be strictly observed!

In addition, the health and safety precautions being effective in the respective country should be observed.

Contact with the unprotected skin should be avoided. Any material accidentally splashed onto the skin should immediately be removed using warm, soapy water or preferably with warm non-alkaline detergent.

(such as Lutrol E 400, BASF) Afterwards it is advised to wash again thoroughly with soap and water.

It is recommended to protect the skin with a silicone-free barrier cream before starting to work (such as Stokolan, producer: Stockhausen, Krefeld or Sansibal, producer: Basotherm, Biberach/ Riss).

Any further information can be obtained from the material safety data sheets.

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