

**2C-EP Protective Coating
for steel hydraulics construction**

- **FIELDS OF APPLICATION** Solvent-free 2-pack epoxy protective coating, generally for high-grade corrosion protection of steel surfaces for hydraulic engineering, e.g. floodgates, steel sheet pilings, weir systems, water power plants etc. WIEMERDUR-E881 will be applied directly on prepared steel surfaces or optional on priming coat WIEMERDUR-E880R-Zink.
- **PRODUCT PROPERTIES** WIEMERDUR-E881 is based on a 2-pack epoxy resin. Cured coatings are showing excellent adhesion on steel surfaces, abrasion resistance and a high tolerance against early exposure of water.
- Capacities** WIEMERDUR-E881 shows an excellent resistance against fresh water, seawater and brackish water.
WIEMERDUR-E881 is resistant against atmospheric conditions also against aggressive atmosphere, oil and grease as well as against diluted acid, alkalis and a plenty of chemicals.
- Temperature resistance (dry heat): 100 °C permanently
150 °C short term
- Temperature resistance (humid heat): 50 °C permanently
70 °C short term
- BAW test number:** 329-18 from 2018-11-16
The suitability of the protective coating WIEMERDUR-E881 is confirmed for Im1 (fresh water), durability high.
- 328-18 from 2018-11-16
The suitability of the multi-layer system (see coating systems) is confirmed for Im1 (fresh water), Im2 (seawater), Im3 (soil), durability high.
- **TECHNICAL DATA**
- | | <u>WIEMERDUR-E881</u> | <u>Curing agent</u> |
|-----------------------------------|--|--------------------------------------|
| Product number and colours | E881-S7544, silk grey
E881-S8520, redbrown approx. RAL 8012
E881-S9200, black

(other colours on demand) | EX-881 |
| Mixing ratio | 7 parts by weight
4 parts by volume | 1 part by weight
1 part by volume |
| Degree of gloss | satin glossy | |
| Shelf life | At least 12 months in original cans at normal temperature.
Storage temperature < 10 °C should be avoided | |

Theoretical parameters

WIEMERDUR-E881, E881-S9200

Density (g/mL)	Solid content (weight %)	VOC-content		Solid content by volume	
		(weight %)	per 10 µm DFT* (g/m ²)	(%)	(mL/kg)
1.65	100	0	0	100	605
DFT (µm)	Calculated wet-film thickness (µm)	Consumption (kg/m ²)		Spreading rate (m ² /kg)	
500	500	0.830		1.2	

Remarks

- All values are relevant for the mixture in case of two-pack materials
- DFT: Dry film thickness
- All values named are approximate values and relevant for the quality (colour).
The values may differ slightly for other colours.
- * baseline for calculation: consumption in g/m² at DFT 10 µm

**Notes referring to
Directive 2004/42/EC
„Decopaint-Directive“**

Subcategory as referred to in Annex IIA	VOC limit values (Phase II from 2010)	Max. VOC content of the product in its ready for use condition (including the max. amount of diluents as given in "Application methods")
J ("Two-pack reactive performance coatings") Type SB	500 g/l	< 500 g/l

Coating systems

Substrate	Steel	
Surface preparation	Blast-cleaning in preparation grade Sa 2 ½ in accordance with EN ISO 12944-4, Roughness grade middle (G) in accordance with EN ISO 8503-1	
	Product	NDFT* (µm)
Priming coat	WIEMERDUR-E880R-Zink	50
Protective coating	with priming coat	450
	WIEMERDUR-E881 Monolayer	500

* film thickness in accordance with ISO 19840

The coating system/s named are examples proved in practice which usually can be modified. The choice of coating materials as well as their number and film thickness depends on the stress to be expected, existing specifications and the methods of application.

**■ INSTRUCTIONS
FOR APPLICATION**

Surface preparation

Steel surfaces:

Blast-cleaning in accordance with EN ISO 12944-4, surface preparation grade Sa 2 ½, roughness grade middle (G) in accordance with EN ISO 8503-1

Coatings:

Adhesion-reducing substances must be removed.

The surfaces to be coated have to be free of grease, oil, dust and salts.

**Air and surface
temperature**

minimum 10 °C to maximum 40 °C

Relative humidity max. 85 % relative humidity

The surface temperature of the parts to be coated must be at least 3 °C above the dew point of the surrounding air throughout the application.
(see basic specification for corrosion protection EN ISO 12944-7)

Comments on processing

Mixing Mix WIEMERDUR-E881 with the appropriate curing agent thoroughly and homogeneously, preferably with a mechanical mixer. Material must be decanted in a clean container/bucket and has to be mixed again. Then the material is ready for use.

Because of the short pot life and in cases of longer spray hose distance (> 30 m) please use a plural component airless spray equipment.

Application methods

Means of application / parameters	recommended nominal dry film thickness per operation
Airless spraying Nozzle diameter: 0.43 to 0.64 mm Spraying angle: 30 to 80 ° Material pressure: 350 to 450 bar	450 to 500 µm
Roller coating / brush application (only recommended for partial corrections)	200 to 300 µm

- Remarks**
- The values above are related to a temperature of approximately 20 °C and are recommendations respectively approximate values.
 - In practice it may be necessary to make modifications.
 - At lower ambient conditions, we recommend storage of material at min. 20 °C and/or the use of flow heater, curing hose etc., recommended temperature of material: max. 30 °C
 - Basic requirement for a well spraying application is the use of a powerful plural component spraying system respectively airless pump.
 - Fluid handling for larger hose length:
supplying 3/8 inch direct , in front of the pistol 1/4 inch

Cleaning of equipment With thinner V-568
Remove fully cured material mechanically

Pot life	Air temperature	+ 10 °C	+ 23 °C	+ 30 °C
	Max. pot life	35 min.	30 min.	20 min.

Over-coating interval	Air temperature	+ 10 °C	+ 23 °C	+ 30 °C
	Waiting period (hours)	12 to 48	6 to 48	3 to 24

- maximum waiting time until revision: 3 months (without UV-stress)
- coatings with higher waiting times respectively after UV-stress need to be prepared by sweep-blasting and subsequent cleaning.

Drying and curing times
at 500 µm DFT

Air temperature	10 °C	23 °C	30 °C
foot traffic	24 h	12 h	6 h
mechanically resistant	72 h	48 h	24 h
chemical resistant	7 days	5 days	3 days

■ **SAFETY MEASURES**

The curing agent produces an alkaline reaction on skin and mucous membrane (eyes). Soiling must be avoided. In case of direct contact clean thoroughly with water and soap.

The relevant data concerning safety measures can be found in the material safety data sheet of this product.

The valid issue of the material safety data sheet is available from our website www.geholit-wiemer.de.

The statements made here are based on the present state of our knowledge. We do not assume liability for damages resulting from the use of the material or from any advice given by our employees. In this respect, any advice given by our employees has to be seen as not binding. The processor is responsible for the supervision of construction, the maintaining of process guidelines and the observation of the established rules of techniques, even if our employees are present at the time our material is being applied.

This information is subject to modifications due to technical improvements. The latest edition of this information replaces all previous issues.