STEULER | Linings

TI 222E

Technical Information Surface Protection Linings
Issue 09.05.2022

OXYDUR iVE P

Monostyrene-free and chemically highly resistant painting based on vinyl ester resin

Base

Epoxy Novolac Vinyl ester resin, solvent-free

Material Group

Floor / wall coatings - coatings, impregnations

Description and use

Monostyrene-free, highly chemically resistant, coloured painting based on vinyl ester resin for OXYDUR iVE systems.

Properties

- Plain coloured
- Smooth, easy to clean surface
- „Total solid“ (complies with the test method of Deutsche Bauchemie)
- Temperature resistant up to 60 °C on concrete substrates

NOTE! Colour deviations between adjacent OXYDUR iVE systems may be a result of different fillers. A consultation with the laboratory / Application Technology Department is necessary.

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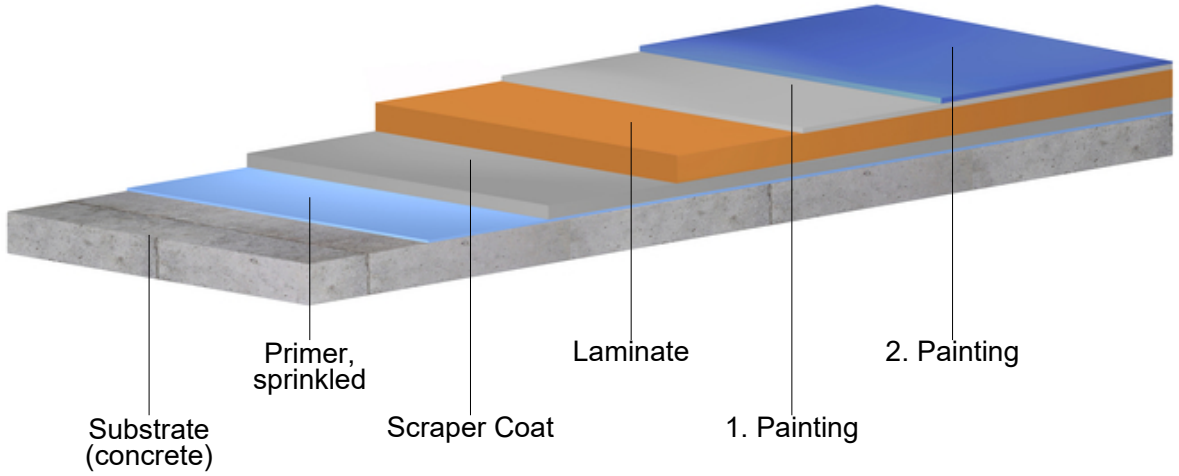
System Design

Concrete

- Oxydur iVE System (Scraper Coat / Laminate)
- Oxydur iVE P Painting
  - 2 applications



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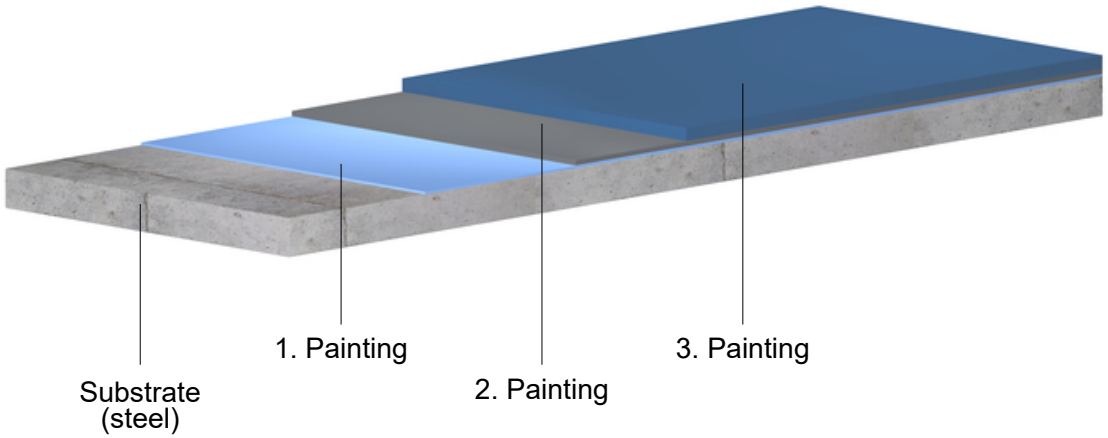
Steel

- Oxydur iVE P Painting
  - 3 applications



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Physical Data

Property [unit], Test method	Value
Density [g/cm³], DIN EN ISO 1183-1, ASTM D 792 (Of the cured solution)	1.2
Abrasion resistance [mg/1000 turns] ASTM D 4060, Taber Disc CS 17	120
Temperature resistance [°C] for a short time (e.g. with high-pressure cleaners)	60 100
	Data are mean values.

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Chemical Resistance

\+ = resistant at 20 °C

(+) = short time resistant

− = not resistant

Media

Acetic acid conc.	+	Chromic acid 40 %	+	Nitric acid 65 %	+
Acetone	+	Conc. hydrochloric acid	+	Petrol	+
Alcohols (Methanole)	+	Ester / Ketones	+	Phosphoric acid. conc.	+
Aldehyde	+	Formic acid 100 %	+	Plant / animal oils and fats	+
Alkaline solutions 50 %	+	Hydrofluoric acid 40 %	+	Sulfuric acid 80 %	+
Ammonia 25 %	+	Hydrogen peroxide 50 %	+	Trichlorethylene	+
Benzene / Toluene / Xylene	+	Lactic acid	+		
Chlorine bleaching 13 % active chlorine	+	Mineral oils	+		

Substrate

A coating system (scraper coat / laminate) based on monostyrene-free epoxy novolac vinyl ester resin is applied to concrete as a substrate. The surface must be clean and free of separating substances.

On steel, the painting can be applied directly.

Please contact our Application Technology Department for approval of the project-specific possible application.

Requirements

Application temperature	approx. 15–25 °C
Dew point distance	> 3 K
Dew point distance from 70% air humidity	> 5 K

Optimal temperature is 20 °C. Higher and lower temperatures influence the pot life and consistency of the mixtures.

Avoid draughts and solar radiation.

Concrete / screed

Refer to DIN EN 14879-1 as well as to STEULER-KCH-Formsheet 010.

To achieve sufficient adhesive tensile strength, the substrate must generally be pre-treated in such a way that it is free of cement slurry, cement skin, loose and friable parts, structural defects and separating substances.
The residual moisture of cementitious substrates must not exceed 4 %.

The condition of the substrate must be documented by STEULER-KCH-Test-Record 006 (concrete) resp. STEULER-KCH-Test-Record 007 (screed).

Steel

Refer to DIN EN 14879-1 as well as to STEULER-KCH-Formsheet 020 and 030.

The steel surface is blasted to near white blast cleaning. A surface cleanliness of Sa 2½ according to DIN EN ISO 12944-4 and the roughness grade "Medium (G)" according to DIN EN ISO 8503-1 must be achieved; minimum surface roughness Rz = 70 µm. After blasting, the formation of new rust must be prevented by suitable measures, such as priming directly.

The condition of the substrate must be documented by STEULER-KCH-Test-Record 003 (Steel) resp. STEULER-KCH-Test-Record 004 (Inspection of Grit Blasting Works).

Moisture

During application, the substrate must be kept dry. No moisture (condensate, mist, etc.) must get onto the material.

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Packaging / Shelf life

All components must be stored and transported dry. The minimum shelf life applies to a storage temperature of 20 °C, unless otherwise specified. Higher temperatures reduce, lower temperatures increase the minimum shelf life.

Component	Item number	Package	Content	Shelf life
Oxydur-iVE-Painting-Solution grey*	5032032006	Hobbock	10 kg	24 Months
Oxydur-iVE-Accelerator 1	5032192023	Canister	2.5 kg	24 Months
Oxydur-iVE-Hardener	5032189007	PE Bottle	1 kg	12 Months
PE-Fibre 940T	5119125007	Drum	1 kg	24 Months

* Other colours on request.

For handling, transport and storage observe the relevant safety data sheets.

Mixing Ratio / Consumption

Premix for an easier application

To simplify the application mix Oxydur-iVE-Accelerator 1 into each 10 kg of Oxydur-iVE-Painting-Solution. The accelerator quantities are dependent on temperature.

Component	Mix	kg / mix
Oxydur-iVE-Painting-Solution	pre-dosed package (10 kg)	10.00
Oxydur-iVE-Accelerator 1	80 ml	0.08

NOTE! The pre-accelerated solutions must be used within one day.

Oxydur iVE P Painting

Component	Mix	g / mix	Velour roller g / m²	Brush g / m²
pre-accelerated Oxydur-iVE-Painting-Solution	1.8 l	2000	78.0	146.4
Oxydur-iVE-Hardener	34 ml	40	1.6	2.9
PE-Fibre 940T	200 ml	10	0.4	0.7
Total		**2050**	**80.0**	**150.0**

Consumption per application (velour roller) (approx.):	80 g/m²	Application steps:	2–3
Consumption per application (brush) (approx.):	150 g/m²	Mix yields per application (approx.):	25.6 / 13.7 m²

Pot Life

Pot life depends on temperature. The waiting time until further processing of the Oxydur-iVE-Components is included in the pot life.

Temperature	Pot life
15 °C	approx. 80 minutes (including 15 minutes waiting time)
20 °C	approx. 60 minutes (including 10 minutes waiting time)
25 °C	approx. 50 minutes (including 5 minutes waiting time)

Waiting and curing times

The minimum waiting time until further processing and the maximum waiting time between application steps are as follows (approx.):

Temperature	Walkable after	Maximum waiting time
15 °C	17 h	96 h
20 °C	12 h	72 h
25 °C	8 h	72 h

The finished coating is fully mechanically and chemically resistant at 20 °C after 5 days.

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Safety and Disposal

The following points should be observed:

- Sufficient ventilation and venting (especially in pits and tanks)
- No smoking and no fire
- Safety Data Sheets
- Observe hazard warnings and safety instructions on labels
- Wear required personal protective equipment (avoid skin contact with materials)
- Clean and protect hands with skin protection soap (no solvents!) and skin protection cream
- Wear a dust mask when grinding (e.g. for repairs)
- Operating instructions as per § 14 of GefahrstoffV (Toxic Substances Act) and TRGS 507 (Technical regulations for Hazardous Substances - Germany)
- Accident prevention regulations by the Liability Insurance Association for the Chemical Industries (Germany)
- Avoid direct contact of the materials with the flame, especially during welding work (welding beads) on site

Preferably consume residual quantities. Do not pour into a spout or dustbin! Collect separately for disposal in durable, lockable and labelled containers.

Cleaning of Equipment

Tools soiled with uncured materials can be cleaned with STEULER UNIVERSAL CLEANER (Technical Information TI 190). Only clean in well ventilated areas.

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