

## TI 222B

Technical Information Surface Protection Linings  
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# OXYDUR iVE B

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

## Base

Epoxy Novolac Vinyl ester resin, solvent-free

## Material Group

Floor Coating – Broadcast Coating

## Description and use

**Monostyrene-free** and chemically highly resistant broadcast coating based on vinyl ester resin to protect concrete and steel substrates. Jointless, plain coloured and with slip-resistant surface.

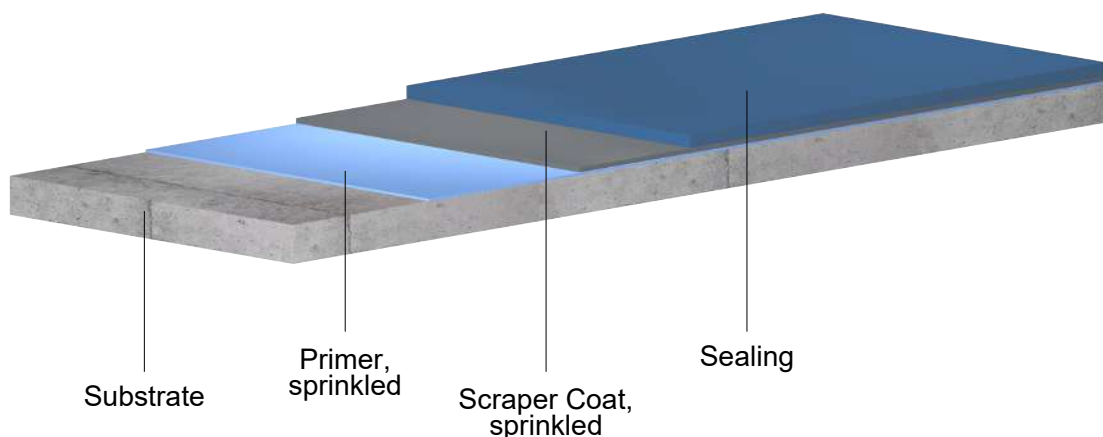
## Properties

- Temperature resistant up to 60 °C on concrete substrates
- „Total solid“ (complies with the test method of Deutsche Bauchemie)
- Fit for vehicles with pneumatic, solid rubber, Vulkollan or polyamide tyres
- Slip-resistant surface

If the coating is to be electrically conductive, use OXYDUR iVE BC (see TIVA 222C).

## System Design

- Alkadur HR Primer (on concrete and steel ), sprinkled
- *Alternative:* Oxydur iVE Primer (on existing Oxydur iVE Laminate), sprinkled
- Oxydur iVE Scraper Coat, sprinkled
- Oxydur iVE Sealing



*Graphic not true to scale*

## Physical Data

| Property [unit], Test method  | Value     |
|---|-----------|
| Density [g/cm <sup>3</sup> ], 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                   | 40        |
| Temperature resistance [°C]<br>for a short time (e.g. with high-pressure cleaners)  | 60<br>100 |
| Data are mean values.   |           |

## Chemical Resistance

+ = resistant at 20 °C

(+) = short time resistant

- = not resistant

Although the system is solvent resistant, it is recommended to use the electrically conductive OXYDUR iVE BC (TI/VA 222C) for flammable solvents.

### 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<br>13 % active chlorine | + | Mineral oils            | + |                              |   |

## Substrate

### Requirements

|  |                  |
|--|------------------|
| Application temperature                  | approx. 10–30 °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.

## 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 |
|-----------------------------------|-------------|-----------|---------|------------|
| Alkadur-HR-Solution               | 5035197001  | Hobbock   | 25 kg   | 24 Months  |
| Alkadur-HR-Hardener               | 5035198001  | Hobbock   | 25 kg   | 24 Months  |
| Oxydur-iVE-Solution               | 5032186001  | Hobbock   | 25 kg   | 24 Months  |
| Oxydur-iVE-Sealing-Solution grey* | 5032198001  | Hobbock   | 25 kg   | 24 Months  |
| Oxydur-iVE-Accelerator 1          | 5032192023  | Canister  | 2.5 kg  | 24 Months  |
| Oxydur-iVE-Accelerator 2          | 5032193023  | Canister  | 2.5 kg  | 24 Months  |
| Oxydur-iVE-Hardener               | 5032189007  | PE Bottle | 1 kg    | 12 Months  |
| SKC-Filler 11                     | 5011198002  | Bag       | 20 kg   | 24 Months  |
| SKC-Filler 13                     | 5011200001  | Bag       | 25 kg   | 24 Months  |
| SKC-Filler 15                     | 5011202001  | Bag       | 25 kg   | 24 Months  |
| SKC-Filler 16                     | 5011203001  | Bag       | 25 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 and 2 in 25 kg of each of the various Oxydur-iVE-Solutions. The Accelerator quantities are dependent on temperature. For further processing, remove 5 kg of each of the pre-accelerated solutions.

## Pre-accelerated Oxydur-iVE-Solutions depending on substrate temperature

| Component  | Mix                       | kg / mix           |
|--|---------------------------|--------------------|
| Oxydur-iVE-Solution <i>or</i><br>Oxydur-iVE-Sealing-Solution   | pre-dosed package (25 kg) | 25.00              |
| <b>from 24 to 30 °C:</b><br>Oxydur-iVE-Accelerator 1   | 60 ml                     | 0.06               |
| <b>from 17 to 25 °C:</b><br>Oxydur-iVE-Accelerator 1   | 100 ml                    | 0.10               |
| <b>from 12 to 18 °C:</b><br>Oxydur-iVE-Accelerator 1   | 180 ml                    | 0.18               |
| <b>from 8 to 13 °C:</b><br>Oxydur-iVE-Accelerator 1  | 250 ml                    | 0.25               |
| <b>Total</b>   |                           | <b>25.06–25.25</b> |
| <b>At low temperatures and for faster curing for all variants, especially for the application of roving:</b> |                           |                    |
| Oxydur-iVE-Accelerator 1   | 150 ml                    | 0.15               |
| Oxydur-iVE-Accelerator 2   | 150 ml                    | 0.15               |

The temperature of the components must be adapted to the substrate temperature, otherwise the reactivities in the mix and on the surface will differ. For substrate temperatures below 15 °C, the difference may not exceed 5 K. At temperatures above 30 °C, the material should be cooled.

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

### Alkadur HR Primer (on concrete/steel)

| Component   | l / mix                | kg / mix              | kg / m <sup>2</sup> |
|---|------------------------|-----------------------|---------------------|
| Alkadur-HR-Solution   | 1.6                    | 1.80                  | 0.161               |
| Alkadur-HR-Hardener   | 1.0                    | 1.00                  | 0.089               |
| <b>Total</b>  |                        | <b>2.80</b>           | <b>0.250</b>        |
| Sprinkling with SKC-Filler 15 (fine) or 16 (rough). Consumption approx. 2.0 kg/m <sup>2</sup> |                        |                       |                     |
| Total consumption (approx.):  | 0.25 kg/m <sup>2</sup> | Mix yields (approx.): | 11.2 m <sup>2</sup> |

### Alternative: Oxydur iVE Primer (on existing Oxydur iVE Laminate)

| Component   | Mix                    | kg / mix              | kg / m <sup>2</sup> |
|---|------------------------|-----------------------|---------------------|
| pre-accelerated Oxydur-iVE-Solution   | 4.5 l                  | 5.00                  | 0.245               |
| Oxydur-iVE-Hardener   | 85 ml                  | 0.10                  | 0.005               |
| <b>Total</b>  |                        | <b>5.10</b>           | <b>0.250</b>        |
| Sprinkling with SKC-Filler 15 (fine) or 16 (rough). Consumption approx. 2.0 kg/m <sup>2</sup> |                        |                       |                     |
| Total consumption (approx.):  | 0.25 kg/m <sup>2</sup> | Application steps:    | 1                   |
|   |                        | Mix yields (approx.): | 20.4 m <sup>2</sup> |

### Oxydur iVE Scraper Coat

| Component   | Mix                    | kg / mix              | kg / m <sup>2</sup> |
|---|------------------------|-----------------------|---------------------|
| pre-accelerated Oxydur-iVE-Solution   | 4.5 l                  | 5.00                  | 0.794               |
| Oxydur-iVE-Hardener   | 85 ml                  | 0.10                  | 0.016               |
| SKC-Filler 13   | 5.4 l                  | 7.50                  | 1.190               |
| <b>Total</b>  |                        | <b>12.60</b>          | <b>2.000</b>        |
| Sprinkling with SKC-Filler 15 (fine) or 16 (rough). Consumption approx. 3.0 kg/m <sup>2</sup> |                        |                       |                     |
| Consumption is reduced by approx. 20 %, if Filler 15 was sprinkled previously.                |                        |                       |                     |
| Total consumption (approx.):  | 2.00 kg/m <sup>2</sup> | Application steps:    | 1                   |
|   |                        | Mix yields (approx.): | 6.3 m <sup>2</sup>  |

## Oxydur iVE Sealing when sprinkling with SKC-Filler 16

| Component  | Mix     | kg / mix           | Sealing 1<br>kg / m <sup>2</sup> | Sealing 2<br>kg / m <sup>2</sup> |
|--|---------|--------------------|----------------------------------|----------------------------------|
| pre-accelerated Oxydur-iVE-Sealing-Solu-<br>tion | 4.2 l   | 5.00               | 0.490                            | 0.230                            |
| Oxydur-iVE-Hardener                              | 85 ml   | 0.10               | 0.010                            | 0.005                            |
| SKC-Filler 11 (2. Sealing)                       | (2.0 l) | (2.50)             | -                                | 0.115                            |
| <b>Total</b>                                     |         | <b>5.10 (7.60)</b> | <b>0.500</b>                     | <b>0.350</b>                     |

Consumption 1. Sealing: 0.50 kg/m<sup>2</sup> Application steps: 2  
 Consumption 2. Sealing: 0.35 kg/m<sup>2</sup> Mix yields (approx.): 10/22 m<sup>2</sup>

## Oxydur iVE Sealing when sprinkling with SKC-Filler 15

| Component  | Mix     | kg / mix           | Sealing 1<br>kg / m <sup>2</sup> | Sealing 2<br>kg / m <sup>2</sup> |
|--|---------|--------------------|----------------------------------|----------------------------------|
| pre-accelerated Oxydur-iVE-Sealing-Solu-<br>tion | 4.2 l   | 5.00               | 0.343                            | 0.131                            |
| Oxydur-iVE-Hardener                              | 85 ml   | 0.10               | 0.007                            | 0.003                            |
| SKC-Filler 11 (2. Sealing)                       | (2.0 l) | (2.50)             | -                                | 0.066                            |
| <b>Total</b>                                     |         | <b>5.10 (7.60)</b> | <b>0.350</b>                     | <b>0.200</b>                     |

Consumption 1. Sealing: 0.35 kg/m<sup>2</sup> Application steps: 2  
 Consumption 2. Sealing: 0.20 kg/m<sup>2</sup> Mix yields (approx.): 14.5/38 m<sup>2</sup>

## Pot Life

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

### Alkadur HR Primer

| Temperature | Pot life           |
|-------------|--------------------|
| 20 °C       | approx. 40 minutes |

### Oxydur iVE components

| Temperature                         | Pot life  |
|-------------------------------------|---|
| 10 °C (Accelerator 1 + 2, Hardener) | approx. 50 minutes (including 15 minutes waiting time)  |
| 10 °C (Accelerator 1, Hardener)     | approx. 120 minutes (including 25 minutes waiting time) |
| 15 °C (Accelerator 1, Hardener)     | approx. 90 minutes (including 15 minutes waiting time)  |
| 20 °C (Accelerator 1, Hardener)     | approx. 70 minutes (including 10 minutes waiting time)  |
| 25 °C (Accelerator 1, Hardener)     | approx. 60 minutes (including 5 minutes waiting time)   |
| 30 °C (Accelerator 1, Hardener)     | approx. 35 minutes (including 2 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 |
|-------------|----------------|----------------------|
| 10 °C       | 24 h           | 96 h                 |
| 15 °C       | 17 h           | 96 h                 |
| 20 °C       | 12 h           | 72 h                 |
| 25 °C       | 8 h            | 72 h                 |
| 30 °C       | 5 h            | 48 h                 |

For sprinkled layers, the maximum waiting time for next layers does not apply as long as the sprinkling is intact and clean.

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

## 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.

## GISCODE

| Product           | GISCODE |
|-------------------|---------|
| Alkadur HR Primer | RE90    |

## 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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