

## TI 222C

Technical Information Surface Protection Linings  
Issue 07.04.2022

# OXYDUR iVE BC

Monostyrene-free, electrically conductive 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

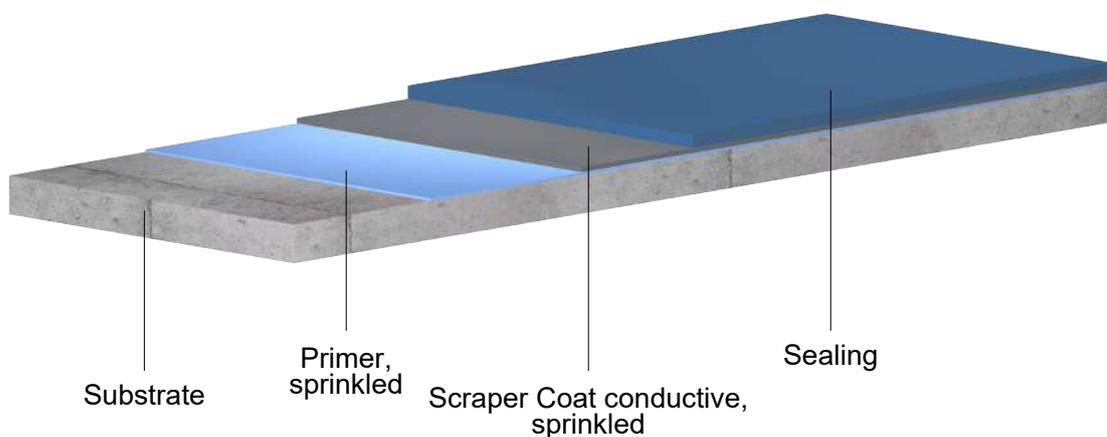
**Monostyrene-free**, electrically conductive and chemically highly resistant broadcast coating based on vinyl ester resin to protect concrete and steel substrates. Jointless, plain coloured and with slip-resistant surface.

## Properties

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

## System Design

- Alkadur HR Primer (on concrete and steel ), sprinkled
- *Alternative:* Oxydur iVE Primer (on existing Oxydur iVE Laminate), sprinkled
- Oxydur iVE Scraper Coat conductive, 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
Dissipation resistance [Ohm] to DIN EN 14879-3 at a relative humidity of > 70 %, ASTM F 150/98	≤ 10 <sup>6</sup>
Abrasion resistance [mg/1000 turns] ASTM D 4060, Taber Disc CS 17	60
Temperature resistance [°C] for a short time (e.g. with high-pressure cleaners)	60 100
Data are mean values.	

## 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

### 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 15	5011202001	Bag	25 kg	24 Months
SKC-Filler 16	5011203001	Bag	25 kg	24 Months
SKC-Filler 1L	5011192001	Bag	25 kg	24 Months
SKC-Filler 2L	5011193001	Bag	25 kg	24 Months
SKC-Filler 3L	5011194017	Bag	12.5 kg	24 Months
Copper strip self-adhesive	9703301015	Roll 19-20 mm wide		unlimited

\* 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 or Oxydur-iVE-Sealing-Solution	pre-dosed package (25 kg)	25.00
<b>from 24 to 30 °C:</b> Oxydur-iVE-Accelerator 1	60 ml	0.06
<b>from 17 to 25 °C:</b> Oxydur-iVE-Accelerator 1	100 ml	0.10
<b>from 12 to 18 °C:</b> Oxydur-iVE-Accelerator 1	180 ml	0.18
<b>from 8 to 13 °C:</b> 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 conductive

Component	Mix	kg / mix	kg / m <sup>2</sup>
pre-accelerated Oxydur-iVE-Solution	4.5 l	5.00	0.825
Oxydur-iVE-Hardener	85 ml	0.10	0.016
SKC-Filler 3L	4.8 l	4.00	0.659
<b>Total</b>		<b>9.10</b>	<b>1.500</b>
Sprinkling with SKC-Filler 1L (rough) or 2L (fine). Consumption approx. 3.0 kg/m <sup>2</sup>			
Consumption is reduced by approx. 20 %, if Filler 15 was sprinkled previously.			
Total consumption (approx.):	1.50 kg/m <sup>2</sup>	Application steps:	1
		Mix yields (approx.):	6.1 m <sup>2</sup>

## Oxydur iVE Sealing when sprinkling with SKC-Filler 1L

Component	Mix	kg / mix	Sealing 1 kg / m <sup>2</sup>	Sealing 2 kg / m <sup>2</sup>
pre-accelerated Oxydur-iVE-Sealing-Solu- 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 2L

Component	Mix	kg / mix	Sealing 1 kg / m <sup>2</sup>	Sealing 2 kg / m <sup>2</sup>
pre-accelerated Oxydur-iVE-Sealing-Solu- 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.

36028804090492555 • V 5 • en

All information contained in this Technical Information is based on the present state of our knowledge and practical experience. All data are approximate values for guidance only. A legally binding warranty of certain characteristics or the suitability for a certain purpose of use cannot be derived from this.

The information given in this Technical Information is our intellectual property. The Technical Information may neither be copied nor used by unauthorized parties, nor professionally distributed or otherwise made accessible to third parties without our prior consent.

This issue replaces all previous versions.