

TI 204A

Technical Information Surface Protection Linings
Issue 01.12.2020

OXYDUR UP 82 PROTECT

Electrically insulating lining system consisting of a highly flexible, crack-bridging and chemically resistant sealing layer with subsequent tile or brick lining. General construction technique permit of the DIBt, Berlin: Z-59.31-495.

Base

Polyurethane (sealing layer)

Material Group

Secondary containments

Combined lining system

Description and use

Combined lining system for concrete surfaces consisting of a crack-bridging sealing layer with subsequent tile or brick lining. The system is highly chemically resistant and electrically insulating.

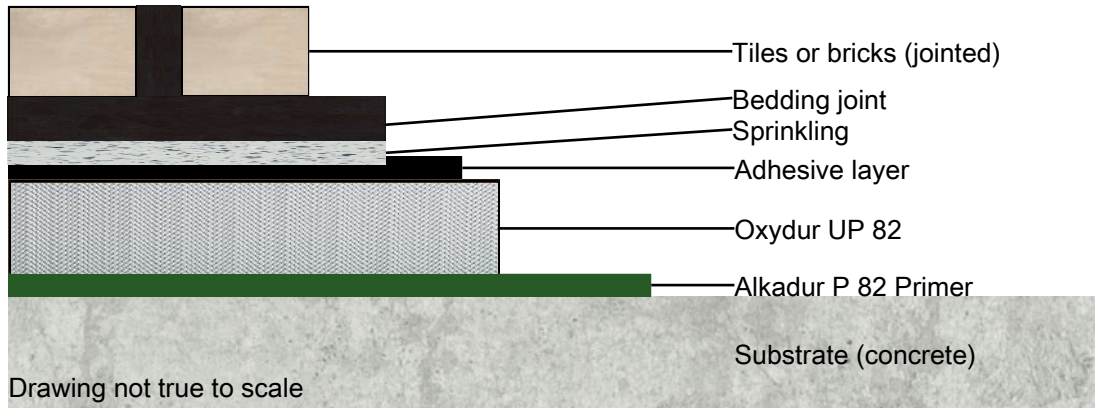
For sealing secondary containments which serve for the storage, filling and handling of water-polluting liquids ("LAU-Anlagen").

Properties

- The temperature resistance can reach the resistance of the mortars used, depending on the thickness of the tile and brick layer and the duration of the load. The temperature resistance will be advised in individual cases by our Application Technology Department.
- slip-resistant surface (depending on the tiles and bricks used)
- fit for vehicles with pneumatic, solid rubber, Vulkollan or polyamide tyres
- sealing layer crack-bridging up to 0.5 mm

System Design

- Alkadur P 82 Primer (Technical Information TI 136).
- Oxydur UP 82
- Polyester-Fleece 80 g/m² for corners, edges, flanges etc.
- Oxydur UP 82 Painting as adhesive layer for subsequent tiles/bricks (sprinkled)
- Mortar bed and butt joints with OXYDUR A (see TI/VA 301), OXYDUR VEQ (see TI/VA 317A) or FURADUR MORTAR (see TI/VA 322)
- Tiles or bricks (15-115 mm thick, acid-resistant bricks, red coloured ceramics or porcelain stoneware)



Physical Data

Parameters for the sealing layer

Property [unit], Test method	Value
Density [g/cm ³], DIN EN ISO 1183-1, ASTM D 792	1.06
Dissipation resistance [Ohm] to DIN EN 14879-3 at a relative humidity of > 70 %, ASTM F 150/98	> 10 ¹⁰
Elongation at tear [%], DIN EN ISO 527, ASTM C 307	150
Shore A hardness, DIN 53505, ASTM D 2240	≈ 95
Tensile strength [MPa], DIN EN ISO 527, ASTM C 307	13
Elastic deformation [%]	95
Plastic deformation [%]	5
Data are mean values	

Please refer to the corresponding technical information for the physical data of the mortars.

Chemical Resistance

Information of chemical resistance is available on request.

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).

Moisture

During application, the substrate must be kept dry. The material has to be protected from any kind of moisture (condensation, fog, washing water) (except for washable joints according to the Application Instructions of the mortars used).

Packaging / Shelf life

All components must be stored and transported dry. For some components special temperature limits for storage and transport apply (see note). 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-P82-Resin	5035233181	Drum	9.2 kg	24 Months
Alkadur-P82-Hardener	5035232003	Drum	5 kg	24 Months
Alkadur-P82-Additive	5035231045	Can	1.25 kg	12 Months
Oxydur-UP82-Solution 1 RAL7031*	5034128004	Drum	6 kg	24 Months
Oxydur-UP82-Solution 2**	5034134058	Can	2.4 kg	6 Months
SKC-Filler 16	5011203001	Bag	25 kg	24 Months
Polyester-Fleece 80 g/m ²	9300900395	Roll 1.10 m wide		unlimited
Polyester-Fleece 80 g/m ²	9300900842	Roll 0.15 m wide		unlimited

* The colours may differ slightly from the RAL colour template. Other colours on request.

** Frost-free storage and transport.

Plus the components for the mortar used.

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

Mixing Ratio / Consumption

Alkadur P 82 Primer

Component	kg/m ²	Part by weight	kg / batch	l / batch
Alkadur-P82-Resin	0.149	7.36	9.200**	8.070
Alkadur-P82-Hardener	0.081	4.00	5.000**	4.760
Alkadur-P82-Additive	0.020	1.00	1.250**	1.080
Total	0.250		15.450	

Total consumption in kg/m² (approx.): 0.250

Work steps: 1

Batch yields in m² (approx.): 61.8

Oxydur UP 82

Component	kg/m ²	Part by weight	kg / batch	l / batch
Oxydur-UP82-Solution 1	2.643	2.50	6.000**	5.940
Oxydur-UP82-Solution 2	1.057	1.00	2.400**	2.040
Total	3.700		8.400	

Total consumption in kg/m² (approx.): 3.700

Layer thickness in mm (approx.): 3.5

Oxydur UP 82 floor

Batch yields in m² per layer (approx.): 4.5

Work steps: min. 2

Oxydur UP 82 Wall

Batch yields in m² per layer (approx.): 22.7

Work steps: 10

Polyester Fleece 80 g/m²

Construction according to technical approval (only for corners, edges, flanges):

Layer thickness in mm (approx.): 2

Work steps: 2

Consumption of solution mixture for flat bedding in kg/m² (approx.): 2.000

Consumption for reinforcement strips (0.15 m wide) in kg/m² (approx.): 0.300

Oxydur UP 82 Painting as adhesive layer for subsequent tiles/bricks (sprinkled)

Component	kg/m ²	Part by weight	kg / batch	l / batch
Oxydur-UP82-Solution 1	0.214	2.5	6.000**	5.940
Oxydur-UP82-Solution 2	0.086	1.0	2.400**	2.040
Total	0.300		8.400	

Sprinkle with SKC-Filler 16. Consumption approx. 2.0 kg/m²

Consumption in kg/m² (approx.): 0.300 Batch yields in m² (approx.): 28

** pre-dosed package.

Bedding and jointing mortar

- OXYDUR A: see Application Instruction VA 301, electrically insulating
- OXYDUR VEQ: see Application Instruction VA 317A, electrically insulating
- FURADUR MORTAR: see Application Instruction VA 322, electrically conductive (only the mortar; the complete system is electrically insulating)

Pot Life

Pot life depends on temperature:

Alkadur P 82 Primer

15 °C	approx. 45 minutes
20 °C	approx. 30 minutes
30 °C	approx. 15 minutes

Oxydur UP 82 layers

5 °C	approx. 90 minutes
20 °C	approx. 30 minutes
35 °C	approx. 10 minutes

The pot life of the mortars can be found in the corresponding Application instructions.

Waiting and curing times

The waiting times between the individual applications depend on temperature:

Alkadur P 82 Primer

Temperature	Until further processing (at least)
15 °C	12 h
20 °C	8 h
35 °C	6 h

The maximum waiting time between operations is 48 hours at 20 °C.

Oxydur UP 82 (also Polyester Fleece and Painting for subsequent tiles/bricks)

Temperature	Wall	Floor
10 °C	minimum 5 h	minimum 24 h (walkability)
20 °C	minimum 3 h	minimum 12 h (walkability)
30 °C	minimum 1.5 h	minimum 5 h (walkability)

The curing times are the same for walls and floors. For floor surfaces, however, the walkability must also be taken into account.

The maximum waiting time between operations is 48 hours at 20 °C.

With the sprinkled Oxydur UP 82 Painting, the maximum waiting time to be observed for subsequent tile lining does not apply as long as the sprinkling is intact and clean.

The waiting time until walkability of tiles and bricks depends on mortar is used. At 20 °C it is:

OXYDUR A	4 h
OXYDUR VEQ	4 h
FURADUR MORTAR	5 h

For further data, please refer to the corresponding Application Instruction.

The finished coating is fully mechanically and chemically resistant at 20 °C after 7 days.

Safety and Disposal

- sufficient ventilation and venting (especially in pits and tanks)
- No smoking/no fire
- Refer to the 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 protective soap and skin protection cream (no solvents)
- Wear a dust mask during grinding work (e.g. during 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 P 82	RE 90
Oxydur UP 82	PU 40

Please refer to the corresponding Application instructions for the GISCODES of the mortars.

Cleaning and Maintenance

Observe cleaning instructions for STEULER-KCH Industrial Floors (Technical Information 198).

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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This issue replaces all previous versions.