

TI 270A

Technical Information Surface Protection Linings
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ALKADUR EPN

Chemically highly resistant flake coating system for concrete- and steel substrates.

Base

Epoxy Novolac resin

Material Group

Floor- / wall coatings - Coatings, impregnations

Description

Plai coloured coating with special flake fillers for concrete and steel substrates. The system achieves a very good diffusion resistance through the flake fillers and, in combination with the very good chemical resistance it provides a secure sealing with a low layer thickness.

Use

Coating of concrete and steel substrates with low mechanical stress, e.g. cups, pits, etc.; additional protective coating on coating systems to increase resistance to sulphuric acid stress.

Properties

- high diffusion resistance
- plain-coloured
- various methods of application
- thermal resistance up to 60 °C (wet exposure), up to 95 °C (dry exposure)
- chemically highly resistant against solvents, concentrated acids and bases, sulphuric acid 98 %

Physical Data

Property (unit), Test method	Value
Density [g/cm ³], DIN EN ISO 1183-1, ASTM D 792	1.4
Compressive strength [MPa], DIN EN ISO 604, ASTM C 579	62.0
Tensile Strength [MPa], DIN EN ISO 527, ASTM C 307	23.0
Lowest working temperature [°C]	10.0
Maximum working temperature [C]	30.0
Data are mean values	

Chemical Resistance

Good resistance against solvents, concentrated acids and bases.

The system is resistant to 98% sulphuric acid.

When exposed to concentrated or mixed media, discolourations of the surface may appear which normally have no adverse effect to the chemical resistance. We recommend to use muted colours.

Please contact our application engineering for approval of the project-specific possible application.

Substrate

Concrete / screed

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

To attain a sufficient adhesive tensile strength, the substrate is generally to be pretreated in such a way that it is free of cement slurry, cement skin, loose and crumbly particles, structure imperfections and separating substances.

The residual moisture of cementitious substrates must not exceed 4 %.

Steel

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

The steel surface shall be sandblasted to a metallic bright finish. A preparation degree of SA 2 ½ as specified in DIN EN ISO 12944-4 and a roughness grade "medium (G)" as specified in DIN EN ISO 8503-1 must be achieved; minimum surface roughness $R_z = 70 \mu\text{m}$. After blasting, the formation of new rust must be prevented by suitable measures, e. g. priming directly.

The substrate should have a temperature of approx. 10–30 °C.

Moisture

During application, the substrate must be kept absolutely dry. Uncured material has to be protected from any kind of moisture (condensation, fog, precipitation or other water source). Distance to dew point has to be at least 3 K, at a relative humidity of above 70 % at least 5 K.

System Design

- Primer with ALKADUR V (See Technical Information 132)
- Alkadur EPN Top Coat (2 work steps)

Packaging / Shelf life

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

Components	Item number	Package	Content	Shelf life
Alkadur-EPN-Solution 1	5035153068	Drum	8.5 kg **	24 Months
Alkadur-EPN-Solution 2 RAL 8003*	5035155002	Drum	20 kg **	12 Months

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

** predosed packaging

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

Mixing Ratio / Consumption

Primer ALKADUR V

	Part by weight	Part by volume
See Technical Information TI 132		
Consumption	0.200 kg/m ²	

Alkadur EPN Top Coat

	Part by weight	Part by volume
Alkadur-EPN-Solution 1	1.0	0.95
Alkadur-EPN-Solution 2	2.4	2.05
Consumption	1.600 kg/m ²	
Work steps	2	
Layer thickness	approx. 0.8 – 1.2 mm	

Waiting Times

The waiting times between the individual orders depend on the temperature:

10 °C	minimum 24 h	maximum 48 h
20 °C	minimum 12 h	maximum 36 h
25 °C	minimum 8 h	maximum 24 h

Pot Life

Pot life depends on temperature:

10 °C	approx. 180 minutes
20 °C	approx. 45 minutes
30 °C	approx. 15 minutes

Curing times

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

Safety and Disposal

- Sufficient aeration and de-aeration (especially in tanks and pits).
- No smoking/no fire
- Refer to the Safety Data Sheets
- Observe danger references and safety recommendation 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 when sanding (e.g. for repairs).
- Instructions as per § 14 of GefahrstoffV (Toxic Substances Act) and TRGS 507 (Technical regulations for Hazardous Substances - Germany)
- Accident precautions issued by the Liability Insurance Association for the Chemical Industries (Germany)

Do not expose materials to heat or open flame, this applies in particular to welding works (weld beads).

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

GISCODE

Product	GISCODE
Primer Alkadur V	RE 3
Alkadur EPN Top Coat	RE 1

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.