



KÖSTER CT 290 Pure Shield

Technical Data Sheet CT 290

Issued: 2025-10-23

- Certificate of Analysis (ISO 9001:2015) KÖSTER CT 290 Pure Shield, Tensile Strength acc. to ISO 527-2

Two-component fast reacting polyurea coating for roofs, terraces, bridge decks and industrial facilities

Features

KÖSTER CT 290 Pure Shield is highly durable, fast-curing, and flexible coating or lining material created by the chemical reaction of an isocyanate component with an amine resin. Our pure polyurea contains no polyurethane and it is made of almost 100% solids / amines (0% polyol). The absence of polyol makes the material less sensitive to ambient moisture, which significantly helps prevent the formation of pinholes and blistering. This high performance material offers an exceptional resistance to abrasion, chemicals, and water, making it ideal for industrial, commercial, and infrastructure applications. Applied using a two-component spray system, our real pure polyurea forms a seamless, waterproof membrane within seconds, even in extreme temperatures and humidity.

Advantages

- Rapid Cure Time
- Seamless, Monolithic Membrane
- Excellent Waterproofing & Chemical Resistance
- Extreme Durability
- High Flexibility & Crack Bridging
- Weather Resistance (for UV exposure install topcoat)
- Excellent Adhesion to Most Substrates
- Low Maintenance
- VOC-Free & Environmentally Friendly Options
- Versatile Application
- Highly crack bridging

Technical Data

Material basis	Polyurea
Mixing ratio (volume)	1:1
Geltime	Approx. < 5 sec.
Curing Time	17-19 sec.
Reaction time	5 sec
Viscosity A-Comp.	Approx. 820 mPas (+23 °C)
Viscosity B-Comp.	Approx. 850 mPas (+23 °C)
Color	Light Grey (Approx. RAL 7035)
Application temperature	+5 °C bis +40 °C (Air)
Operation Temperature	-30 °C bis +120 °C
Density at 23 °C ISO 1675	1.200 kg/m ³
Elongation at break	at +23 °C >100 %
Tensile Strength 10 d	at +23 °C >10 MPa
Hardness (Shore A)	at +23 °C > 90
Hardness (Shore D)	at +23 °C > 45
Reaction to fire	Euroclass E
Tack free time at +23 °C	20 seconds ± 5 seconds
Setting time at +23 °C	10 seconds
VOC content	0 (solids content 100 %)
Application thickness	1.5 mm
Consumption	1.8 kg/m ²

Fields of Application

KÖSTER CT 290 Pure Shield can be used for waterproofing and

protection of sloped and flat roofs, balconies, decks, bridge Decks, tanks and irrigation canals, retaining walls, waste water treatment plants, swimming pools, and foundations.

Substrate

Concrete

Any depressions or voids should be filled using an epoxy resin mortar. See the Technical Data Sheet for KÖSTER CT 121 for further instructions. The concrete must be completely cured or the substrate should be verified depending on the primer used. All laitance and formwork release agents must be removed and an open pore surface achieved by shotblasting, grinding or grit blasting to achieve a Concrete Surface Preparation index -CSP- of 3 to 6. We recommended CSP 3 to CSP 4. Apply the primer in the conditions and with the parameters indicated on the Technical Data Sheets for the respective products.

Repairs

In cases where the membrane repair is necessary, cut and removal of the affected area and/or damaged surfaces by sanding extending the area by approximately 20 - 30 cm. Clean the area thoroughly of all dust and particles. If possible do not use water, if necessary, allow to dry completely. Apply a thin layer (50-100 g/m²) of KÖSTER PU Primer 120. Lightly broadcast kiln dried silica sand over the wet primer and allow to completely dry before application.

Application

The surface should be flush. Fill in depressions, eliminate unevenness, and remove old waterproofing layers. Clean the surface or substrate removing any dust, dirt, grease, silicones, or efflorescence. Adhesion tests may be required for certain substrates. General application thickness is 1.5 mm.

Homogenize the pigmented B comp. before use. The general parameters for this material are as follows:

Heater amines temperature ±70 °C
Heater isocyanate temperature ± 75 °C
Hose temperature ±70 °C
Pressure Approx. 170 bar.

As an example excellent results have been achieved with a Graco Reacor E-10Hp using a Graco Fusion AP spraying gun over a AW 2222 spraying tip or with a Graco 2E-XP2 at 170 bar over a AR 2929 spraying tip.

These temperature and pressure parameters must be verified by the applicator. Environmental conditions may alter setting parameters.

Consumption

1.8 kg/m² = 1.5 mm

Cleaning

Immediately after use with KÖSTER PUR Cleaner

The information contained in this technical data sheet is based on the results of our research and on our practical experience in the field. All given test data are average values which have been obtained under defined conditions. The proper and thereby effective and successful application of our products is not subject to our control. The installer is responsible for the correct application under consideration of the specific conditions of the construction site and for the final results of the construction process. This may require adjustments to the recommendations given here for standard cases. Specifications made by our employees or representatives which exceed the specifications contained in this technical guideline require written confirmation. The valid standards for testing and installation, technical guidelines, and acknowledged rules of technology have to be adhered to at all times. The warranty can and is therefore only applied to the quality of our products within the scope of our terms and conditions, not however, for their effective and successful application. This guideline has been technically revised; all previous versions are invalid.

Packaging

CT 290

470 kg combipackage (Drums): A-Comp (RES). 245 kg | B-Comp. (ISO) 225 kg (CT 290)

Storage

Store the material at temperatures between +5 °C and +25 °C; in originally sealed packages, the material can be stored for a minimum of 12 months.

Safety

Avoid inhaling the fumes and skin contact. Wear protective clothing, gloves and goggles and full respiratory protection during processing and application of the material. Make sure the room is well ventilated. In case of skin contact, wash off the material immediately with lots of soap and water. In case of eye contact, flush eyes

immediately and thoroughly with water or preferably an emergency eye wash bottle. Consult a physician. During processing and application of the material, do not eat, smoke, or handle open flames. The warnings and safety recommendations on the packaging and on the Material Safety Data Sheet and the regulations of relevant professional organizations must be observed and obeyed. Observe all governmental, state, and local safety regulations when installing the material.

Contains diisocyanate. When working with the material, work clothing that covers arms and legs or a protective suit must be worn. When working in confined spaces or in the "overhead area" hoods or covers must be worn. Wear suitable protective gloves (e.g., nitrile gloves) and protective goggles. When processing the material, pressure is created.

Other

A dew point distance of + 3 ° C must be maintained during and for at 1 hour after the coating work. Coatings must be protected from moisture until they are completely dry.

Related products

KÖSTER CT 121
KÖSTER PUR Cleaner
KÖSTER PU Primer 120

Prod. code CT 121
Prod. code IN 900
Prod. code J 138 250

The information contained in this technical data sheet is based on the results of our research and on our practical experience in the field. All given test data are average values which have been obtained under defined conditions. The proper and thereby effective and successful application of our products is not subject to our control. The installer is responsible for the correct application under consideration of the specific conditions of the construction site and for the final results of the construction process. This may require adjustments to the recommendations given here for standard cases. Specifications made by our employees or representatives which exceed the specifications contained in this technical guideline require written confirmation. The valid standards for testing and installation, technical guidelines, and acknowledged rules of technology have to be adhered to at all times. The warranty can and is therefore only applied to the quality of our products within the scope of our terms and conditions, not however, for their effective and successful application. This guideline has been technically revised; all previous versions are invalid.

KÖSTER BAUCHEMIE AG • Dieselstraße 1-10 • D-26607 Aurich • Tel. 04941/9709-0 • info@koester.eu • www.koester.eu