KÖSTER
Waterproofing Systems

KÖSTER CT 221

Technical Data Sheet CT 221

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Test Report from the Institute of Construction materials, building and fire protection, MPA Braunschweig, 1200/535/15, vom 22.05.2017
Material testing and development GmbH u. Co.KG, Test Certificate Nr. 131044, SRT/17, 28.04.2017, "Method for testing the traction of surfaces: Pendulum test"
Material testing and development GmbH u. Co.KG, Test Certificate Nr. 128117 - S/17, "Individual test of the slip resistant properties according to DIN 51130".
Test Report from the Institute of Construction materials, building and fire protection MPA Braunschweig, Classification of the fire properties according to EN 13501-1:2010-1, K-2300/134/17-MPA BS, 24. Februar 2017

Self leveling floor coating for trafficable areas

CE	**KÖSTER BAUCHEMIE AG** **Dieselstraße 1-10, 26607 Aurich** **16** **CT 221** **EN 13813:2002** **KÖSTER CT 221** **Synthetic resin for internal uses**
Reaction to Fire	E_{fl}
Release of Corrosive Substances	SR
Water vapour permeability	Class III
Abrasion Resistance	≤ AR 0,5
Tensile strength	≥ B 2,0
Resistance to Impact	IR 4
Sound Absorption	NPD
Schalladsorption	NPD
Thermal Insulation	NPD
Chemical Resistance	NPD
Dangerous Substances	SR

CE 0761	**KÖSTER BAUCHEMIE AG** **Dieselstraße 1-10, 26607 Aurich** **17** **CT 221** **EN 1504-2:2004** **KÖSTER CT 221** **Protection against penetration of consituents (1.3)** **Surface protection product - Coating** **Physical Resistance (5.1)** **Resistanc to chemicals (6.1)**
Linear Shrinkage	≤ 0,3%
Compessive strength	Class I ≥ 35 MPa
CO_2 permeability	S_d ≥ 50 m
Water vapour permeability	Class III (S_d ≥ 50 m)
Capillarywater absoprtion and permeability	w ^{0,5}
Adhesive tensile strength and temperature change compatability	a) no cracks, no blisters, no debonding b) ≥ 2,0 (1,59)
Resistance to strong chemical attack	Buchholz ≤ 50%
Impact resistance	No cracks, no debonding
Abrasion resistance	< 3000 mg
Reaction to fire	Class E_{fl}

Features
KÖSTER CT 221 is a rigid, 2 component, solvent free self leveling floor coating for the protection of concrete. It is a highly mechanically resistant and chemically resistant top coat which is used to protect concrete not at risk of cracking. The coating is self leveling and is compatible with various broadcast materials.

Technical Data

Mixing ratio	4:1 by Mass
Density	approx. 1.5 g/cm³
Color	Standard pebble grey (other colors upon request)
Pot life	approx. 60 min.
Installation temperature	min. + 23 °C
Viscosity (+ 21 °C)	approx. 5000 mPa·s
Compressive strength	> 50 N/mm²
Bending tensile strength	> 12 N/mm²
Tensile strength (C25/30)	> 2.6 N/mm² (failure in substrate)

Fields of Application
KÖSTER CT 221 is used to protect trafficked concrete surfaces (workshops including forklift traffic, parking decks, etc.) in interior areas.

Substrate
The substrate must be dry, solid, free of loose particles, oils, grease, and other contaminants. Sandy, dusty, or soiled substrates are to be prepared by shotblasting down to a solid and clean layer. Grinding as a method of substrate preparation is only allowed on details and smaller areas that shotblasting equipment cannot reach. The minimum average tensile strength of the substrate should be 1.5 N / mm² and no single value should be below 1 N/mm². The shotblasted and ground surface must be vacuumed with and industrial vacuum cleaner to remove all dust from the surface. After mechanical substrate preparation strong surface roughness can be evened with KÖSTER Self Leveling products such as KÖSTER SL Premium. If the substrate shows cracks these can be repaired with KÖSTER CT 121 filled with KÖSTER Quartz Sand MA 30. Surface roughness can be filled or a prepared smooth surface (including KÖSTER SL products) are primed with KÖSTER CT 121. In case of the use of mineral based underlayments the substrate must reach a maximum moisture content of 4%, (for KÖSTER SL Products approximately 4 days). If surface roughness has been filled using KÖSTER Construction Resin, KÖSTER LF-BM, or a KÖSTER VAP product, the KÖSTER CT 121 should be applied between 24 and 48 hours. Kiln dried filler material such as KÖSTER Quartz Sand MA 30 is first mixed into the A component. Then the B component is mixed in. During the application and for at least 24 hours afterwards the substrate must have a minimum temperature difference of + 3 °C to the dew point. The substrate must have a minumum temperature of + 5 °C.

Application
Installation according to DIN 1504-2 and DIN V 18026

CT - Coatings

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.

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KÖSTER Quartz Sand MA 30 is mixed evenly into the primer KÖSTER CT 121 and applied. Immediately afterwards the surface is broadcast to rejection with KÖSTER MA 20, consumption approx. 4 kg/m². After 24 hours of curing the excess broadcast is removed. The Dew Point is calculated before any coating works are started. The KÖSTER CT 221 components must be tempered to between + 15 °C and + 25 °C. Mix intensively using a slowly rotating electrical mixer. The material must be mixed at least 2 minutes until it is streak free and homogeneous in appearance. All material sticking to the mixing vessel sides are scraped and mixed into the material. Re-pot the material and mix for a further minute to avoid mixing failures.

The mixed material is spread evenly onto the substrate with a rubber squeegee or trowel and pulled over the aggregate of the primer broadcast, (consumption approx. 800 g/m²).

Installation on smooth industrial floors
When installing on top of KÖSTER Construction Resin, KÖSTER LF-BM, KÖSTER CT 121 or KÖSTER VAP Products, the KÖSTER CT 221 is installed in two layers each with a minimum consumption of 1.5 kg/m². The second layer must be installed within 24 hours. The material is distributed with a toothed rubber squeegee or trowel. Immediately afterwards the material is rolled with a spiked roller in two directions. Wear spiked shoes during application.

Consumption
1.5 kg / m² per mm layer thickness

Cleaning
Clean tools immediately after use with KÖSTER Universal Cleaner. Cured material must be mechanically removed.

Packaging

CT 221 025	25 kg combipackage

Storage
Store the material at temperatures between + 10 °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 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 organisations must be observed and obeyed. Observe all governmental, state, and local safety regulations when installing the material.

Suggestions
Liquid polymers react to temperature fluctuations by changing their viscosity and/or curing behavior. The instructions given in the Technical Data Sheets must be followed. Application should only be carried out during falling or constant temperatures. Low temperatures will slow the reaction; high temperatures and mixing large volumes will increase the reaction rate. A temperature difference of + 3 °C to the dew point must be ensured during appliication and curing. Protect the coating from moisture of all kinds during application and curing.

Related products

KÖSTER CT 121	Prod. code CT 121
KÖSTER LF-BM	Prod. code CT 160
KÖSTER Construction Resin	Prod. code CT 165 025
KÖSTER VAP I 2000	Prod. code CT 230
KÖSTER VAP I 2000 FS	Prod. code CT 233
KÖSTER VAP I 2000 UFS	Prod. code CT 234
Quartz Sand 0.06 - 0.36 mm	Prod. code CT 483
Quartz Sand 0.4 - 0.8 mm	Prod. code CT 488
KÖSTER Spiked Roller	Prod. code CT 914 001
KÖSTER Squeegee	Prod. code CT 918 001
KÖSTER SL Premium	Prod. code SL 280 025
KÖSTER SL	Prod. code SL 281 025
KÖSTER SL Flex	Prod. code SL 284 025
KÖSTER SL Protect	Prod. code SL 286 025
KÖSTER Universal Cleaner	Prod. code X 910 010

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