KÖSTER
Waterproofing Systems

KÖSTER CT 221

Technical Data Sheet CT 221

Issued: 2023-09-19

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 and coating layer for CT 121 in the KÖSTER OS-8 System

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 constituents (1.3) Surface protection product - Coating Physical Resistance (5.1) Resistant 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.
Material temperature while processing	min. + 15 °C - max. + 25 °C
Substrate temperature	min. + 8 °C
Processing temperature	min. + 8 °C - max. + 30 °C
Viscosity (+ 21 °C)	approx. 5000 mPa·s
Compressive strength	> 79.1 N/mm² (average)
Bending tensile strength	> 12 N/mm²
Adhesive Tensile strength (C25/30)	3.9 N/mm² (failure in concrete)

Fields of Application

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

Along with KÖSTER CT 121 the coating conforms to a protective coating in accordance with DIN 1504-2, DIN V 18026 and DIN EN 13813 ("OS 8").

Substrate

The substrate must be dry, solid, and 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 roughness or cracks, these can be repaired with KÖSTER CT 121 filled with KÖSTER Quartz Sand. All prepared smooth surfaces (including KÖSTER SL products) are primed with KÖSTER CT 121. In the case of the use of mineral based underlayments, the substrate must reach a maximum moisture content

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of 4%, (for KÖSTER SL Products approximately 4 days). If surface roughness has been filled using a KÖSTER VAP product or the KÖSTER CT 121, KÖSTER CT 221 should be applied between 24 and 48 hours. Kiln dried filler material such as KÖSTER Quartz Sand is stirred into the mixed components. During the application and for at least 24 hours afterward, the substrate must have a minimum temperature difference of + 3 °C to the dew point. The substrate must have a minimum temperature of + 8 °C.

Application
Installation according to DIN 1504-2 and DIN V 18026 (OS-8 System)
As a primer KÖSTER CT 121 is mixed evenly with Quartz Sand with a grading curve of 0.06 - 0.36 mm (CT 483 025) in a ratio of 1:1 by weight and applied with a consumption of 800 g/m² KÖSTER CT 121 and 800 g/m² Quartz Sand. Immediately afterwards the surface is broadcast to rejection with Quartz Sand with a grading curve of 0.4 - 0.8 (CT 488 025) 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).

For ramps and driveways with a slope of up to 10%, the KÖSTER CT 121, mixed with quartz sand, must be mixed with 1-2% KÖSTER KB-Pox Thickening Agent. In the case of slopes over 10%, in addition to adding the thickening agent, the entire surface must be fully broadcasted.

Installation on smooth industrial floors
When installing on top of 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 afterward 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 + 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 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.

Mixed material must be used immediately and entirely after mixing. **Material residues must be stored outdoors as they develop a high reaction heat and smoke may form**. This also applies to large-volume applications.

Other
The maximum grain size of the kiln dried fillers should not exceed 1/3 of the layer thickness. Liquid polymers react to temperature fluctuations by changing their viscosity and/or curing behavior. The 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. Protect the coating from moisture of all kinds during application and curing.

A dew point distance of + 3 ° C must be maintained during and for at least 12 hours after the coating work. Coatings must be protected from moisture until they are completely dry. At material temperatures below + 15 ° C, the consistency changes - the material becomes thicker.

Related products

KÖSTER CT 121	Prod. code CT 121
KÖSTER VAP I 2000	Prod. code CT 230
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
KÖSTER SL Premium	Prod. code SL 280 025
KÖSTER SL	Prod. code SL 281 025
KÖSTER SL Protect	Prod. code SL 286 025
KÖSTER Universal Cleaner	Prod. code X 910 010

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