



ICC Premiscelati

DIE KOLL FLEX C2TE S1

CEMENTITIOUS ADHESIVE WITH HIGH MECHANICAL PERFORMANCE AND IMPROVED WORKABILITY FOR THE INSTALLATION OF LARGE FORMAT CERAMIC TILES OR TILES SUBJECT TO HIGH HYGROTHERMAL STRESSES.



Description:

DIE KOLL FLEX C2TE S1 is an improved cementitious adhesive (**C2**) with deformability (**S1**), extended open time (**E**), and zero vertical slip (**T**) according to the current EN 12004 standard. The compliance of **DIE KOLL FLEX C2TE S1** is proven by the **ITT** certificates issued by the notified laboratory **MODENA CENTRO PROVE Srl**. **DIE KOLL FLEX C2TE S1** is a white or grey powder adhesive, based on Portland cement CEM I 52.5 R, selected and screened quartz, and special polymer additives that enhance its workability and adhesion, making it deformable when mechanically stressed. It allows for the installation of ceramic tiles of any type, including porcelain stoneware, even in large formats, on walls, floors, or ceilings, both indoors and outdoors. Once hardened, **DIE KOLL FLEX C2TE S1** is resistant to freezing and strong mechanical stresses, making it ideal for particularly demanding or heavy-duty applications.

Application fields:

Installation of ceramic tiles and mosaics of any kind, including glazed, single-fired, double-fired, porcelain stoneware, clinker, terracotta, indoors and outdoors, on all types of supports commonly used in construction: plaster and cement screeds, mortar, cast concrete, precast concrete panels. Installation of stone materials and reconstituted marble (granite) as long as they are dimensionally stable. Installation of ceramics on waterproofed substrates with products from the **ELASTOFLEX** range. **DIE KOLL FLEX C2TE S1** is suitable for particularly heavy-duty applications such as overlaying tiles on existing structures, installation on external facades, installation of tiles up to 100 cm in size, installation of glazed materials, construction of baths and pools, underfloor heating systems, industrial flooring. **DIE KOLL FLEX C2TE S1** also perfectly adheres to insulation panels made of expanded or extruded polystyrene and mineral fiber panels (rock wool) or equivalent, on walls or ceilings. For special installations, please consult our technical office.

Preparation of substrates:

Make sure that the substrates are mature (1 week per centimeter of thickness and in any case at least 28 days; for fast hydration substrates, follow the manufacturer's instructions), solid and consistent, sufficiently level, free from oils, grease, dust, loose parts, paint, and dirt in general. Any cracks or fissures must be properly treated. Any depressions or differences in flatness greater than 1 cm must be corrected using a self-leveling product from the **Industria Calce Casertana Srl** catalog. Slightly dusty surfaces can only be covered after treatment with the appropriate **ICC GRIP** consolidating primer. Highly absorbent surfaces may reduce the open time of the product; we recommend pre-treating them with a coat of **ICC GRIP** primer. For installation on sun-exposed surfaces, it is recommended to cool the substrate by wetting it with clean water half an hour before installation; avoid installation on water stagnation areas.

Preparation of mortar:

DIE KOLL FLEX C2TE S1 is mixed using a mixer or a low-speed drill with a whisk, with approximately 6.8 - 7.2 liters of clean water per 25 kg bag of product, until a creamy, homogeneous, and lump-free mixture is obtained. Let the mixture mature for about 10 minutes. Briefly remix the mortar and start the installation operations. The obtained mortar can be used for approximately 5 hours. Avoid manual mixing or using a concrete mixer.

Application:

DIE KOLL FLEX C2TE S1 is applied to the substrate with a notched trowel of variable size depending on the format and characteristics of the back of the material to be installed. Spread a first layer of adhesive on the substrate with the smooth side of the trowel, and then work it with the notched side of the trowel. Cover the surface with adhesive to allow the tiles to be installed within the indicated open time, frequently checking that the adhesive has not formed a surface anti-adhesive film; be careful as the open time may vary depending on factors such as exposure to sunlight, air currents, temperature, and relative humidity of the environment. Press the tiles to ensure uniform and complete contact with the adhesive. In case of large formats or installations outdoors, especially vertical ones, or heavy traffic flooring, in accordance with **UNI 11493-1** standard, it is essential to use the double spreading technique in order to achieve complete "wetting" of the back of the tile. In case of out-of-plumb plaster or non-level substrates or in the presence of tiles with a highly shaped back, it is possible to create adhesive thicknesses of up to 10 mm. Any tile adjustments can be made within approximately 45 minutes* after installation. The joints between the tiles can be grouted after 6-8 hours* on walls and after 24-36 hours* on floors using sealants compliant with **EN 13888** standard.

The floors can be walked on after approximately 24 hours*, and they can be put into operation after 14 days*.

Consumption:

The consumption of adhesive varies depending on the flatness of the substrates and the shape of the tiles to be applied: with a 4 or 6 mm trowel, the consumption is approximately 2.5 - 3.5 kg/m²; with an 8 or 10 mm trowel, the consumption is approximately 3.5 - 6 kg/m². Consider approximately 1.3 kg/m² for each mm of applied adhesive.

TECHNICAL DATA

Consistency	Grey or white powder
Maximum grain size	0,6 mm
Bulk density (fresh mortar)	1,6 gr/cm ³ approx.
Mixing water per 25 kg bag	6,8 ÷ 7,2 lt
Allowed application temperatures	from +5°C to +35 °C
Working time	approx. 5 hours*
Grouting on walls	after approx. 6-8 hours*
Grouting on floors	after approx. 24÷36 hours*
Pedestrian traffic	after 24 hours*
Put into operation	after 14 days*

FINAL PERFORMANCE

Initial adhesion (after 28 days)	≥ 1 N/mm ² (EN 1348)
Adhesion after thermal aging	≥ 1 N/mm ² (EN 1348)
Adhesion after immersion in water	≥ 1 N/mm ² (EN 1348)
Adhesion after 25 freeze/thaw cycles	≥ 1 N/mm ² (EN 1348)
Open time	≥ 30 minutes* (EN 1346)
Deformability	≥ 2,5 mm (S1 according to EN 12004)
Aging resistance	excellent
Moisture resistance	excellent
Adhesion to polystyrene panel	≥ 0,1 N/mm ² (Broken panel)
Adhesion to concrete	≥ 1,5 N/mm ²

*Data expressed at (23±2)°C and (50±5)% relative humidity. Lower temperatures lengthen maturation and hardening times.

Cleaning of equipment:

Wash hands and equipment with plenty of clean water before the adhesive starts to set; afterwards, mechanical means should be used.

Hygiene and safety:

EUH 208 Contains cement. May cause an allergic reaction. The Portland cement contained in the product can cause skin irritations and serious eye injuries. Do not breathe in dust, ventilate the area during mixing, and adequately protect yourself with gloves, protective clothing, and goggles. Before use, carefully read the instructions on the packaging and consult the Safety Data Sheet.

Packaging:

DIE KOLL FLEX C2TE S1 is supplied in 25 kg bags, stacked on wooden pallets weighing 1500 kg each.

Storage:

Store the product in intact original packaging in cool and dry areas. Do not disperse the dust. Product compliant with DM 10/05/2004. Cr VI content is less than 2 ppm. The properly stored product must be used within 6 months from the packaging date stamped on the bag.

Capitolato Specification:

DIE KOLL FLEX C2TE S1 is a high-performance cementitious adhesive used for installing ceramic tiles on cement substrates, even if they are difficult or uneven. The adhesive has excellent deformability, zero vertical slip, and extended open time, meeting the C2TE S1 class according to UNI EN 12004 standard (type **DIE KOLL FLEX C2TE S1** by **Industria Calce Casertana Srl**). The flooring can be put into operation after 14 days.

Warnings:

Always follow the guidelines set by current regulations. To choose the appropriate products and installation techniques based on the hygrothermal and mechanical stresses that the tiles will be subjected to, consult and adhere to the current UNI 11493-1 standard "Ceramic floor and wall tiles - Part 1: Instructions for design, installation, and maintenance." Do not use on metal, wood, plastic, or surfaces subject to heavy movement. Do not exceed thicknesses of 10 mm; if necessary, level the surfaces beforehand with a product from **the Industria Calce Casertana Srl** line and wait for it to cure before starting the installation. Protect the completed work from rain, washouts, or freezing for at least 48 hours and from direct sunlight for at least 5 days. Gypsum or plaster-based surfaces should be pre-treated with the **ICC GRIP** primer. Do not apply on frozen substrates or at ambient temperatures below +5°C. It is recommended not to add foreign substances. Do not add water or product to the mixture during setting. Do not use on panels covered with protective films.

PRODUCT FOR EXCLUSIVE PROFESSIONAL USE

All data and indications reported on this technical sheet, although resulting from laboratory tests carried out and our direct application experiences, due to the infinite variables related to site conditions, are to be considered purely indicative in any case. Therefore, before applying the product, the user is required to determine if it is suitable for the intended use, in the specific hygrothermal and application conditions expected at the time of use, and in any case, he assumes all responsibility for it. We are not responsible for damage to people or property resulting from improper use of the product.