



ICC Premiscelati

DIE KOLL FLEX C2TE S1 GEL TH40

DEFORMABLE CEMENT-BASED GEL-LIKE ADHESIVE
WITH IMPROVED MECHANICAL PERFORMANCE
FOR LAYING OF LARGE-SIZED TILES
OR SUBJECT TO HIGH HYGROTHERMAL STRESSES



Description:

DIE KOLL FLEX C2TE S1 GEL TH40 is a white or grey powdered cementitious adhesive with gel-like workability, based on Portland cement CEM I 52.5 R, sieved and selected 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 GEL TH40** is resistant to freezing and strong mechanical stresses, making it ideal for particularly demanding or heavy-duty applications. **DIE KOLL FLEX C2TE S1 GEL TH40** is a special cementitious adhesive with gel-like effect, improved mechanical characteristics (**C2**), deformability (**S1**), extended open time (**E**), and zero vertical slip (**T**) in accordance with the current EN 12004 standard.

Areas of application:

Installation of ceramic tiles and mosaics of any kind, including glazed, single-fired, double-fired, porcelain stoneware, klinker, and terracotta, both indoors and outdoors, on all types of substrates commonly used in construction: plaster and cement screeds, mortar mixes, cast concrete, precast concrete panels. Installation of natural stone and reconstituted marble tiles (granite) provided they are dimensionally stable. Installation of ceramics on waterproofed substrates with products from the **ELASTOFLEX** range. **DIE KOLL FLEX C2TE S1 GEL TH40** is suitable for particularly heavy-duty applications such as overlaying tiles on existing constructions, external façade installation, installation of large-sized tiles, installation of glazed materials, construction of tubs and pools, heated flooring, industrial flooring.

Substrate preparation:

Ensure that the substrates are cured (1 week for each centimetre of thickness and in any case at least 28 days; for rapidly hydrating substrates, follow the manufacturer's instructions), solid and consistent, sufficiently flat, free from oils, grease, dust, loose parts, paint, and dirt. Any cracks or fissures must be properly treated. Any depressions or differences in flatness greater than 1 cm must be corrected using a leveling product from the **Industria Calce Casertana Srl** catalogue. 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.

Mortar preparation:

DIE KOLL FLEX C2TE S1 GEL TH40 is mixed using a mixer or low-speed drill equipped with a whisk. Mix with clean water in the quantity indicated on the packaging until a creamy, homogeneous, and lump-free mixture is obtained. Let the mixture mature for about 5 minutes. Briefly remix the mortar and begin the installation operations. The obtained mortar is usable for about 5 hours. Avoid manual mixing or using a concrete mixer.

Application:

DIE KOLL FLEX C2TE S1 GEL TH40 is applied to the substrate using a notched trowel of variable size depending on the format and characteristics of the back of the material to be laid. Spread a first layer of adhesive onto the substrate using the smooth side of the trowel, and then work it with the notched side of the trowel. Cover a surface area with adhesive that allows for the installation of tiles within the indicated open time, checking frequently to ensure that the adhesive has not formed a surface anti-adhesive film. Pay attention because 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 the case of large formats or installations outdoors, especially vertical ones, or flooring subjected to heavy traffic, 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 the case of out-of-plumb plaster or non-planar substrates or in the presence of tiles with highly shaped backs, adhesive thicknesses of up to 10 mm can be achieved. Any adjustments to the tiles can be made within approximately 45 minutes* after installation. The grout joints between the tiles can be filled after 6-8 hours* on walls and after 24-36 hours* on floors using sealants compliant with **EN 13888-1** standard.

Floors set to foot traffic after approximately 24 hours* and they are ready for use after 14 days*.

Coverage:

With no. 4/6 spreader: approximately 2.5 - 3 kg/m².

With no. 8/10 spreader: approximately 3.5 - 6 kg/m².

TECHNICAL DATA

Consistency	White or grey powder
Maximum grain-size	0,6 mm
Density (wet mortar)	1680 kg/m ³ approximately
Mixing water for each 25 kg bag	Bianco: 7,8 ÷ 8,2 lt Grigio: 6,8 ÷ 7,2 lt
Permitted application temperatures	from +5°C to +35 °C
Workability time	approx. 5 hours*
Wall joints	after approx. 6-8 hours*
Floor joints	after approx. 24-36 hours*
Foot traffic	after 24 hours*
Ready for use	after 14 days*

FINAL PERFORMANCE

Initial adhesion (after 28 days)	≥ 1 N/mm ² (EN 1348)
Adhesion after heat ageing	≥ 1 N/mm ² (EN 1348)
Adhesion after water immersion	≥ 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 concrete	≥ 1,5 N/mm ²

* Data measured at (23±2)°C and (50±5)% relative humidity. Lower temperatures lengthen curing and setting time.

Cleaning of equipment:

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

Hygiene and safety:

Do not inhale dust, ventilate areas during mixing and carefully protect yourself with gloves, protective clothing and goggles. Before use, carefully read the instructions on the packaging and consult the Safety Data Sheet.

Packs:

DIE KOLL FLEX C2TE S1 GEL TH40 is available in bags of 25 kg each and delivered on 1500 kg wooden pallets.

Storage:

Store the product in its undamaged original packaging in a cool, dry place. Do not disperse dust. Cr VI content less than 2 ppm. Properly stored product must be used within 6 months of the packaging date stamped on the bag.

Capitolato Specification:

The installation of ceramic tiles of any type on cementitious substrates, even difficult and uneven ones, will be carried out using a special cementitious adhesive with "GEL" effect, with high mechanical performance, deformability, zero vertical slip, extended open time, and C2TE S1 class according to UNI EN 12004 standard (type **DIE KOLL FLEX C2TE S1 GEL TH40** by **Industria Calce Casertana Srl**). The system can be put into operation after 14 days.

Warning:

Always follow the instructions dictated by current regulations. For the selection of products and installation techniques to be used based on the hygrothermal and mechanical stresses to which the cladding will be subjected, it is necessary to consult and adhere to the current standard UNI 11493-1 *Piastrellature ceramiche a pavimento e a parete - Parte 1: Istruzioni per la progettazione, l'installazione e la manutenzione*.

Do not use on metal surfaces, wood, plastic or surfaces subject to strong movements. Do not use in thicknesses greater than 10 mm; if necessary, level the surfaces beforehand with a product from the **Industria Calce Casertana Srl** range and wait for it to cure before laying. Protect work carried out for at least 48 hours from rain, washouts or frost and for at least 5 days from direct sunlight. Gypsum or scagliola-based surfaces must be treated in advance with the special **ICC GRIP primer**. Do not apply on frozen substrates or in any case at ambient temperatures below + 5°C. It is recommended not to add unrelated products. Do not add water or the product to the mix during the setting phase. Only the latest updated version of this technical data sheet, available on the website www.calcecasertana.it, is to be considered valid.

PRODUCT FOR PROFESSIONAL USE ONLY

All the data and information contained in this technical data sheet, although resulting from laboratory tests performed and from our direct application experiences, due to the infinity of variables related to site conditions, are to be considered in any case as purely indicative. Before applying the product, the user is therefore required to establish whether it is suitable for the intended use, in the specific hygrothermal and application conditions provided for at the time of use. All responsibilities are therefore borne by the user. We are not liable for damage to persons or things deriving from improper use of the product.