



# ICC Premiscelati

## DIE KOLL S1 RAPID

DEFORMABLE CEMENT ADHESIVE WITH ULTRA FAST  
SETTING AND HARDENING OF CLASS C2FT S1 FOR THE RAPID  
INSTALLATION OF CERAMIC TILES OF ANY TYPE, INDOORS  
AND OUTDOORS.



### Description:

**DIE KOLL S1 RAPID** is a white or grey powder adhesive composed of screened and selected quartz, special polymer additives that enhance workability and adhesion, and make it deformable when mechanically stressed. The special blend of cements it is composed of activates upon contact with mixing water and sets after about 40 minutes, allowing for pedestrian traffic on the surface after just 3 hours. **DIE KOLL S1 RAPID** allows for the installation of ceramic tiles of any type, including porcelain stoneware, even in large formats, on walls or floors, both indoors and outdoors. Once hardened, **DIE KOLL S1 RAPID** is resistant to frost and strong mechanical stress and is ideal when immediate use of the areas is required, even in particularly demanding or heavy-duty applications. **DIE KOLL S1 RAPID** is an improved cementitious adhesive (C2) with rapid setting and hardening (F), deformability (S1), and no vertical slip (T), complying with the current EN 12004 standard.

### Application fields:

Rapid installation of ceramic tiles of any type (single-fired, double-fired, porcelain stoneware, klinker, ceramic mosaics, etc.) indoors and outdoors, even at low temperatures, on all types of substrates commonly used in construction: plaster and cement screeds, mortar mixes, concrete, etc. Installation of stone materials and reconstituted marble tiles (mortar mixes) as long as they are stable when exposed to moisture. Installation of ceramics on substrates waterproofed with **ELASTOFLEX** products. **DIE KOLL S1 RAPID** is particularly suitable for rapid installation on heated screeds and industrial flooring, tile overlays on existing floors, heavy-duty applications such as rapid installation of large-sized tiles, installation of vitrified materials, and construction of tubs and pools. **DIE KOLL S1 RAPID** also adheres perfectly to insulation panels made of expanded or extruded polystyrene and mineral fiber panels (rock wool) or equivalent, on walls or ceilings. For specific installations, please consult our technical office.

**DIE KOLL S1 RAPID** 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 specific installations, please consult our technical office.

#### **Preparation of substrates:**

The substrates must comply with the UNI 11493-1 standard, in particular, they must be seasoned (1 week per centimeter of thickness and at least 28 days, unless specific rapid-setting and hydration binders are used: in this case, follow the manufacturer's instructions), compact and mechanically resistant, free from friable parts or rising damp, sufficiently flat, free from oils, greases, waxes, dust, paints, and dirt in general or anything that could prevent adhesion to the substrate.

Any cracks or fissures must be properly treated. Any depressions or differences in flatness greater than 1 cm must be corrected using a specific leveling or 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 can reduce the open time of the product; it is advisable to pre-treat them with a coat of **ICC GRIP** primer. For installation on sunny surfaces, it is necessary to cool them down by wetting them with clean water half an hour before installation; avoid applying the adhesive on water puddles.

#### **Preparation of mortar:**

**DIE KOLL S1 RAPID** is mixed using a mixer or low-speed drill with a whisk, with approximately 26-28% clean water (6.5-7 liters per 25 kg bag of product), until a creamy, homogeneous, and lump-free mixture is obtained. Let the mixture mature for about 3 minutes. Briefly re-stir the mortar and begin the installation operations. The obtained mortar can be used for approximately 30-40 minutes, depending on the ambient temperatures. The product is not suitable for manual mixing or mixing with a concrete mixer.

#### **Application:**

Apply the **DIE KOLL S1 RAPID** adhesive to the substrate using a notched trowel of variable size depending on the flatness of the substrate, tile size, and characteristics of the back of the material to be installed. Spread a first layer of adhesive on the substrate using the smooth side of the trowel, and then work it with the notched side. Cover the surface with adhesive to allow for tile installation within the indicated open time, frequently checking that the adhesive has not formed a non-adhesive film on the surface. Be aware that the open time can vary depending on factors such as exposure to sunlight and air currents, substrate absorbency, temperature, and relative humidity of the environment. Press the tiles to ensure uniform and complete contact with the adhesive. For large format tiles or installations in exterior vertical areas, or for heavily trafficked floors, in accordance with **UNI 11493-1** standard, it is essential to use the double spreading technique to fully wet the back of the tile. In the case of out-of-plumb plaster or uneven substrates, or when using tiles with highly shaped backs, adhesive thicknesses of up to 10 mm can be achieved. Any tile adjustments can be made within approximately 20 minutes after installation. Tile joints can be grouted after approximately 2-3 hours on walls and after 3 hours on floors using sealants compliant with EN 13888 standard.

Pedestrian traffic on floors can occur after approximately 3 hours, and full use after approximately 24 hours.

### Consumption:

The adhesive consumption 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/m<sup>2</sup>; with an 8 or 10 mm trowel, the consumption is approximately 3.5 - 6 kg/m<sup>2</sup>. In general, consider approximately 1.3 kg/m<sup>2</sup> for each mm of adhesive applied.

### TECHNICAL DATA

Consistency	Grey or white powder
Maximum grain size	0,6 mm
Bulk density (fresh mortar)	approx. 1,6 gr/cm <sup>3</sup>
Mixing water	26÷28 % approx.
Mixing water per 25 kg bag	6,5÷7 lt
Allowed application temperatures	from +5°C to +30 °C
Working time	approx. 30 minutes*
Grouting on walls	after circa 2-3 hours*
Grouting on floors	after circa 3 hours*
Pedestrian traffic	after 3 hours*
Put into operation	after 24 hours*

### FINAL PERFORMANCE

Initial adhesion (after 28 days)	≥ 1 N/mm <sup>2</sup> (EN 1348)
Anticipated adhesion (after 6 h)	≥ 0,5 N/mm <sup>2</sup> (EN 1348)
Adhesion after thermal aging	≥ 1 N/mm <sup>2</sup> (EN 1348)
Adhesion after immersion in water	≥ 1 N/mm <sup>2</sup> (EN 1348)
Adhesion after 25 freeze/thaw cycles	≥ 1 N/mm <sup>2</sup> (EN 1348)
Open time	≥ 20 minutes* (EN1346)
Deformability	≥ 2,5 mm ≤ 5 mm (S1 according to EN 12004)
Aging resistance	excellent
Moisture resistance	excellent
Adhesion to polystyrene panel	≥ 0,1 N/mm <sup>2</sup> (Broken panel)
Adhesion to concrete	≥ 1,5 N/mm <sup>2</sup>

\* 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 S1 RAPID** 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 Specifications:

Install ceramic floor and wall coverings (including large formats) of all types (double-fired, single-fired, ceramic clinker, Tuscan terracotta), including non-absorbent products such as porcelain stoneware and vitrified materials like glass mosaics, stones, and other stone materials (as long as they are dimensionally stable and not prone to staining) using a high-performance, single-component cementitious adhesive with ultra-fast setting and hydration, deformability, and resistance to vertical slippage, classified as C2FTS1 according to EN 12004 standard (such as **DIE KOLL S1 RAPID** by **Industria Calce Casertana Srl**). If a fast-setting adhesive with greater deformability is required, DIE KOLL S1 RAPID can be mixed with DIE LATEX instead of water: this improves the characteristics to meet the requirements of class C2FT S2 (high-performance cementitious adhesive, rapid, highly deformable) according to EN 12004.

## Warnings :

To choose the products and installation techniques based on the hygrothermal and mechanical stresses that the covering will be subjected to, consult and adhere to the current UNI 11493-1 standard Ceramic tiling for floors and walls - Part 1: Instructions for design, installation, and maintenance.

Do not use on metal, wood, plastic, or heavily moving surfaces. Do not use in thicknesses greater than 10 mm; if necessary, level the surfaces beforehand with a suitable product from the **Industria Calce Casertana Srl** line and wait for it to mature before starting the installation. Protect the completed work for at least 12 hours from rain, washouts, freezing, and direct sunlight. Gypsum or plaster-based surfaces must be pre-treated with **ICC GRIP** primer. Do not apply on frozen substrates or at ambient temperatures below +5°C. Installation on existing old floors is only possible indoors.

It is recommended not to add foreign products. Do not add water or product to the mixture during setting. Do not use on panels coated 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.*