



TECHNICAL DATA SHEET

FLEX C2TE S1 ADHESIVE

Improved Cementitious Tile Adhesive with Reduced Slip, Extended Open Time and Deformability

Classification: C2TE S1 according to EN 12004-1:2007



PRODUCT DESCRIPTION

FLEX C2TE S1 Adhesive is a high-performance, polymer-modified cementitious tile adhesive for interior and exterior applications.

It is specifically designed for bonding ceramic tiles, porcelain stoneware, clinker tiles and natural stone onto mineral substrates.

The product is suitable for medium-bed applications with an adhesive layer thickness ranging from 3 mm to 20 mm.

Thanks to its advanced polymer modification, the adhesive provides:

- Excellent bond strength
- Reduced slip
- Extended open time
- High flexibility
- Outstanding resistance to mechanical stresses
- Excellent performance under thermal loads
- Reliable long-term durability in demanding applications

COMPOSITION

The product consists of carefully selected raw materials, including:



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- Portland cement
- Graded quartz sand
- Mineral fillers
- Cellulose ether
- Polymer modifiers

APPLICATIONS

FLEX C2TE S1 Adhesive is suitable for bonding:

- Ceramic tiles
- Porcelain stoneware
- Clinker tiles
- Natural stone (where suitable)
- Tile-on-tile applications
- Low water absorption tiles (<0.5%)

Recommended Applications

The product is recommended for:

- Building façades
- Terraces
- Balconies
- Swimming pools
- Wet areas
- Underfloor heating systems
- Areas exposed to high mechanical loads
- Areas subject to thermal movement
- Commercial and residential projects



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TECHNICAL CHARACTERISTICS & PERFORMANCE

Essential Characteristic	Performance	Test Method	Harmonised Technical Specification
Initial tensile adhesion strength	2.2 N/mm²	EN 1348:2008, Clause 8.2	EN 12004-1:2007 + A1:2012
Tensile adhesion strength after heat ageing	2.5 N/mm²	EN 1348:2008, Clause 8.4	EN 12004-1:2007 + A1:2012
Tensile adhesion strength after water immersion	1.9 N/mm²	EN 1348:2008, Clause 8.3	EN 12004-1:2007 + A1:2012
Tensile adhesion strength after freeze/thaw cycles	1.6 N/mm²	EN 1348:2008, Clause 8.5	EN 12004-1:2007 + A1:2012
Open time – tensile adhesion strength after 20 minutes	1.1 N/mm²	EN 1346:2008	EN 12004-1:2007 + A1:2012
Extended open time – tensile adhesion strength after 30 minutes	1.0 N/mm²	EN 1346:2008	EN 12004-1:2007 + A1:2012
Slip	0.2 mm	EN 1308:2009	EN 12004-1:2007 + A1:2012
Transverse deformation	2.9 mm (Class S1)	EN 12002:2009	EN 12004-1:2007 + A1:2012

PRODUCT DATA

Property	Value
Classification	C2TE S1
Mixing water	Approximately 0.24 L/kg
Water required per 25 kg bag	Approximately 6.0 L
Pot life	Approximately 4 hours
Open time	Minimum 20 minutes
Adjustment time	Approximately 5 minutes
Application thickness	3–20 mm
Consumption*	Approximately 3.0 kg/m ² (10 mm notched trowel)
Colour	Grey



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Property	Value
Packaging	25 kg paper bag

*Consumption depends on substrate flatness, tile size and the notch size of the trowel.

TESTED IN ACCORDANCE WITH

- EN 12004-1:2007
- EN 12004-1:2007 + A1:2012
- EN 1346
- EN 1348
- EN 1308
- EN 12002

SUBSTRATE PREPARATION

The substrate shall be:

- Sound and structurally stable;
- Dry and fully cured;
- Clean and free from dust;
- Free of oil, grease, wax, paint and other contaminants;
- Free from loose or poorly bonded particles.

Highly absorbent substrates shall be treated with a suitable primer before the adhesive is applied.

Uneven substrates shall be levelled using an appropriate repair or levelling compound prior to tile installation.

SUITABLE SUBSTRATES

FLEX C2TE S1 Adhesive is suitable for application on:

- Concrete



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- Cement screeds
- Cement-lime renders
- Masonry
- Gypsum plasterboards
- Clinker surfaces
- Porcelain stoneware
- Existing ceramic tiles (tile-on-tile application)

Recommended for Use in

- Building façades
- Terraces
- Balconies
- Swimming pools
- Wet rooms
- Bathrooms
- Kitchens
- Underfloor heating systems
- Commercial buildings
- Residential buildings

MIXING

Pour the required amount of clean water into a suitable mixing container.

Gradually add the contents of the bag while mixing continuously.

For one 25 kg bag, approximately 6.0 litres of clean water are required.

Mix using a low-speed electric mixer (approximately 400–600 rpm) for about 3 minutes until a smooth, homogeneous and lump-free mortar is obtained.

Allow the mixture to stand for approximately 5 minutes.

Remix briefly before application.



Do not add additional water after the mortar has matured.

Use only clean water.

Mixing Ratio

- 25 kg powder
- Approximately 6.0 litres of clean water

Pot Life

The prepared mortar remains workable for approximately **4 hours** under normal conditions at **23°C and 50% relative humidity**.

Higher temperatures shorten the pot life, while lower temperatures extend it.

APPLICATION

Apply a thin contact layer of adhesive onto the prepared substrate using the smooth edge of the trowel.

Immediately comb the adhesive with a suitable **notched trowel**, holding it at an angle of approximately **45°** to the substrate.

Place the tiles into the fresh adhesive bed while it is still within the open time and press firmly to achieve full contact.

For large-format tiles, natural stone and exterior applications, the **back-buttering method** is recommended to ensure maximum adhesive coverage.



Remove excess adhesive before it hardens.

Clean tools with water immediately after use.

Minimum Adhesive Coverage

Interior applications

Minimum 65% contact area.

Exterior applications

Minimum **90%** contact area.

For heavy-duty areas, swimming pools and large-format tiles, 100% adhesive coverage is recommended.

RECOMMENDED TOOLS

- Low-speed electric mixer
 - Clean mixing bucket
 - Stainless steel finishing trowel
 - Notched trowel
 - Tile levelling system (where required)
 - Damp sponge
 - Rubber mallet
 - Spirit level
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Recommended Notched Trowel Sizes

Tile Size / Application	Recommended Trowel
Small ceramic tiles	4 × 4 × 4 mm
Tiles with a smooth back	6 × 6 × 6 mm



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Tile Size / Application	Recommended Trowel
Standard porcelain stoneware	10 × 10 × 10 mm
Large-format and heavy tiles	20 mm rounded-notch trowel

GENERAL RECOMMENDATIONS

Always follow good construction practice and the manufacturer's installation instructions.

Do **not** apply the product:

- below +5°C;
- above +30°C;
- in direct sunlight;
- during rainfall;
- under strong wind conditions;
- onto frozen substrates.

Protect the freshly applied adhesive from:

- rain;
- frost;
- direct sunlight;
- rapid drying.

Low temperatures and high humidity will extend the curing time.

High temperatures, wind and low humidity will reduce the open time and accelerate curing.

Use clean water only for mixing.

Do not remix the mortar by adding additional water after the pot life has expired.

CLEANING

Clean tools and equipment with water immediately after use.



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Hardened material can only be removed mechanically.

SHELF LIFE

12 months from the date of manufacture when stored in the original, unopened packaging under recommended storage conditions.

STORAGE CONDITIONS

Store the product:

- in dry, well-ventilated premises;
- on wooden pallets;
- in the original, unopened packaging;
- protected from moisture and adverse weather conditions.

Do not expose the product to frost or excessive humidity during storage.

PACKAGING

25 kg paper bags

MANUFACTURER

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IMPORTANT NOTICE



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The information contained in this Technical Data Sheet is based on laboratory testing, practical experience and the current state of technical knowledge.

The technical values stated are typical values obtained under controlled laboratory conditions and may vary depending on substrate characteristics, site conditions, application methods, ambient temperature and relative humidity.

The user is responsible for verifying that the product is suitable for the intended application and that all installation work is carried out in accordance with the manufacturer's recommendations, current technical standards and good construction practice.

This Technical Data Sheet provides information on the product and its application but does not release the user from carrying out preliminary tests where specific site conditions require verification.

The manufacturer reserves the right to modify the product specifications without prior notice as part of ongoing product development.