

# Torggler

## Tiles and Natural Stone Installation

# T 250

Single-component powder cementitious tile adhesive, type C2 TE according to EN 12004, flexible, non-slip and with extended open time, for bonding all types of ceramic tiles of medium/small size, both indoors and outdoors, to walls and floors.



- Increased open time
- High adhesiveness
- Anti-slip



### APPLICATION AREAS

- Suitable for medium size porcelain stoneware or glazed stoneware
- Indoor and outdoor bonding, on wall and floor, of ceramic elements
- Bonding of ceramic elements on substrates with limited mobility and dimensions
- Even overlapping.

T 250 can be used on heating floors, plasterboards and gypsum-based plasters (with primer).

### TYPES OF SUBSTRATE

- Cured cement screeds
- Concrete walls
- Cement or cement-lime mortars
- Interior walls made from cellular concrete blocks
- Surfaces, plasters and panels based on gypsum (if previously treated with Tile Primer)
- Medium-sized substrates waterproofed with flexibilized cement systems such as Flex 1K and Flexistar

- Heating floors

### **TYPE OF MATERIAL TO BE LAID**

- Single-fired
- Double-fired
- Clinker tiles
- Porcelain and glazed stoneware tiles of small and medium size (max 40×40 cm).

### **FEATURES**

T 250 is a powder cementitious tile adhesive available in white and grey, based on high-strength cements, selected aggregates, synthetic resins and specific additives. Once mixed with water it creates a glue with excellent workability, excellent thixotropy, medium flexibility and high adhesiveness on all types of cement substrates. Applied vertically it does not drip and does not let the tiles slip. The extended open time allows safe installation even in hot and windy climates. It is resistant to frost-thaw cycles. T 250 is classified as class C2 TE cement adhesive according to EN 12004.

### **WARNINGS**

Do not apply T 250 on: wood and wood conglomerates, metal surfaces, rubber, PVC, linoleum and derivatives; on substrates subject to continuous deformation, accentuated movements and high mechanical stress.

For overlapping applications and/or applications on substrates that are not very absorbent and characterised by adhesion difficulties, a pre-treatment with Multigrip is required. For applications on gypsum or anhydrite surfaces a surface pre-treatment with Tile Primer is required. In case of doubt, contact our Technical Department for this type of application.

Never mix T 250 with other binders such as cement, hydraulic lime, gypsum, etc.

Never resume with further additions of water when the mixture is firm. Stop using the mixed product when it has already started to set, so take care to prepare from time to time a quantity of mixture that can be applied within its workability time.

### **INSTRUCTIONS FOR USE**

#### **Preparation for use**

Substrates must be sufficiently dry, strong, solid and regular, clean and sound, free of oil and grease, dust, crumbly material and dirt in general, and free of residues of paint film, and must be suitably cured and free of significant shrinkage. Indicatively, traditional cement-based screeds with normal setting and hardening must be cured for at least 28 days; cement-based or cement-lime mortar based plasters must dry for at least 14 days. Large imperfections and surface irregularities such as unevenness, cavities, gravel nests, eroded or deteriorated points, must be previously repaired and uniformed with self-levelling smoothing, for example Livellina 0-10, or with a special mortar, such as Restauo R2, Rinnova or Monorasante. Particularly porous and crumbling substrates and substrates with very low mechanical strength and that can be easily scratched must be treated in advance with Tile Primer.

#### **Product preparation**

Mix T 250 with 26-28% of clean water (equal to 6.5-7.0 litres per 25 kg bag) until a smooth, lump-free mixture is obtained. Allow to stand for 5 minutes, then mix briefly. The prepared mixture remains workable in the mixing containers for about 5 hours under normal conditions (at 20 °C); higher temperatures shorten the workability time, while lower temperatures lengthen it. In case of direct sunlight, therefore high temperatures of the substrate, it is advised to moisten it with a sponge to cool it, without leaving layers of surface water.

#### **Instructions for use**

Apply T 250 with a specific toothed spatula, the teeth size depend on the type and size of the tiles to be bonded, so that the back of the tiles is completely covered. For a better adhesion it is recommended to first apply a thin and uniform layer of adhesive on the substrate using the smooth part of the toothed trowel, and then immediately apply a second layer of the desired thickness with the toothed part. Apply the tiles by exerting adequate pressure and giving them a weak translational motion. When bonding tiles larger than 33×33 cm, with a marked relief pattern, for outdoor applications, especially in areas subject to high temperature changes or frost-thaw cycles and considerable water stress, it is necessary to adopt the "buttering-floating" technique: the mixed adhesive is

applied with a toothed trowel on the substrate and is spread with a trowel on the back of the tile skimming the relieves flush. The tiles must be laid only within the time interval during which the coated adhesive is still fresh and sticky, i.e. it has not yet formed a superficial skin. This time interval is called "open time" of the adhesive, and it depends on the environmental conditions. If the open time has been exceeded and the coated adhesive has formed a superficial skin, it is necessary to rake it with the toothed trowel to break the skin and "refresh" it. Absolutely avoid wetting it on the surface because it would form a film of anti-adhesive water that prevents the tiles from coming into contact with the adhesive, irreparably compromising their installation. Tiles should not normally be wetted before laying; only in the case of tiles with a dusty relief pattern it is advisable to wash them by soaking them in clean water for a few seconds. For plaster substrates a pre-treatment with Tile Primer is absolutely necessary.

### Cleaning

The tools used for laying can be cleaned with water before the adhesive hardens; afterwards cleaning can only be carried out by mechanical removal. If there is dirt on the surface of the tiles it must also be cleaned with a damp cloth before the adhesive hardens.

### WAITING TIMES

After laying, protect the coating for at least 24 hours from rain and runoff and for at least 7 days from direct sunlight. In case of installation in the winter months it is necessary to protect against frost for at least 7 days. The joints between the tiles can be filled after about 8 hours on the wall and after about 24 hours on the floor, with Tile Grout ≤8mm or Tile Grout 2-15mm.

NOTE: Expansion joints must be sealed with Torggler silicone sealants. The floors laid can be walked over after about 24 hours. The final hardening and therefore the commissioning of floor and wall coverings glued with T 250 takes place after approx. 14 days.

### TECHNICAL SPECIFICATIONS

<b>Powder product variations</b>	<b>white</b>	<b>grey</b>
Consistency	Powder	Powder
Bulk density	1.3 kg/litre	1.3 kg/litre
Particle size	0-0.5 mm	0-0.5 mm
<b>Fresh mixture variations</b>		
Mixing water	26-28 % (6.5-7.0 litres per 25 kg bag)	26-28 % (6.5-7.0 litres per 25 kg bag)
Mixture density	1.55 kg/litre	1.55 kg/litre
Mixture consistency	pasty – workable with trowel	pasty – workable with trowel
Sliding (EN 1308)	≤0.5 mm	≤0.5 mm
Mixture workability time (at +23 °C)	approx. 5 hours	approx. 5 hours
Open time (EN 1346)	>30 minutes	>30 minutes
Recording time (DIN 18156 part 2)	20 minutes	20 minutes
Application temperature	from +5 °C to +35 °C	from +5 °C to +35 °C
<b>Hardened product variations</b>		

Adhesion by traction (EN 1338)		
- initial adhesion:	>1.2 N/mm <sup>2</sup>	>1.4 N/mm <sup>2</sup>
- adhesion after water immersion:	>1.0 N/mm <sup>2</sup>	>1.0 N/mm <sup>2</sup>
- adhesion after heat ageing:	>1.1 N/mm <sup>2</sup>	>1.1 N/mm <sup>2</sup>
- adhesion after freeze-thaw cycles:	>1.1 N/mm <sup>2</sup>	>1.1 N/mm <sup>2</sup>
Joints filling		
- on the wall:	after approx. 8 hours	after approx. 8 hours
- on the floor:	after approx. 24 hours	after approx. 24 hours
Can be walked on	after 24 hours	after 24 hours
Final hardening	after 14 days	after 14 days
Operating temperature	from -30 °C to +90 °C	from -30 °C to +90 °C
Consumption	from 3 to 8 kg/m <sup>2</sup>	from 3 to 8 kg/m <sup>2</sup>
Maximum achievable thickness	10 mm	10 mm
Classification according to EN 12004	C2 TE	C2 TE
Color	Grey, White	
Packaging	bag	
Packaging size	25 kg	
Pallet	50 bags	

## CONSUMPTION

The consumption of T 250 can vary from 3 to 8 kg/m<sup>2</sup> depending on the type of tile and the substrate flatness characteristics.

## STORAGE

Store T 250 in a dry and sheltered place. In the original closed bags it is kept for at least 12 months. **PROTECT FROM HUMIDITY.**

The information contained in this document is reported on the basis of our experience and knowledge; therefore, any recommendations and suggestions made are without any guarantee and must be verified before using the product by those who intend to use it, who assume all responsibility that may result from its use since the conditions of use are not under our direct control. In case of doubt, it is always advisable to make preliminary tests and/or ask for the intervention of our technicians. Torggler reserves the right to modify, replace and/or delete the items, as well as to change the product data in this document without prior notice; in this case the indications given here may no longer be valid. Always refer to the latest version of the data sheet, available at [www.torggler.com](http://www.torggler.com). Version 11.02.2021.