

ISOLCOLL

tile adhesives

C1/C1E/C1TE/C2 adhesives partner guide. *(only for internal use do not divulgate in this form)*

Smart guide writted by Personal Factory Lab team

www.hackthemat.com, www.personalfactory.eu

“What is” a tile adhesives

- It is an interface necessary to stick the substrate at the tile in particular weather conditions.
- The **substrate**: it is the support of all the system. It can be based on cement, gypsum, it can have low absorption and high mechanical resistances (better conditions), high absorption and low mechanical resistances (worst case).
- The **tiles**: they can be in a large variety of formats and materials, the most simple to stick are the small ones in sandstone, the most complicated are deformable stones in vertical and large formats.
- The **weather conditions**: they change a lot in function if we are indoor (better conditions), outdoor, in hot or cold climates (the most difficult condition), with a lot of rain.

Important characteristics

Adhesion

It is the most important characteristic and means the force necessary to pull off the tile from the substrate. It is measured in MPa. The minimum resistance in a Personal Factory tile adhesive is more than 0,5 with standard substrate and standard condition.



Important characteristics

Open time.

It means for how much time we can stick the tiles on the substrate without compromising the adhesion power of the adhesive. In a Personal Factory adhesive this time has to be at less 20 min. And it can pass 30 min. in open time. It is correlated at wetting power the adhesive has on the tile.



Important characteristics



Adjustability time

It means for how much time we can adjust the position of the tile (for 3/5 mm) on the substrate without compromising the adhesion power of the adhesive. In a Personal Factory adhesive this time has to be at less 40 min.



Important characteristics

Anti slip resistance

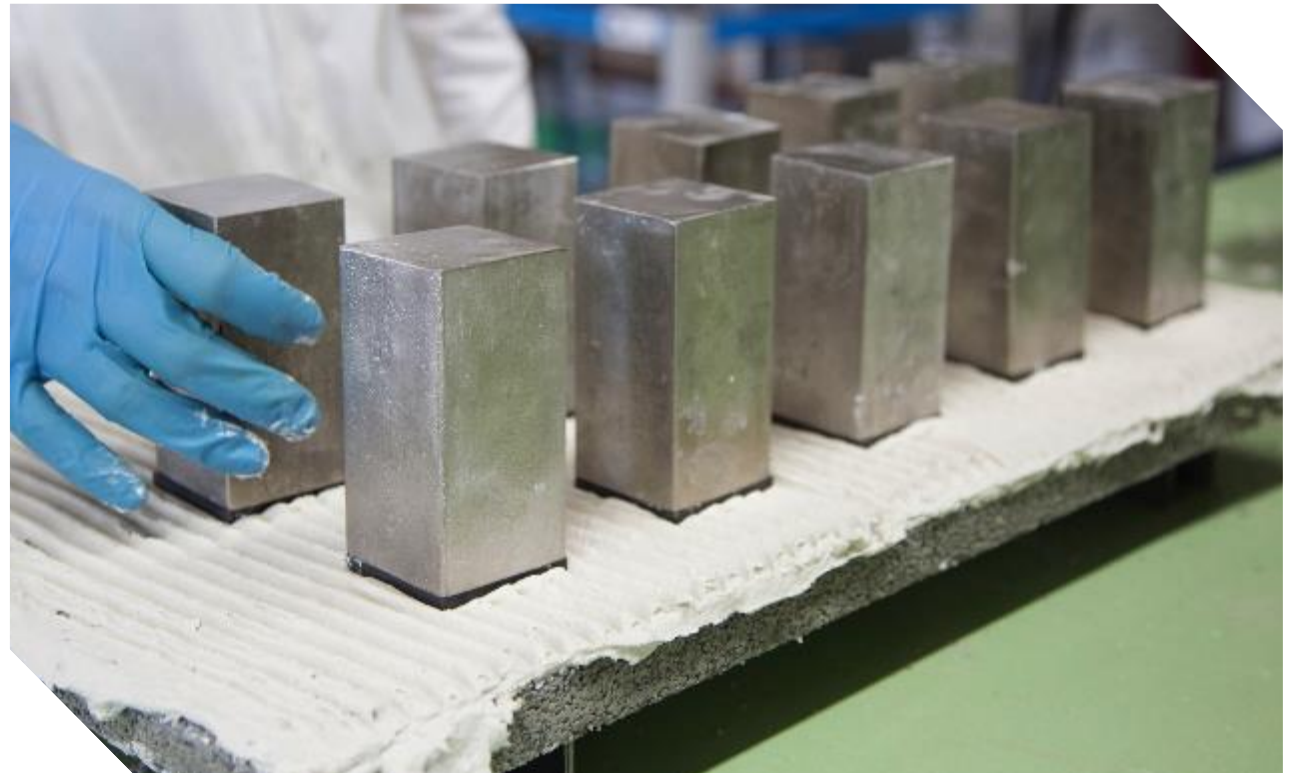
It is necessary for sticking tiles in vertical surfaces. It is very important because without the resistance to vertical slip, the tiles move after placing. In a Personal Factory antislipping adhesive, this characteristic is included between 0 and 0,5 mm.



Important characteristics

Adhesion after heat.

It measures if the material has adhesion problem if he stays for long time in hot conditions. All Personal Factory adhesives have to pass 14 days at 70° C and after that the mechanical resistance has to be more than 0,5 Mpa.

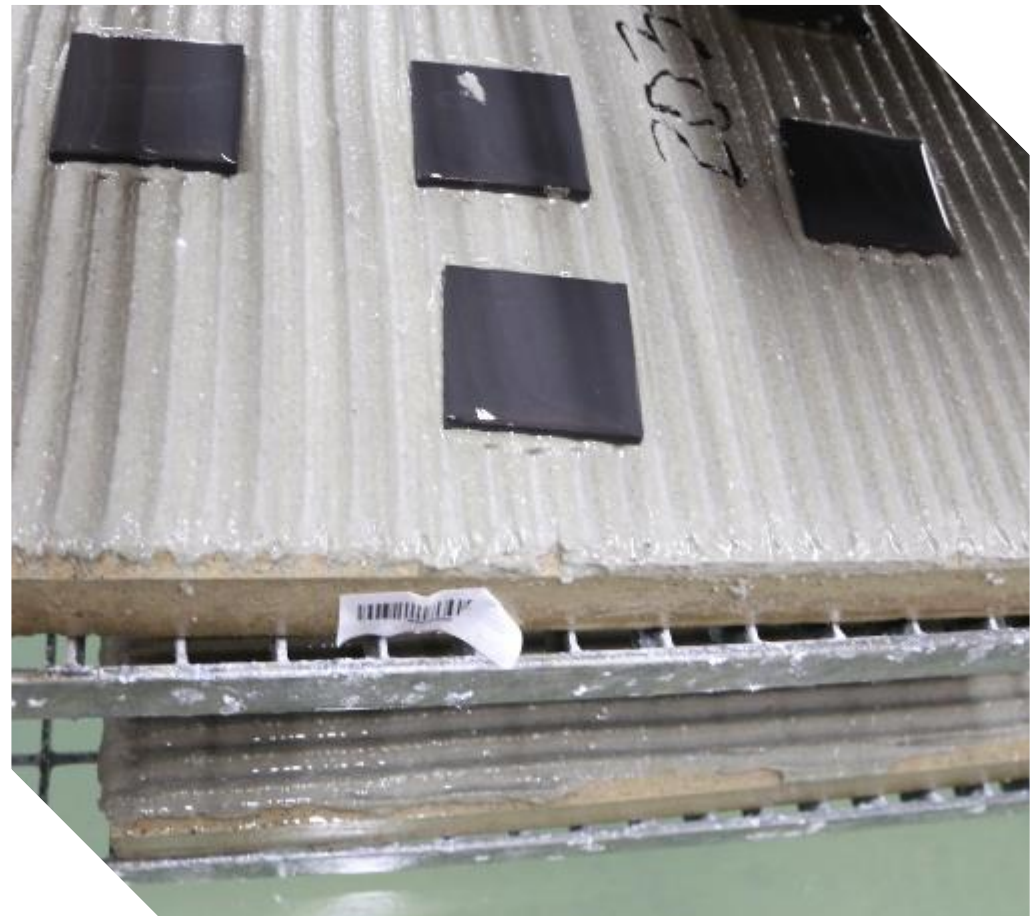


Important characteristics

Adhesion after water immersion.

It measures if the material has adhesion problem if he stays for long time under water.

All Personal Factory adhesives have to pass 21 days under water and then, the mechanical resistance has to be more than 0,5 MPa.



Important characteristics

Adhesion after freeze and thaw.

It is the most aggressive cycle and it simulates very well the long-lasting resistances.

All Personal Factory adhesives pass 21 days under water; then, they support 25 cycles of $-15^{\circ}\text{C}/20^{\circ}\text{C}$ where 20°C are under water. All Personal Factory adhesives have to resist to 0,5 MPa.



ISO classification and rules

- ✓ C: Mineral cementitious binder
- ✓ 1 or 2:1 = standard mechanical resistances $> 0,5$ MPa
2 = improved mechanical resistances > 1 MPa
- ✓ T: anti slip resistance $< 0,5$ mm
- ✓ E: open time > 30 min.
- ✓ F: fast setting

Ex. ISOLCOL B20 SUPER is a C2ET: a cementitious adhesive, improved, no slip, with open time



Made for real world



How a substrate can influence the final resistance of the material?

We developed also a non standard substrate that simulates the comportment of some of real screeds on the market. To test the adhesive also in a substrate NON STANDARD is very important because we think that the most important thing is to adapt the formulation to real world before the norms.

	Isolcoll B40 super standard substrate	C2ET Brand competitor standard substrate	Isolcoll B40 super NON standard substrate	C2TE Brand competitor NON standard substrate
Pull Off N/mm ²	3,10	2,50	1,60	1,50
Pull Off 5' N/mm ²	2,30	2,20	1,00	0,90
Pull Off 30' N/mm ²	0,85	0,80	0,45	0,05

Made for real world



Always freshly made product.

We developed the micro-production system to be near to the final user of the material. This because mineral binder based product have all the time the problem of expiry. ISO/ASTM/JTS/BS/SS norms allow to have a term of expiry of 12 months in paper/plastic/paper bag. But depending on certain conditions, after only 3 months it may happen that you lose parts of mechanical resistances.

	Good conditions	Humidity conditions	Hot and humid conditions
1 month - MPa	2,5	2,5	2,4
3 months - MPa	2,2	2,1	2
6 monts - MPa	1,8	1,7	1,5
12 months - MPa	1,6	1,5	1,2

Made for real world

Local standard conditions

We developed the micro-production system to be local worldwide. The reason is that different climates need to have different “standard testing conditions”.

UNI/ISO/ASTM/JTS/BS/SS uses 20 or 25°C as standard conditions.

But depending on conditions you can find in the world, it is better to have standard conditions that change from 12 to 30°C. Our products have been developed to pass the norms in both kinds of conditions: world standard and local standard.

ISOLCOLL A10 (C1)



- ✓ Entry level of tiles adhesive, first price.
- ✓ It complies with the EU norms
- ✓ Formulations

0,1-0,6 mm dry sand: 56%

Filler <0,063 mm: 23%

Cement 42,5 or 32,5: 22%

Applications: standard tiles, small and medium sizes, for interior use on floor, standard substrate.



Special features

- ✓ Low cement content, only 22%
- ✓ High cost effective good quality for the price
- ✓ Good workability
- ✓ Comply with ISO norm
- ✓ With Origami production system, it is always fresh.
- ✓ Special characteristic tuned for local climate.

ISOLCOLL A10 SUPER (C1E)



✓ Tiles adhesive with very good open time.

✓ It complies with the EU norms

✓ Formulations

0,1-0,6 mm dry sand: 52%

Filler <0,063 mm: 22%

Cement 42,5 or 32,5: 26%

Application: medium sized tiles, for interior use on floor, even on high absorption substrate.



Special features

- ✓ Low/medium cement content
- ✓ Very good open time
- ✓ Good cost effective
- ✓ Universal for low cost mass market
- ✓ Very good workability
- ✓ Comply with ISO norm
- ✓ With Origami production system, it is always fresh

ISOLCOLL A20 SUPER (C1T)



- ✓ Universal tiles adhesive, mass market
- ✓ It complies with the EU norms
- ✓ Formulations

0,1-0,6 mm dry sand: 51%

Filler <0,063 mm: 24%

Cement 42,5 or 32,5: 26%

Applications: standard tiles, small and medium sizes, for interior use on floor and walls on standard substrate



Special features

- ✓ Low/medium cement content
- ✓ High thixotropy
- ✓ Good cost effective
- ✓ Good workability
- ✓ Comply with ISO norm
- ✓ With origami production system it is always fresh
- ✓ Special characteristic tuned for local climate

ISOLCOLL A30 SUPER (C1ET)



- ✓ Universal tile adhesive, middle quality
- ✓ It complies with the EU norms
- ✓ Formulations

0,1-0,6 mm dry sand: 64%

Cement 42,5 or 32,5: 36%

Applications: medium or large sized tiles, interior or standard exterior condition, horizontal or vertical surface, even with high absorption substrate.



Special features

- ✓ High cement content
- ✓ High tixotropy
- ✓ High resistances even outdoor (standard conditions)
- ✓ Universal and mass market for medium quality
- ✓ Good workability and open time
- ✓ Comply with ISO norm

ISOLCOLL A30 QUICK (C1F)



- ✓ Universal tile adhesive with fast setting, middle quality
- ✓ It complies with the EU norms
- ✓ Formulations

0,1-0,6 mm dry sand: 64%

Cement 42,5 or 32,5: 36%

Applications: medium or large sized tiles, interior or standard exterior condition, horizontal surface, even with high absorption substrate.



Special features

- ✓ High cement content
- ✓ Quick setting and drying up
- ✓ High tixotropy
- ✓ High resistances even outdoor (standard conditions)
- ✓ Universal and mass market for medium quality
- ✓ Good workability Comply with ISO norm

ISOLCOLL B10 (C2)



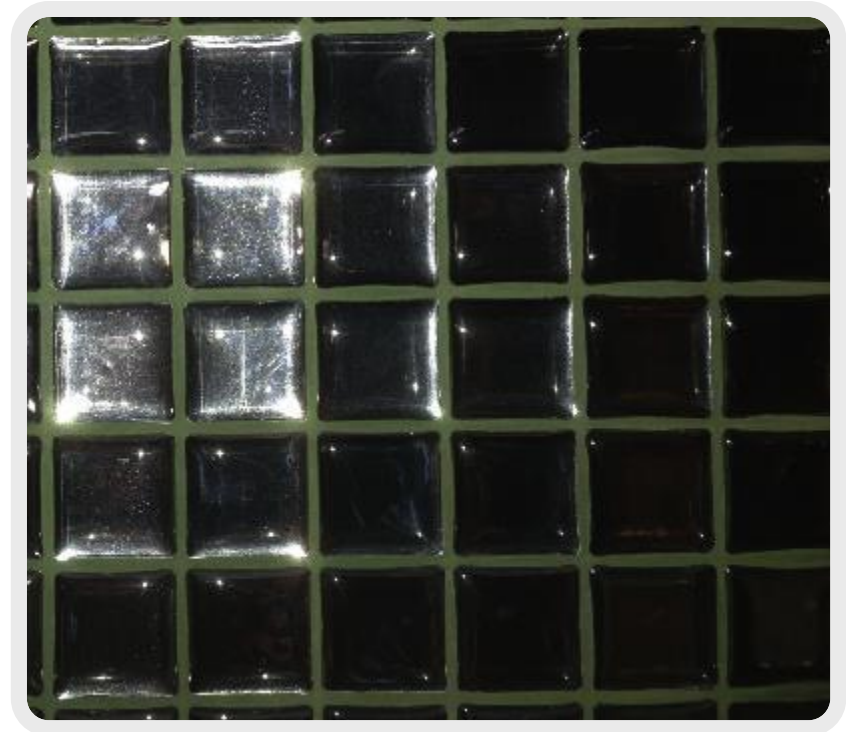
- ✓ Polymer based tile adhesive with open time, mass market
- ✓ It complies with the EU norms
- ✓ Formulations

0,1-0,6 mm dry sand: 42%

Filler <0,063 mm: 20%

Cement 42,5 or 32,5: 37%

Application: medium or large sized tiles, for interior and exterior use on floor.



Special features

- ✓ High polymer and cement content
- ✓ High resistances for interior and exterior use, in all weather conditions
- ✓ All kinds of substrates and tiles formats, even glass mosaic
- ✓ It complies with ISO norms
- ✓ With Origami production system it is always fresh
- ✓ Special characteristic tuned for local climate that

ISOLCOLL B20 SUPER (C2ET)



✓ Universal polymer based tile adhesive with open time and no slip

✓ Comply with the EU norms

✓ Formulations

0,1-0,6 mm dry sand: 63%

Cement 42,5: 36%

Application: medium or large sized tiles, for interior and exteriors use on floor and walls.



SPECIAL FEATURES

- ✓ High polymer and cement content
- ✓ Universal high quality mass market
- ✓ For floors and walls
- ✓ The world largest Personal Factory product
- ✓ High resistances for interior and exterior use in all weather conditions
- ✓ All substrates and tiles formats, even glass mosaic
- ✓ Also ideal for overlapping tiles on tiles

ISOLCOLL B40 (C2E) superior



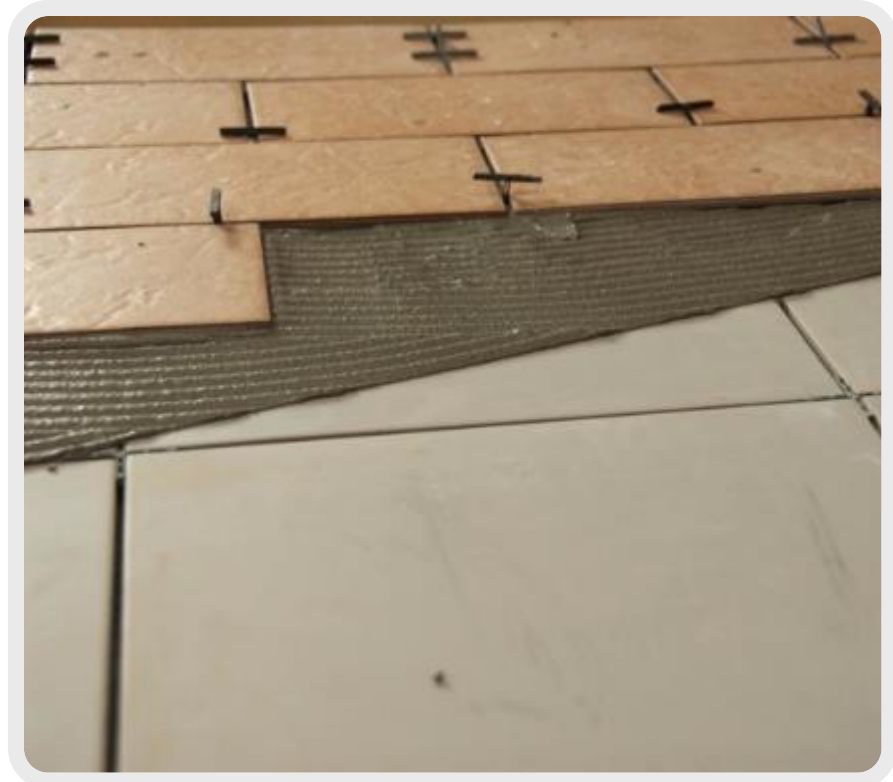
✓ High polymer based tile adhesive for special purpose.

✓ Formulations

0,1-0,6 mm dry sand: 64%

Cement 42,5: 36%

Application: large sized tiles, heavy weight and deformable stones, for interior and exterior use on floors.



SPECIAL FEATURES

- ✓ Large open time, more than 30 min
- ✓ Universal and deformable adhesives
- ✓ Special for heavy weight tiles and deformable stones
- ✓ For floors
- ✓ High resistances for interior and exterior use in all weather conditions
- ✓ All substrates and tiles formats, even glass and mosaic
- ✓ Also ideal for overlapping tiles on tiles, tiles on stones, stones on tiles, stones on stones
- ✓ With Origami production system it is always fresh

ISOLCOLL B40 SUPER (C2ET)

superior



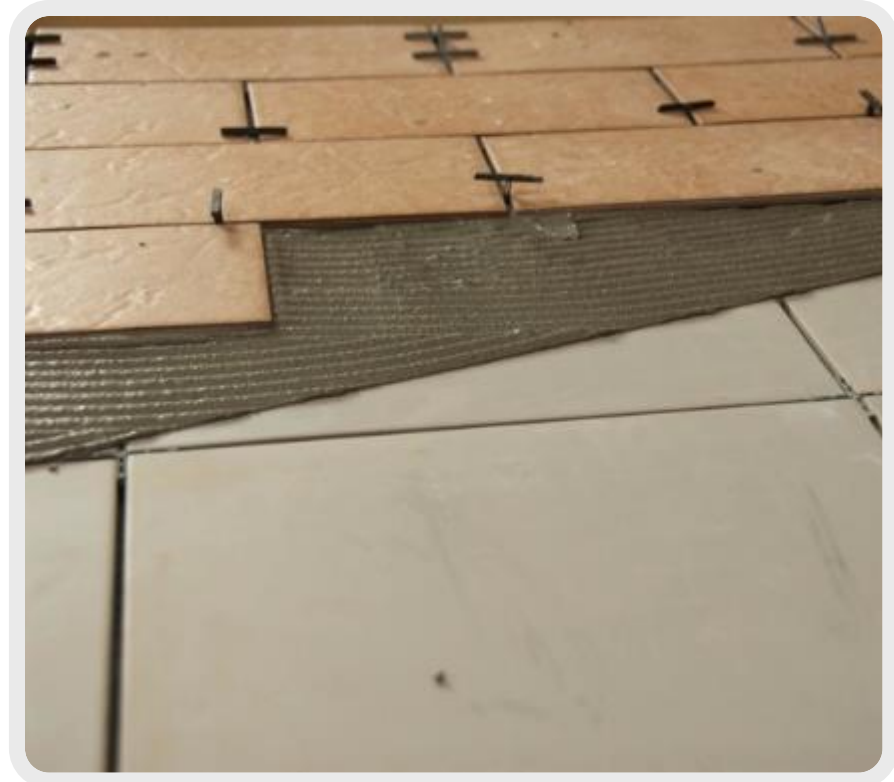
✓ High polymer based tile adhesive for special purpose.

✓ Formulations

0,1-0,6 mm dry sand: 61%

Cement 42,5: 36%

Application: large sized tiles, heavy weight and deformable stones, for interior and exterior use on floor and walls.



SPECIAL FEATURES

- ✓ High polymer and cement content
- ✓ Universal and deformable adhesives
- ✓ Special for heavy weight tiles and deformable stones
- ✓ For floors and walls
- ✓ High resistances for interior and exterior use in all weather conditions
- ✓ All substrates and tiles formats, even glass and mosaic
- ✓ Also ideal for overlapping tiles on tiles, tiles on stones, stones on tiles, stones on stones
- ✓ With Origami production system it is always fresh

ISOLCOLL B40 QUICK (C2FT)

superior



✓ High polymer based tile adhesive with fast setting.

✓ Formulations

0,1-0,6 mm dry sand: 42%

Filler: 15%

Cement 42,5: 36%



Application: large sized tiles, heavy weight and deformable stones, for interior and exterior use on floor and walls.

SPECIAL FEATURES

- ✓ Quick setting and drying up
- ✓ High polymer and cement content
- ✓ Special for heavy weight tiles and deformable stones
- ✓ For floors and walls
- ✓ High resistances for interior and exterior use in all weather conditions
- ✓ All substrates and tiles formats, even glass and mosaic
- ✓ Also ideal for overlapping tiles on tiles, tiles on stones, stones on tiles, stones on stones
- ✓ With Origami production system it is always fresh

ISOLCOLL B40 MARMO (C2FT)

superior



✓ Rapid bonding adhesive for marble and natural stone.

✓ Formulations

0,1-0,6 mm dry sand: 42%

Filler: 15%

Cement 42,5: 36%

Application: Rapid laying of indoor and outdoor floor and wall tiles, even for overlaying, for large or not natural stone with average sensitivity to humidity.

SPECIAL FEATURES

- ✓ Quick setting and drying up
- ✓ High performance in short time
- ✓ Special for heavy weight natural stones
- ✓ For floors and walls
- ✓ High resistances for interior and exterior use in all weather conditions
- ✓ Also ideal for overlapping tiles on tiles, tiles on stones, stones on tiles, stones on stones
- ✓ With Origami production system it is always fresh
- ✓ Special characteristic tuned for local climate that support a large range of weather

ISOLCOLL B40 S1 (C2TES1) superior



✓ High deformable adhesive, with large open time and no vertical slip.

✓ Formulations

0,1-0,6 mm dry sand: 47%

Filler: 17%

Cement 42,5: 33%

✓ Application: Indoor and outdoor floors and walls, even for overlaying, for high traffic area, cold rooms and swimming pools.



SPECIAL FEATURES

- ✓ Improved deformability and flexibility
- ✓ Large open time, more than 35 min
- ✓ High thixotropy and no vertical slip
- ✓ For floors and walls
- ✓ High resistances for interior and exterior use in all weather conditions
- ✓ All substrates and tiles materials and formats, also glass and mosaic
- ✓ Also ideal for overlapping tiles on tiles, tiles on stones, stones on tiles, stones on stones
- ✓ With Origami production system it is always fresh

ISOLCOLL B40 S1 QUICK (C2FTS1) superior



✓ High deformable adhesive, with fast setting and no vertical slip.

✓ Formulations

0,1-0,6 mm dry sand: 43,5%

Filler: 16%

Cement 42,5: 32%



✓ Application: Indoor and outdoor floors and walls and in all environments exposed to excessive thermal movements due to changes in temperature and movements.

SPECIAL FEATURES

- ✓ Improved deformability and flexibility
- ✓ Quick drying and use time
- ✓ High thixotropy and no vertical slip
- ✓ For floors and walls
- ✓ Special for heavy weight tiles and deformable stones
- ✓ All substrates and tiles materials and formats, also glass and mosaic
- ✓ Also ideal for overlapping tiles on tiles, tiles on stones, stones on tiles, stones on stones
- ✓ With Origami production system it is always fresh

ISOLCOLL ELASTIC (C2T S2 / C-PI-MC-IR) superior



✓ Special two-component adhesive.

✓ Formulations

0,1-0,6 mm dry sand: 52%

Filler: 19%

Cement 42,5: 26%



✓ Application: Indoor and outdoor floors for structural and irreversible bonding, with waterproofing action.

SPECIAL FEATURES

- ✓ Improved deformability and flexibility
- ✓ Accordance with the standard principle of adhesive and systems for protection of concrete structures
- ✓ High thixotropy and no vertical slip
- ✓ Special for heavy weight tiles and deformable stones
- ✓ All substrates and tiles materials and formats, also glass and mosaic
- ✓ Also ideal for overlapping tiles on tiles, tiles on stones, stones on tiles, stones on stones
- ✓ With Origami production system it is always fresh