

TeMa
Interior
Solutions

No-Crack, T-K NW and T-K Net for balconies and terraces

SOLUTIONS FOR **DISCONNECTING,**
WATERPROOFING AND **DRAINING** INDOOR FLOORS
AND OUTDOOR PAVING

NEW ADVANCED
SYSTEM



Company



Solutions and products for disconnecting, waterproofing and drainage indoor floors and outdoor paving

TeMa Interior Solutions is the division that includes solutions for the construction of interiors and outdoor paving using systems designed to guarantee maximum aesthetic and functional performance. TeMa also stands out for its continuous research into new products with the active involvement of designers and customers, as well as offering technical assistance during the design and implementation stages.

With the **No-Crack**, **T-K NW** and **T-K Net ranges** in this catalogue, you will find the best solutions resulting from TeMa's research and experience spanning twenty years in drainage and waterproofing. The materials used ensure the desired performance as well as speeding up construction times with their ease of installation.

On the TeMa Interior Solutions website you will also find the innovative T-Silence range with its features of excellent impact sound deadening properties thanks to materials of minimum thickness, low-invasive application methods and reduced installation times. The website also details the use of waterproofing systems with membranes and panels for bathrooms and showers.

www.temainterior.com



IWIS Insulation Waterproofing Industrial Systems

IWIS is a “thinking holding” established to efficiently manage its member companies, enhancing all aspects of their operation.

The synergies achieved thereby benefit all aspects of production, operation and logistics as well as the commercial and research and development activities.

It is called a “thinking holding” because it is a group of companies that understands the critical thinking and ideas necessary to satisfy the diverse expectations and demands from a chain of professionals, retailers, installers and contractors.

With 15 factories, 11 international subsidiaries, and a global distribution network IWIS provides both technical and sales support in over 70 territories worldwide. It is a truly reliable global supply partner able to provide an extensive range of products and systems for the building and construction industry. With its product development clearly focused on research, IWIS offers products and systems that always make use of the latest technologies.



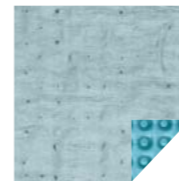
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No-Crack



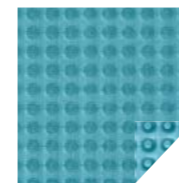
A disconnecting membrane comprising an HDPE dimpled membrane layer, with a treated roughened surface, coupled with a spunbonded polypropylene fabric.

T-K NW



A drainage composite formed from a cusped polyethylene membrane coupled with a filter fabric.

T-K Net



A drainage composite formed from a cusped polyethylene membrane with a thermally bonded HDPE mesh.

The comfort of having a haven in every home.

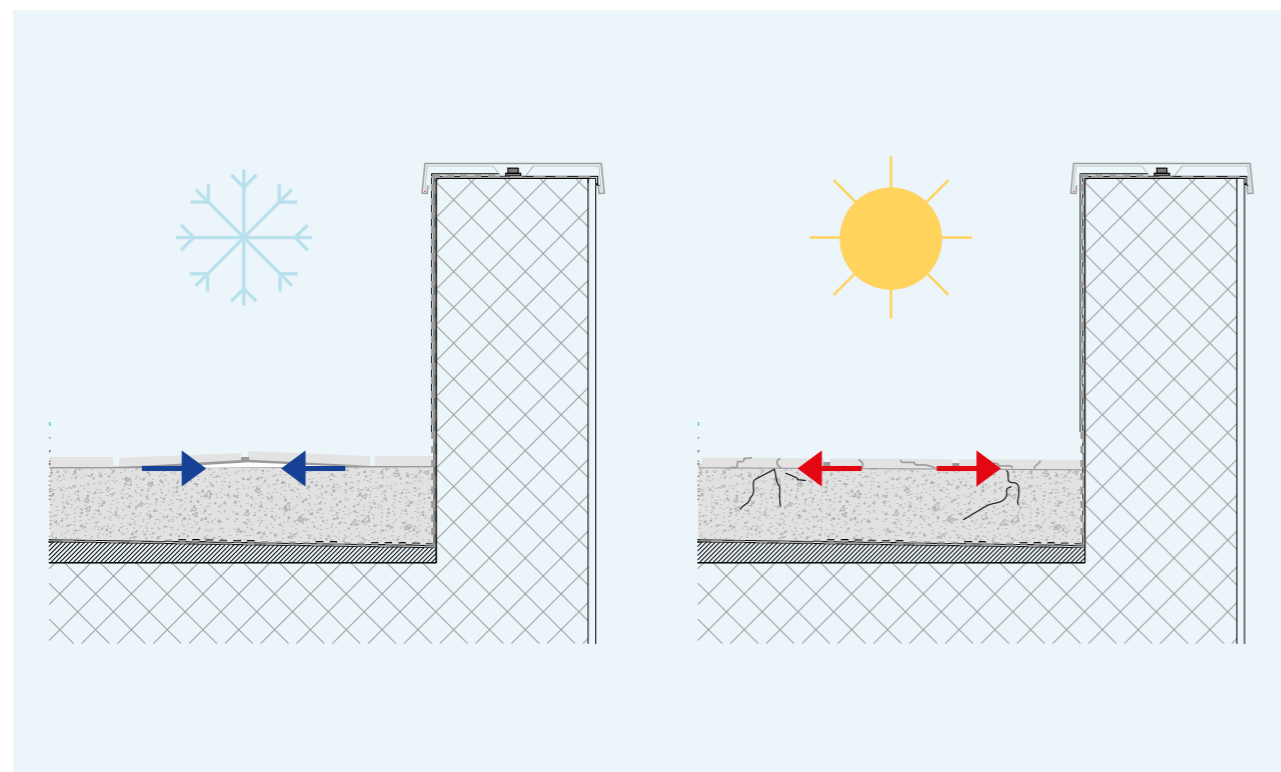
Terraces, balconies and interiors.

Every home has its own small or large haven that overlooks the outside world. A living space where we can enjoy the surrounding environment. Terraces and balconies become comfortable and attractive areas where we can enjoy looking at the horizon or the starry skies.

Projecting, above other rooms or on the ground, they offer an experience for everyone that makes them become our favourite spaces. Such spaces are closely associated with the wellbeing of those who live in them.

Over the centuries, designers have always given special attention to such architectural features and to their location in relation to places or views. In modern architecture, once again they fully represent their inhabitants' approach towards the environment, nature and the current concept of the "Vertical Forest".

Nevertheless, these are living spaces that must obviously be created in compliance with reference standards and designed to withstand temperature and climate variations in all locations. They comprise materials and details that allow their aesthetic qualities, planned in their design and implementation, to be maintained over time so that they can fulfil their expected functions with quick installation times.



Reference Standard

Laying a ceramic tile floor Italian reference standard UNI 11493

In 2013, the Italian standard UNI 11493 was introduced that governs the laying of ceramic floor and wall tiles indoors and outdoors, mainly installed with adhesives but also with cementitious mortar. Then market demands led to its revision three years after publication, providing even more precise and detailed guidelines for the correct laying of ceramic tiles in various building contexts. The Italian standard UNI 11493-1:2016 "Ceramic wall and floor tiles - Part 1: Instructions for the design, installation and maintenance" includes a paragraph on balconies and terraces. It explains the need, when designing these spaces, to provide a draining and protective layer before laying the screed. The purpose of this layer is to drain any water that may seep into the tiled area and protect the sealing element from any possible damage caused by layers laid over its extrados. Systems can be found on the market that comply with this reference standard, such as the solutions offered by TeMa.

ITALIAN STANDARD UNI 8627

"Covering systems – definition and classification of functional diagrams, compliant solutions and technological solutions"

ITALIAN STANDARD UNI 11493-1:2016

"Ceramic wall and floor tiles - Part 1: Instructions for design, installation and maintenance"

Structure of a terrace Italian reference standard UNI 8627

Another reference standard for the correct layering of a terrace is UNI 8627 (Covering systems - definition and classification of functional diagrams, compliant solutions and technological solutions), which provides guidelines for all layers/elements that must be included in this construction: **slope, vapour barrier, thermal insulation element and sealing element.**

With regard to the slope, the standard UNI 8627 specifies that for **flat coverings** (also for terraces) it must be either less than or equal to 5% in order to guarantee rainwater run-off through drainage outlets. However, recommendations suggest **never dropping to below a slope value of from 1 - 1.5%** to avoid the danger of water stagnation, which would affect the functionality and life span of the entire system.

To build a flat covering to the highest standards, it is necessary to apply the **sealing element** (usually a bituminous sheath). **Before laying the screed**, the standard **UNI 8627** recommends always creating an essential **layer** for improving **drainage and protection**. This layer "protects" the covering sealing element from abrasion and "drains" any water that may seep into the screed. Over time, this water could significantly damage the screed (e.g. in winter, if water remains in the screed, it may freeze and break the screed and then the tiles).

Disconnecting for outdoors

Paving without No-Crack

The durability of any ceramic tiling system installed without a disconnection layer can be compromised by both screed shrinkage during curing and the tensions developed between screed and tile.

Cracks are caused by:

- too much water in the mix (the water / cement ratio)
- weather conditions
- application techniques and curing times
- absence of control joints

Tension cracks, by contrast, are caused by the differing properties of the ceramic tiles and underlying screed bed - both having differing coefficients of expansion, thereby causing tensile stresses at their interface.

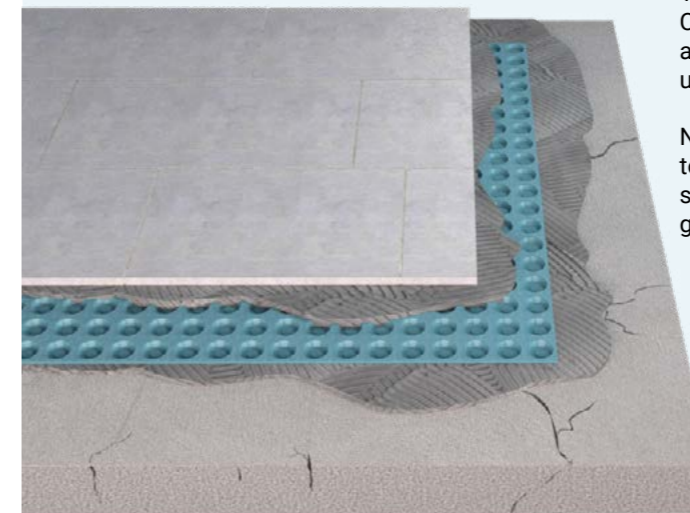


Paving with No-Crack

A ceramic tile system can be protected against the emergence of cracks by the simple inclusion of a disconnecting product. This ensures the continued durability of the ceramic tiles over time.

Thanks to its flexible button-like structure, No-Crack adjusts and neutralises the transmission of any underlying tensions, acting as a bridge over any underlying shrinkage crack.

No-Crack prevents the progression of cracks towards the paving, whether caused by screed shrinkage during curing or by the tension stresses generated at any tile screed interface.



*T-Bandel + No-Crack can be used to add the **waterproofing** function in outdoor contexts*

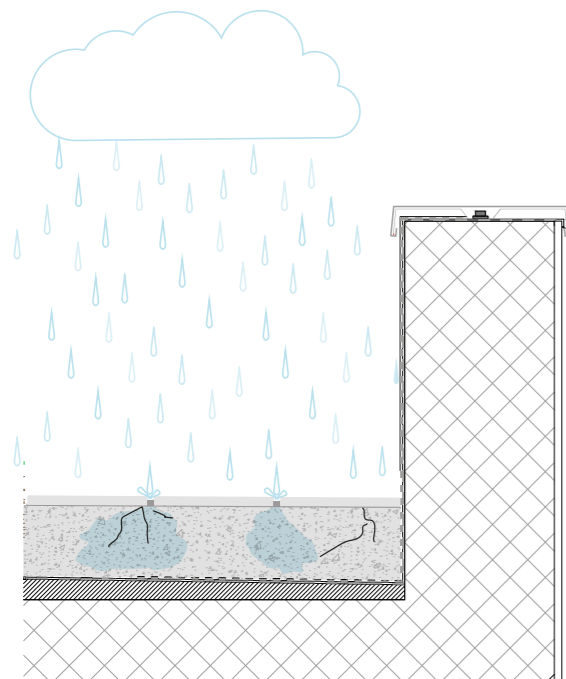
Drainage

The importance of drainage under the paving of balconies and terraces.

Correct laying and the use of suitable materials maintain the functional qualities of the work done. T-K NW or T-K Net are draining products that allow rainwater run-off and upward flow from the ground, helping to keep the paving in good condition and aesthetically intact. If water stagnates in the screed:

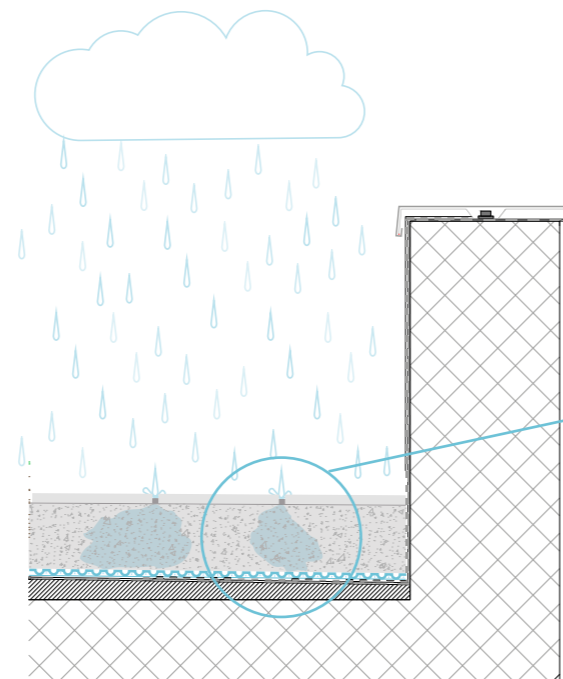
- in the winter months, it expands causing the overlying cladding layer to crack;
- in the summer months, the capillary upward flow of water transports the salts in the cement causing the appearance of efflorescence in the cladding.

In addition, for paving with rooms below, the presence of this draining element prevents humidity from reducing the thermal insulation properties of any building materials that can absorb and/or retain any water present in liquid or vapour form.



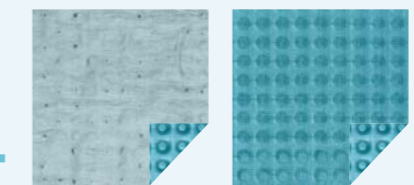
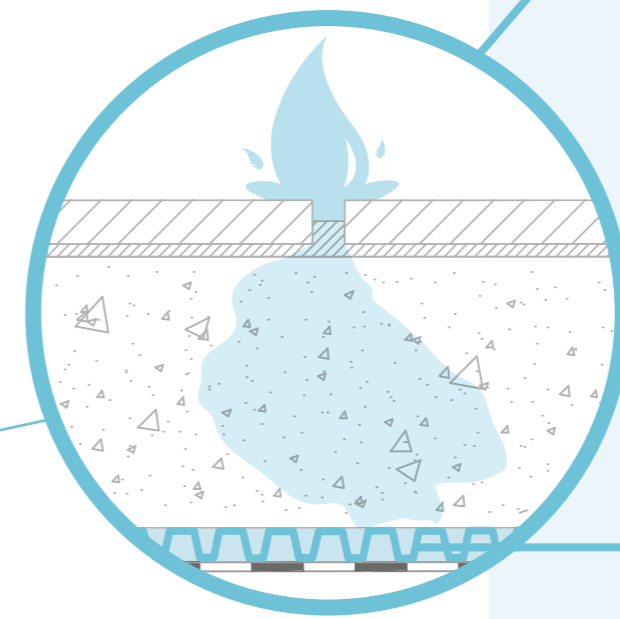
Paving without T-K NW or T-K Net

- Incidental fissures in the structure
- Humidity of screeds and floors
- Detachment of paving



Paving with T-K NW or T-K Net

- Total protection of the substrate and load-bearing layer

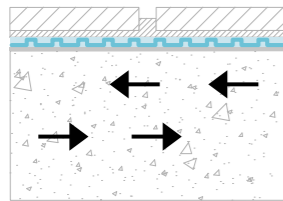


T-K NW

T-K Net

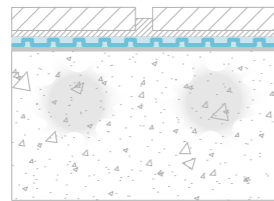
Product functions

No-Crack



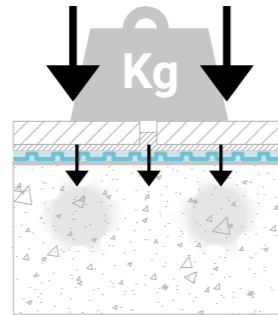
DISCONNECTING (anti-crack)

It eliminates the causes of cracks in tiles, neutralising tensions between the substrate and tiles, creating a bridge over any fissures.



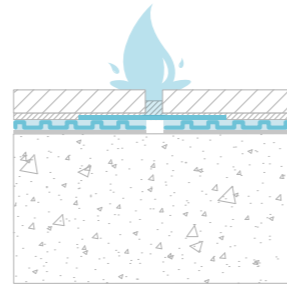
VAPOUR VENT

The channels created between the polypropylene fabric and the cusped structure of the membrane compensate for the vapour tension from humid substrates. They act as an outlet for excess humidity and vapour.



DISTRIBUTION OF LOADS AFFECTING A TILED SURFACE

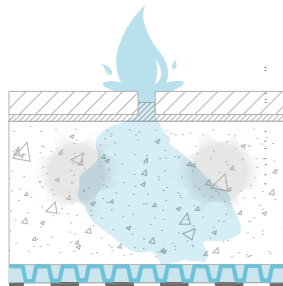
Distribution of loads affecting a tiled surface. Thanks to its structure, it is classified as EXTRA-HEAVY in the Robinson Wheel Test.



WATERPROOFING OUTDOOR AREAS

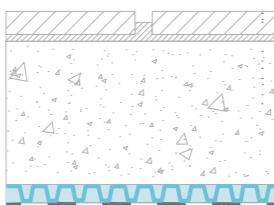
The plastic nature of the membrane, combined with the T-Bandel accessory, provides the waterproofing function for outdoors. As a result, the substrate is protected against humidity and harmful substances. The drying of the newly laid underlying screed is also slowed down.

T-K NW / T-K Net



DRAINAGE

It drains away any water that may seep into the screed. Thanks to a capillary passive drainage system, the risk of stagnant water in the system is eliminated.



PROTECTING THE SEALING LAYER

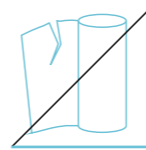
The presence of the dimpled membrane allows high load resistance and the screed to remain "suspended" in relation to the sealing layer (waterproofing) below, thus protecting it from perforations and abrasions.

System advantages



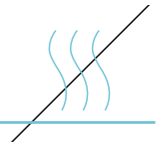
The system is **easy** and **straightforward** to install.

Quick installation: for under-tile applications, the time involved is extremely short, since after laying the membrane, no interruptions are necessary in the work of laying the floor. It is not necessary to wait 28 days for the screed to harden.



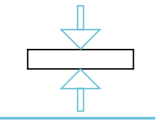
Low probability of installation errors and of **damaging the materials** to be applied.

The materials are **odourless** and do not create gases that are toxic for indoor or outdoor air, or volatile organic compounds (VOC).



No substances harmful to groundwater or to the subsoil **are dispersed** during installation

Reduced thicknesses, essential features for renovations.



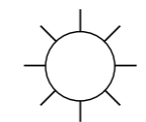
After treatment, the **surface** is entirely **renewed**.

The ceramic tile or stone cladding (synthetic or natural) can be **directly applied to the membrane** using standard cementitious adhesive.



The underlying **substrate** always remains **protected** and dry.

It can also be applied in the **winter**.



It is important to avoid exposure to UV rays.

When completely dry (24h), it becomes **resistant to heavy loads and rain**.





TYPES OF APPLICATION

Outdoors

- ✓ *Renovations:*
 - *disconnecting and waterproofing functions*
- ✓ *New:*
 - *drainage function*
 - *disconnecting and waterproofing functions*
 - *disconnecting, waterproofing and sound insulation functions*

Areas of application

RENOVATION AND NEW CONSTRUCTION IN OUTDOOR AREAS

In an outdoor area, paving is subject to the following types of weathering:

- hot / cold temperature changes
- alternating weather in summer / winter
- freezing phenomena in winter
- disposal of rainwater
- humidity of the outdoor area.

These appear with unsightly stains, mould and cracks in the paving, decreasing its life span.

Today, in modern architecture, outdoor spaces are highly appreciated, hence the need for high-performance materials. More specifically, for renovations it is essential to use materials that allow goals to be achieved quickly and with the least amount of building materials (sand and cement).

Choosing TeMa specific solutions allows the work to be implemented by providing the right compromise between practicality of use and performance in compliance with reference standards and with advantages in terms of construction times.

RENOVATION AND NEW CONSTRUCTION IN INDOOR AREAS

Interior designers typically propose attractive flooring. The wide choice of materials, their textures, the subtle effect of gloss and matt materials and variety of colours truly allow flooring to express the aesthetic appeal of every location. Materials such as ceramic tiles, natural or artificial stone or marble must withstand the continuous loads and stresses caused by daily domestic activities. When creating layers with TeMa products, the opportunity is provided to design confidently with the certainty of achieving expected results.

Aesthetic appeal can be protected by using functional products and by speeding up installation times, especially for renovations.

Indoors

- ✓ *Renovations and New:*
 - *disconnecting function (residential / commercial / tertiary indoor floors)*
 - *disconnecting and sound insulation functions with underfloor heating*
 - *disconnecting function with underfloor heating*



Renovation in outdoor areas

Under-paving applications in outdoor areas

WITH DISCONNECTING
AND WATERPROOFING FUNCTIONS

Areas of application

RENOVATION
IN OUTDOOR AREAS

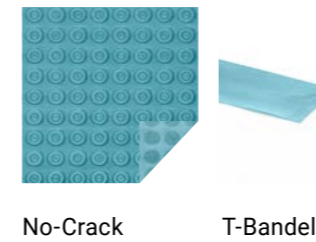
Under-paving applications in outdoor areas

WITH DISCONNECTING AND WATERPROOFING FUNCTIONS

Protection of ceramic tile cladding while preserving the existing underlying layer.*

* If it is not placed directly on the screed, the disconnecting application must be carried out using an adhesive agent appropriate for the substrate.

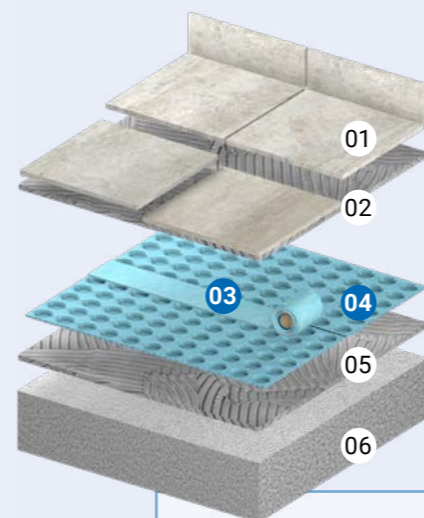
Bonding with No-Crack class C2 cementitious adhesive on the underlying screed protects the new paving against cracks, humidity and water seepage due to the presence of T-Bandel between the joints of the adjacent sheets. Tiles can be laid directly over No-Crack.



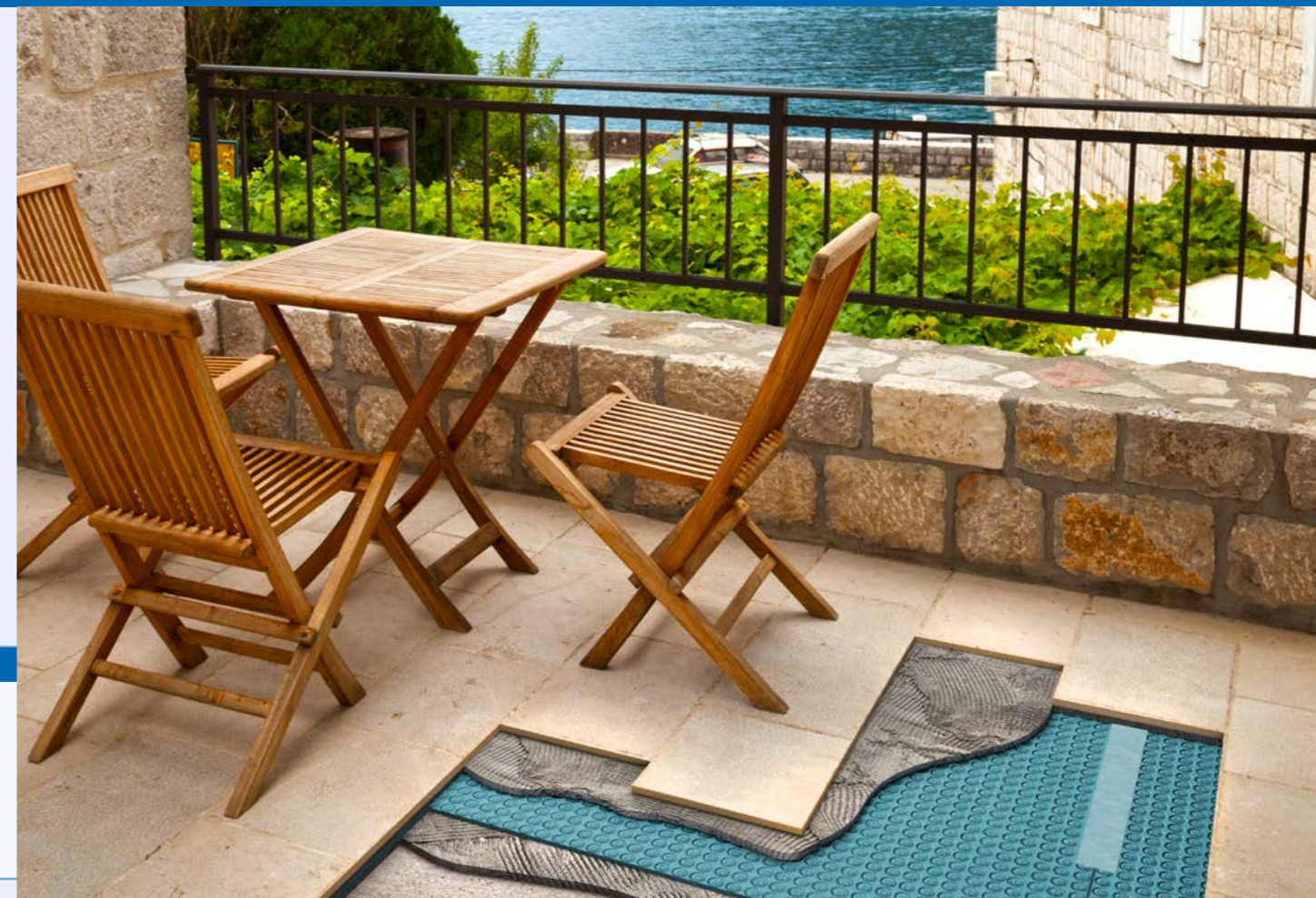
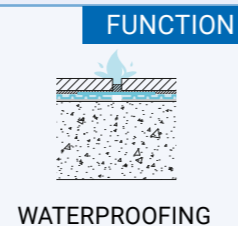
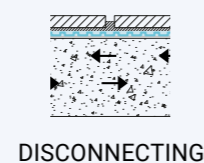
Renovation of balconies and terraces with removal of an existing floor:

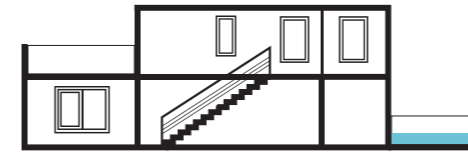
BALCONIES AND TERRACES

- 01. Ceramic tile / stoneware / natural or artificial stone floor
- 02. Class C2 cementitious adhesive
- 03. T-Bandel
- 04. No-Crack
- 05. Class C2 cementitious adhesive
- 06. Screed



RENOVATION
REMOVAL OF AN EXISTING FLOOR





New construction in **outdoor areas**

Under-screed applications in outdoor areas

- DRAINAGE FUNCTION
- DISCONNECTING AND WATERPROOFING FUNCTIONS
- DISCONNECTING, WATERPROOFING AND SOUND INSULATION FUNCTIONS

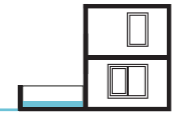
Areas of application

NEW CONSTRUCTION
IN OUTDOOR AREAS

Under-screed applications in outdoor areas

WITH DRAINAGE FUNCTION

The presence of a drainage layer that prevents water stagnation in the screed protects the cladding above it against cracks and the appearance of efflorescence. It facilitates the collection and drainage of water that has entered the cladding system above the sealing layer.



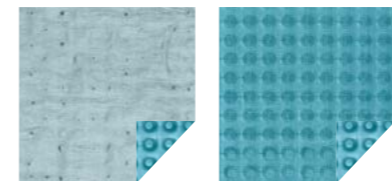
Outdoors

Renovations:

- *disconnecting and waterproofing functions*

New:

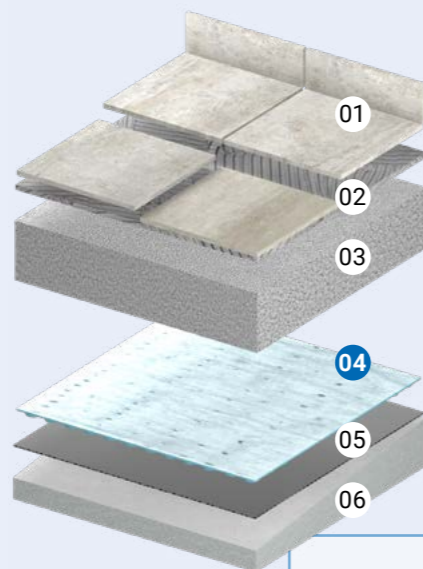
- *drainage function*
- *disconnecting and waterproofing functions*
- *disconnecting, waterproofing and sound insulation functions*



T-K NW T-K Net

New construction of balconies and terraces:

01. Ceramic tile / stoneware / natural or artificial stone floor
02. Class C2 cementitious adhesive
03. Screed
04. T-K NW / T-K Net
05. Sealing layer
06. Sloping structure*



The DRAINING FUNCTION is performed by T-K Net where the following finishes are present:

Raised floor with supports filled with mortar, or feet

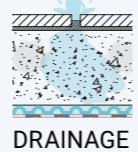
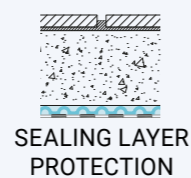
- Tiles
- Supports / feet
- T-K Net
- Sealing layer
- Sloping layer

Tiles over gravel

- Tiles
- Compacted gravel
- T-K Net
- Sealing layer
- Sloping layer

Draining screed

- Drainage screed
- T-K Net
- Sealing layer
- Sloping layer



FUNCTION

* Slope min. 1.5 - 2%

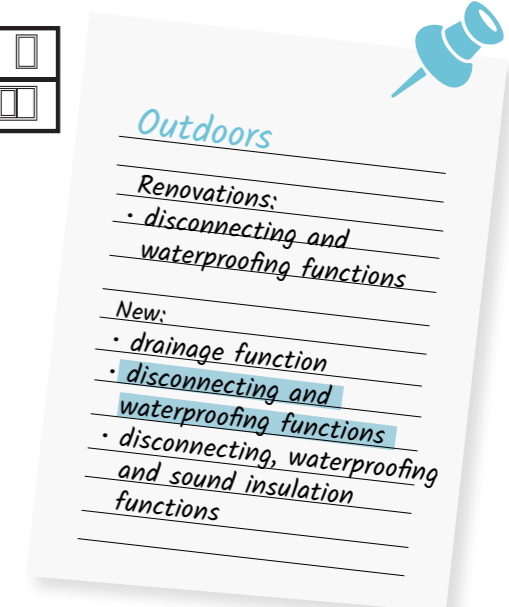
Applications in outdoor areas

WITH DISCONNECTING AND WATERPROOFING FUNCTIONS

In compliance with the reference standard, the presence of a drainage layer, supported by No-Crack appropriately sealed with T-Bandel, creates a layer with double protection against water stagnation and seepage, as well as protection against cracks that is guaranteed by the separating element.

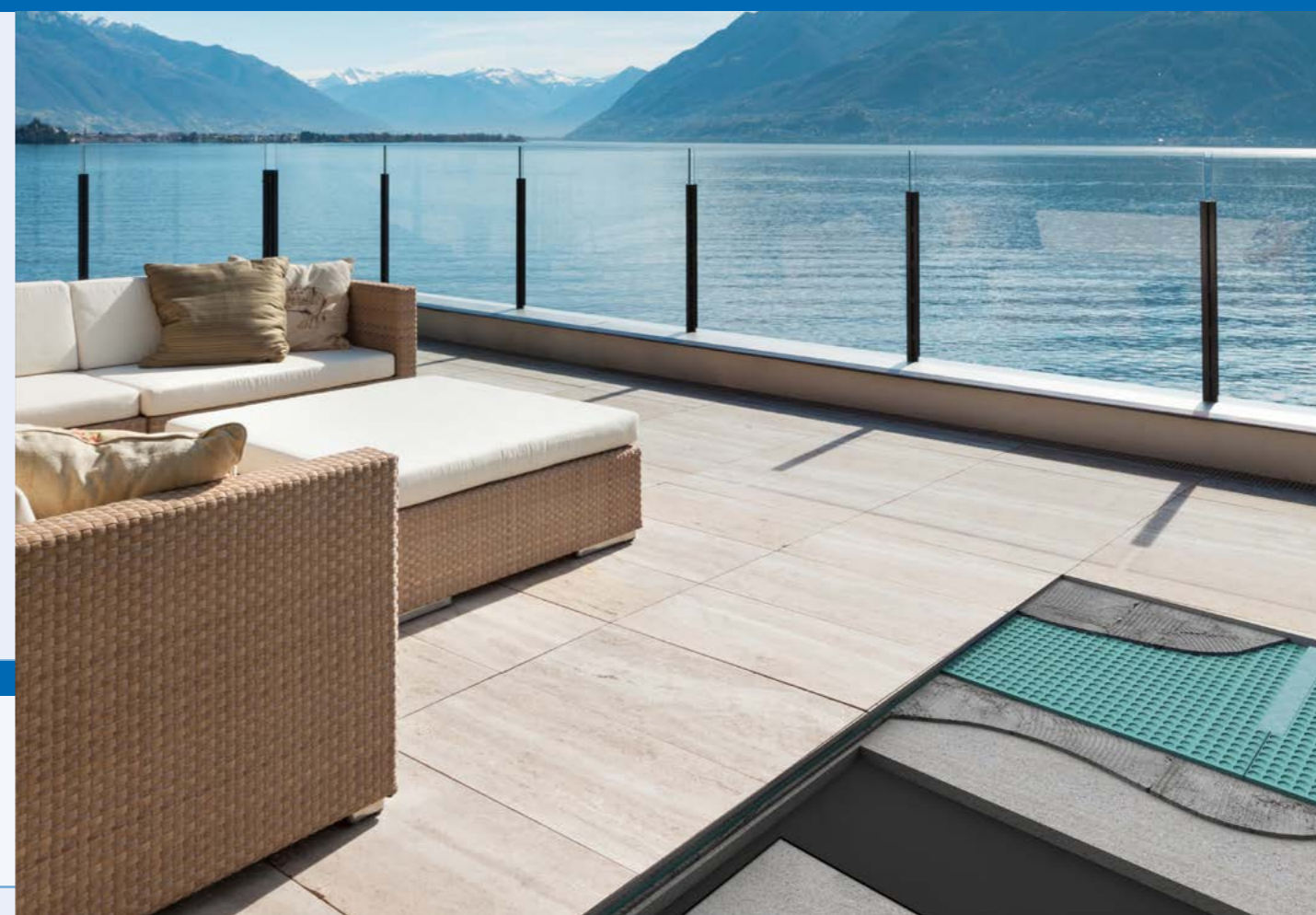
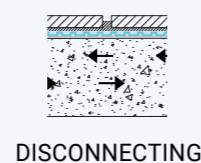
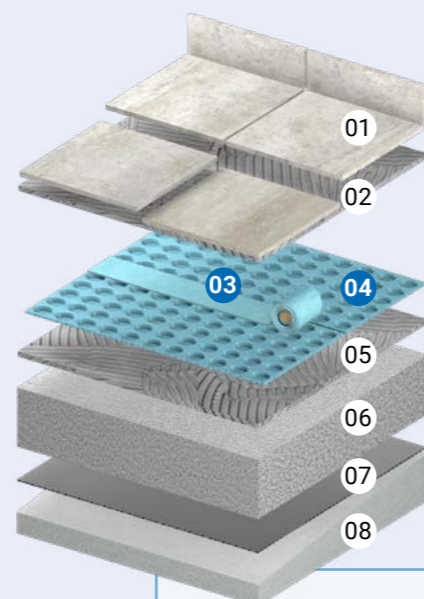


No-Crack

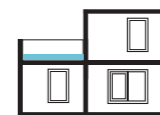


New construction of balconies and terraces:

01. Ceramic tile / stoneware / natural or artificial stone floor
02. Class C2 cementitious adhesive
03. T-Bandel
04. No-Crack
05. Class C2 cementitious adhesive
06. Screed
07. Sealing layer
08. Sloping structure



Applications in outdoor areas



WITH DISCONNECTING, WATERPROOFING AND SOUND INSULATION FUNCTIONS

A terrace designed as a walk-on surface above a living area.

When a terrace is designed as a walk-on surface above a living area, sound insulation against impact should not be ignored in order to ensure comfort and liveability in the area below.

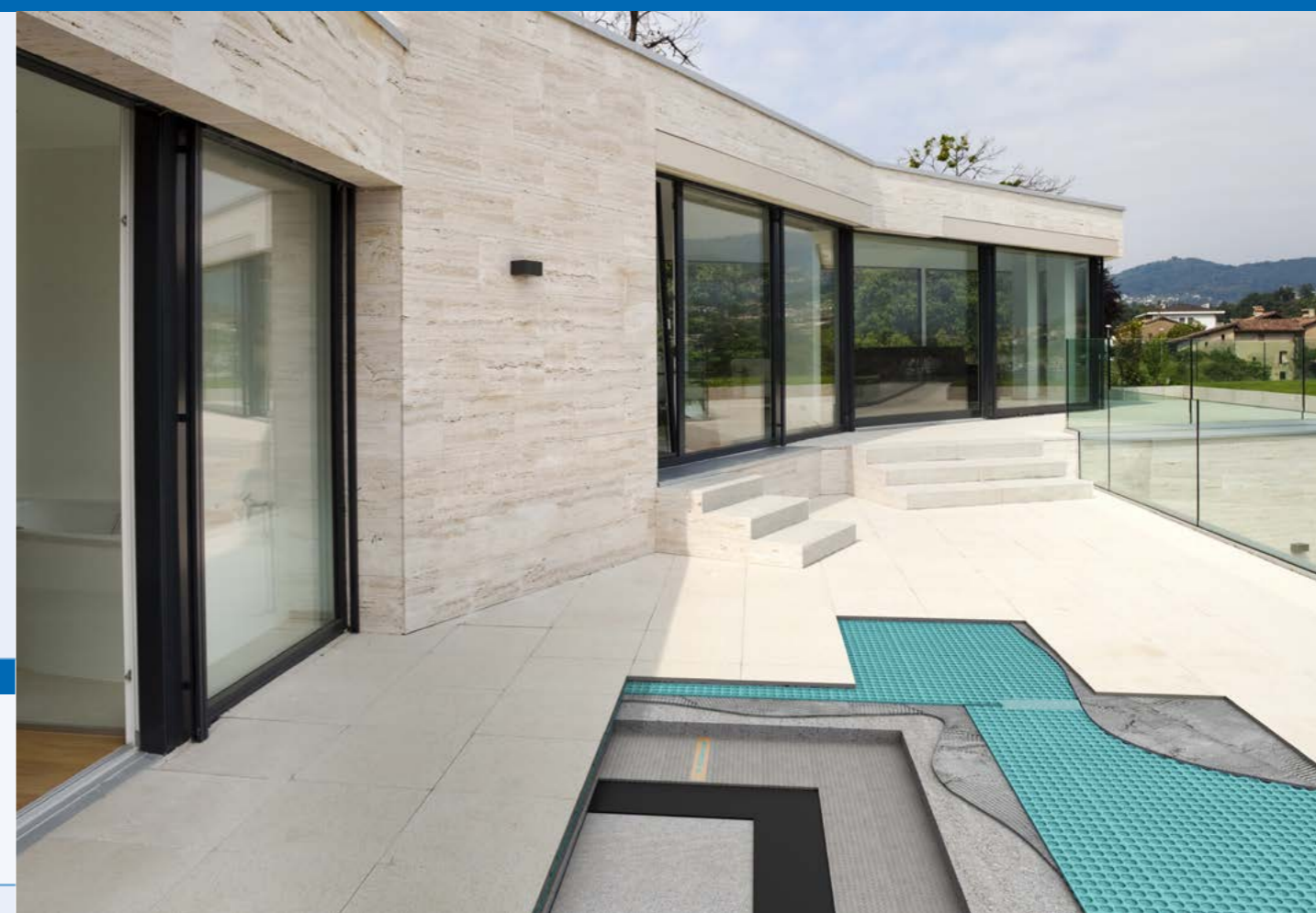
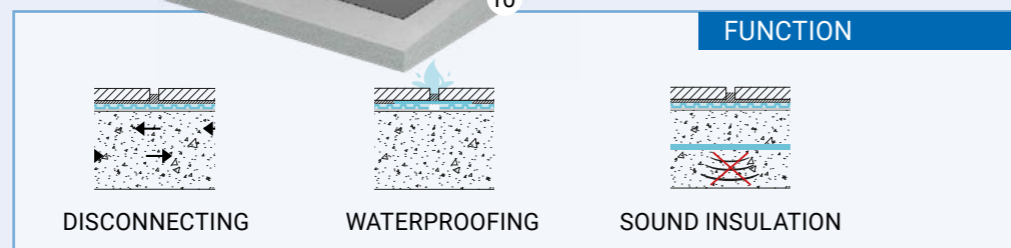
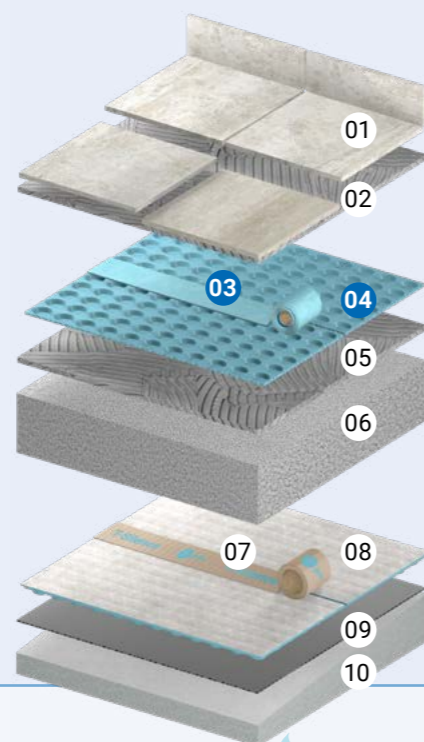


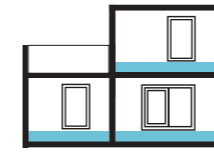
No-Crack



New construction of balconies and terraces:

01. Ceramic tile / stoneware / natural or artificial stone floor
02. Class C2 cementitious adhesive
03. T-Bandel
04. No-Crack
05. Class C2 cementitious adhesive
06. Screed
07. T-Strip
08. T-Silence mm 3.8 / 5 / 9.5 / 10
09. Sealing layer
10. Sloping structure





Renovation and new construction in indoor areas



Under-tile applications in indoor areas

- DISCONNECTING FUNCTION
- DISCONNECTING AND SOUND INSULATION FUNCTIONS WITH UNDERFLOOR HEATING
- DISCONNECTING AND SOUND INSULATION FUNCTIONS

Areas of application

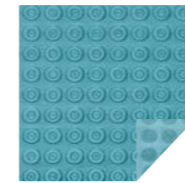
RENOVATION AND NEW
CONSTRUCTION IN INDOOR AREAS

Under-tile applications in indoor areas

WITH DISCONNECTING FUNCTION

No-Crack has passed the Robinson Wheel test in accordance with the standard ASTM C627 under the "Extra Heavy" rating.

With this result, we can extend our portfolio of the types of buildings to which the disconnecting product can be applied: residential, commercial, tertiary, etc..



No-Crack

Indoors

Renovation and new construction:

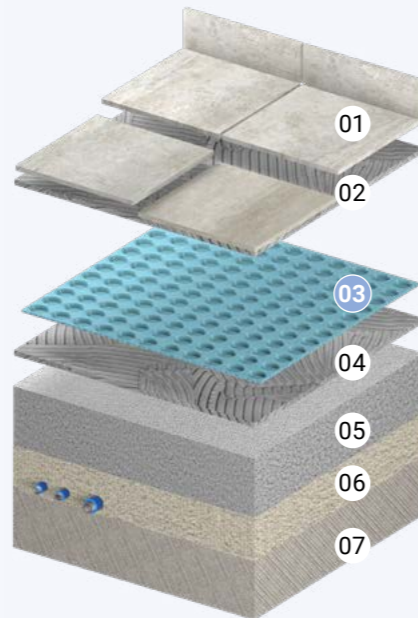
- disconnecting function (indoor floor - residential industrial/commercial tertiary type)*
- disconnecting and sound insulation functions with underfloor heating*
- disconnecting and sound insulation functions*

Renovation of indoor areas with removal of an existing floor:

INDOOR FLOOR - RESIDENTIAL TYPE

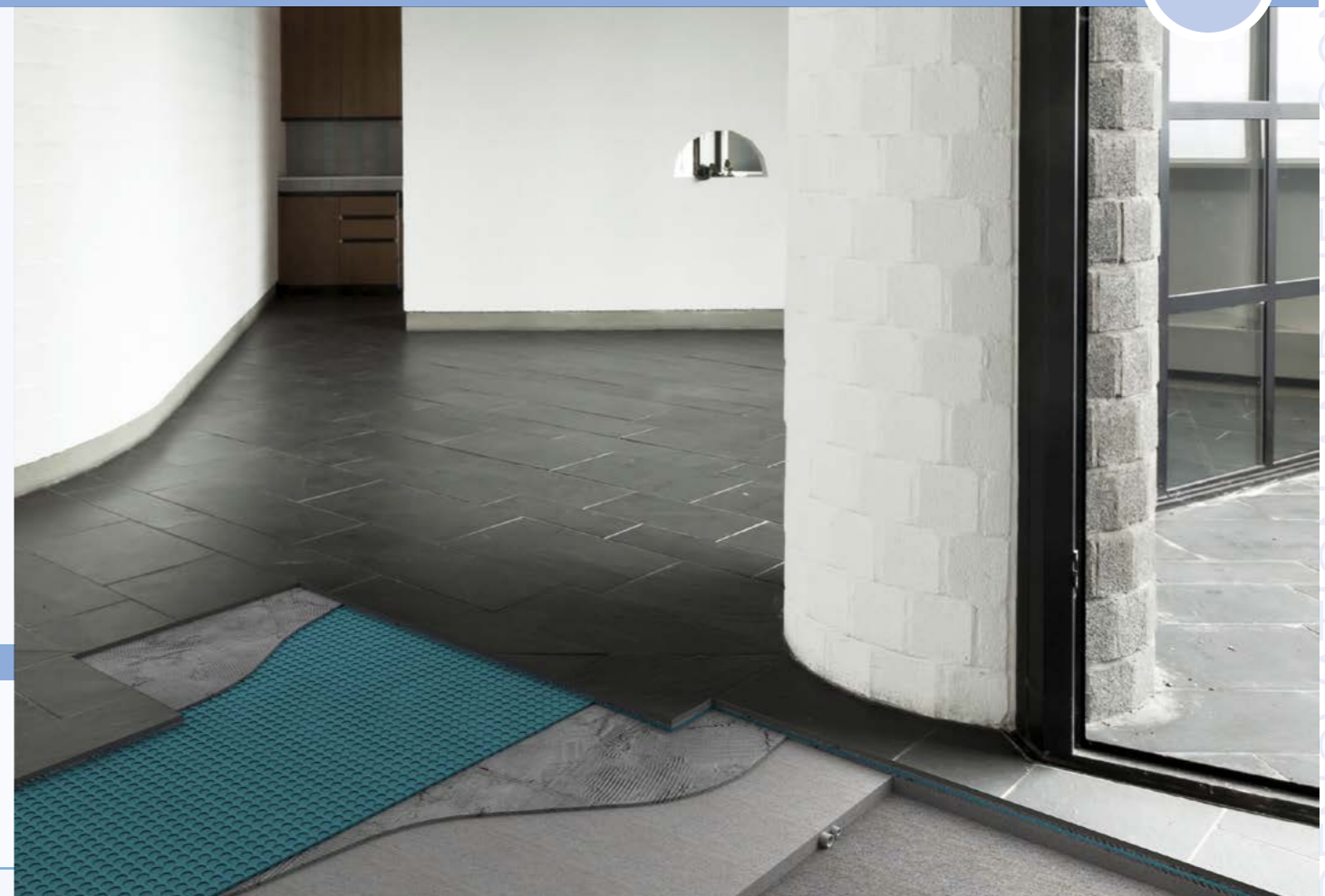
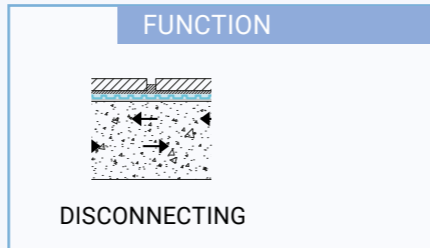
1

01. Ceramic tile / stoneware / natural or artificial stone floor
02. Class C2 cementitious adhesive
03. No-Crack
04. Class C2 cementitious adhesive
05. Screed
06. Systems levelling layer
07. Floor



REMOVAL OF AN EXISTING FLOOR* IF RENOVATION IS CARRIED OUT

* If it is not applied directly to the screed, the disconnecting application must be implemented using an adhesive agent appropriate for the type of substrate.



2

INDOOR FLOOR - INDUSTRIAL KITCHEN



Indoors

Renovation and new construction:

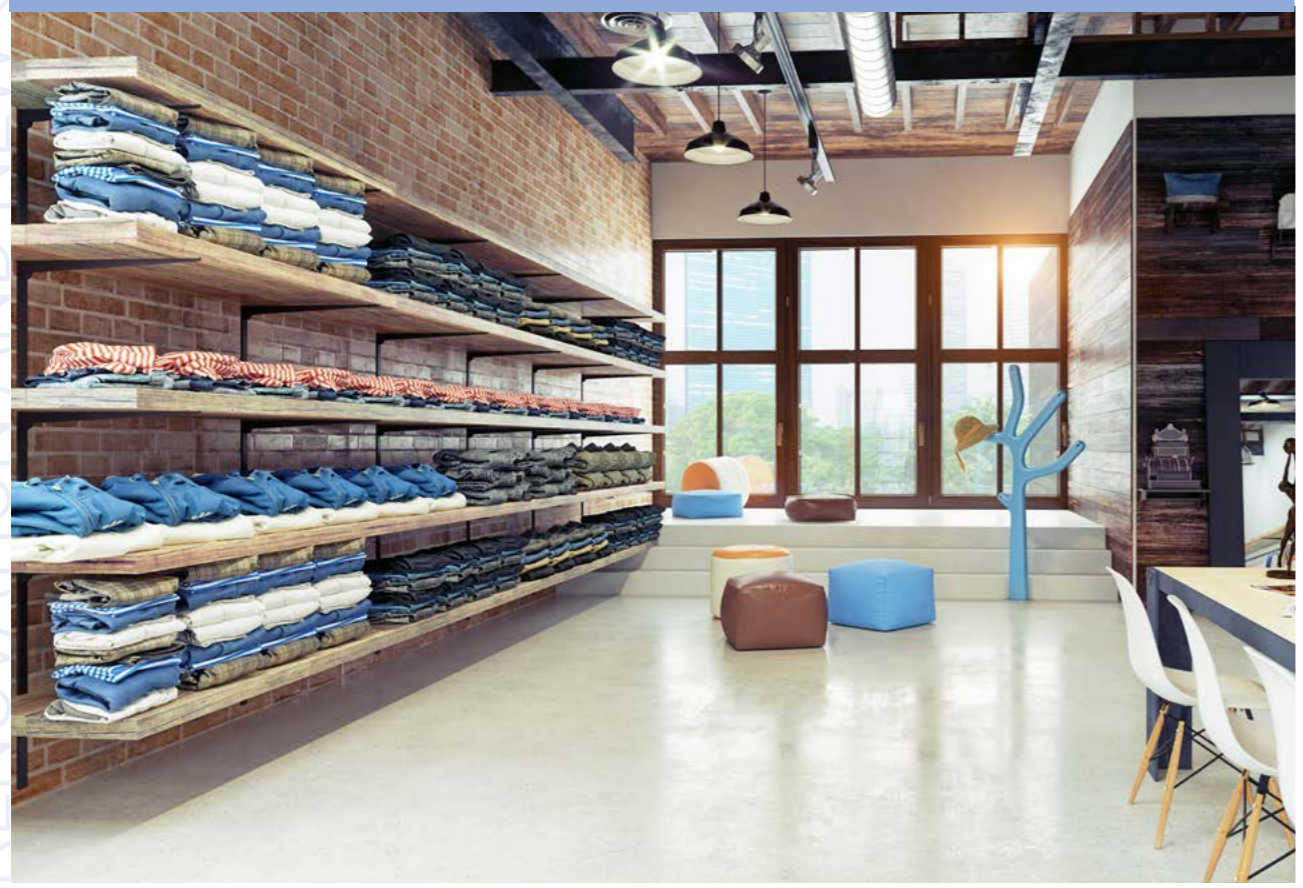
- *disconnecting function (indoor floor - residential industrial/commercial tertiary type)*
- *disconnecting and sound insulation functions with underfloor heating*
- *disconnecting and sound insulation functions*

RENOVATION AND NEW CONSTRUCTION

RENOVATION AND NEW CONSTRUCTION

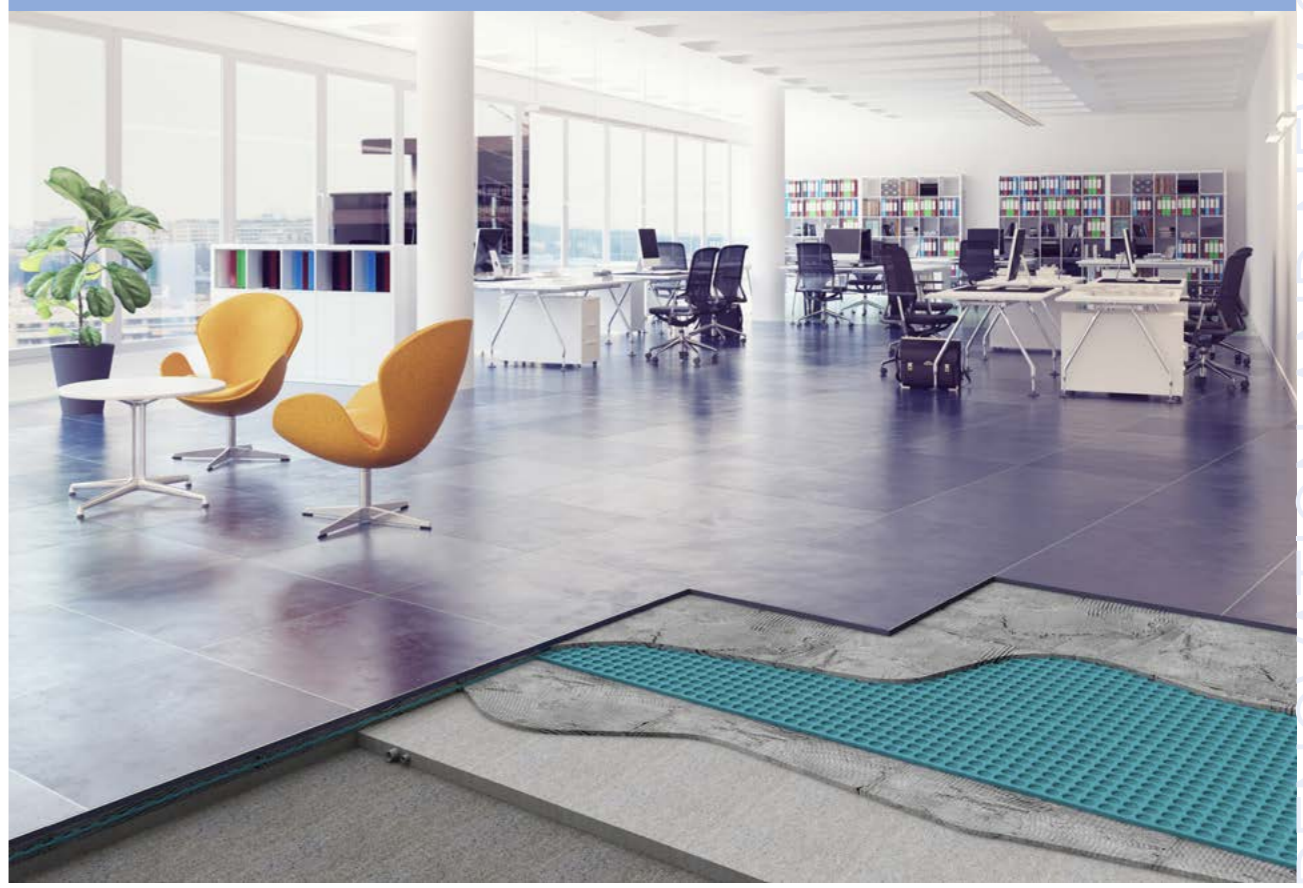
3

INDOOR FLOOR - COMMERCIAL TYPE



4

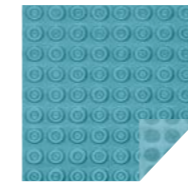
INDOOR FLOOR - TERTIARY TYPE



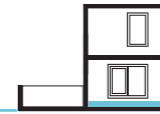
Applications in indoor areas

WITH DISCONNECTING AND SOUND INSULATION FUNCTIONS WITH UNDERFLOOR HEATING

Due to their low thermal stability, ceramic tiles / natural stone are ideal as cladding combined with a radiant underfloor heating system, since they do not undermine its energy efficiency. At the same time, however, temperature changes contribute to creating tensions between the underlying heated layers and the ceramic tile cladding. In this context, No-Crack plays a key role.



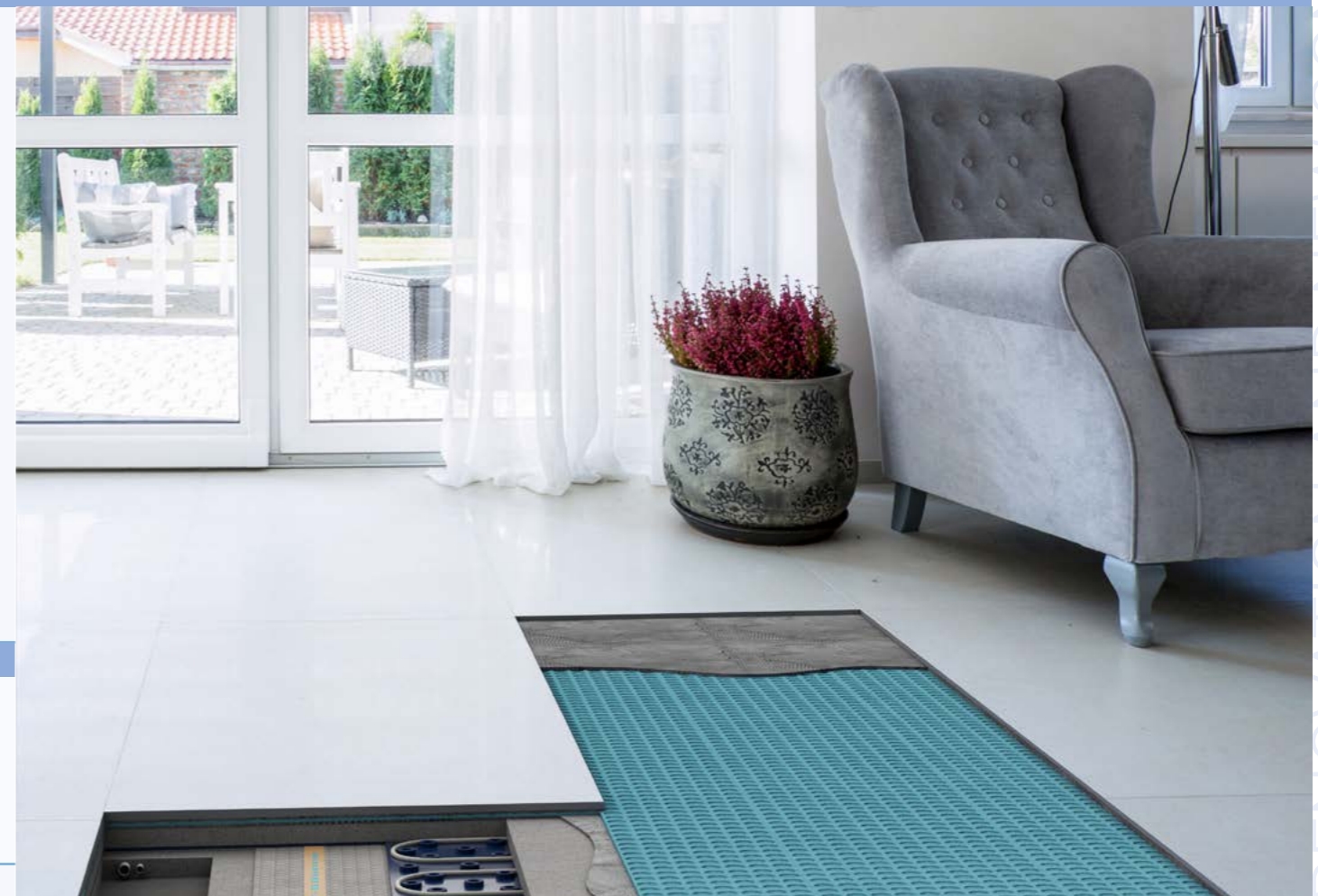
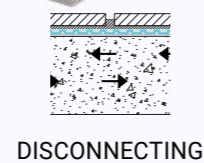
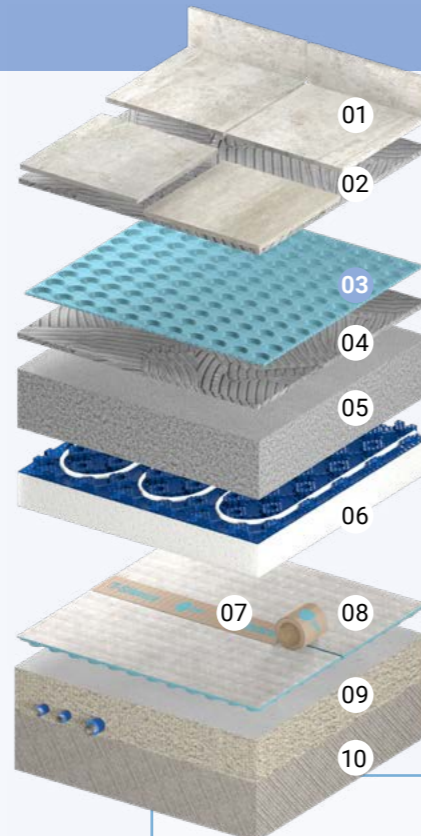
No-Crack



Indoors
Renovation and new construction:
 • *disconnecting function (indoor floor - residential industrial/commercial/tertiary type)*
 • *disconnecting and sound insulation functions with underfloor heating*
 • *disconnecting and sound insulation functions*

New construction of indoor areas with underfloor heating:

01. Ceramic tile / stoneware / natural or artificial stone floor
02. Class C2 cementitious adhesive
03. No-Crack
04. Class C2 cementitious adhesive
05. Screed
06. Underfloor heating
07. T-Strip
08. T-Silence mm 3.8 / 5 / 9.5 / 10
09. Systems levelling layer
10. Floor



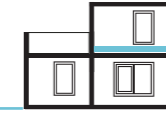
RENOVATION AND NEW CONSTRUCTION

INDOORS

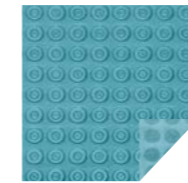
Applications in indoor areas

WITH DISCONNECTING AND SOUND INSULATION FUNCTIONS

In new constructions, consistently designed to observe the requirements of acoustic comfort, the anti-crack element under tiles is inserted when a layer has been completed that protects the floor from the risk of fissures and cracks.



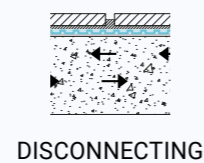
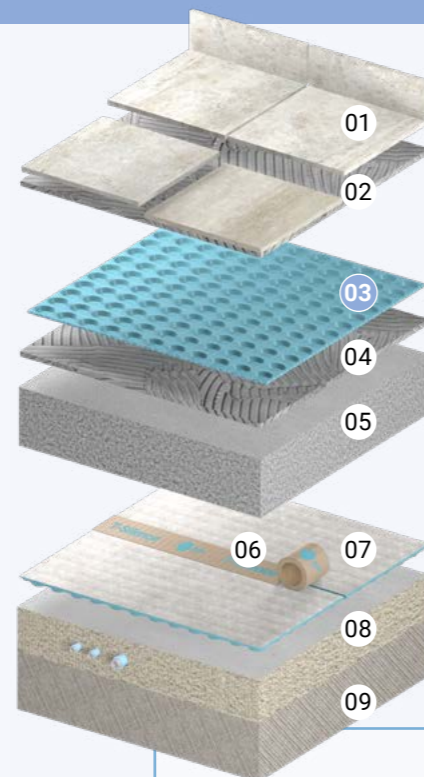
Indoors
Renovation and new construction:
 • *disconnecting function (indoor floor - residential industrial/commercial tertiary type)*
 • *disconnecting and sound insulation functions with underfloor heating*
 • *disconnecting and sound insulation functions*



No-Crack

New construction of indoor areas with sound insulation:

01. Ceramic tile / stoneware / natural or artificial stone floor
02. Class C2 cementitious adhesive
03. No-Crack
04. Class C2 cementitious adhesive
05. Screed
06. T-Strip
07. T-Silence mm 3.8 / 5 / 9.5 / 10
08. Systems levelling layer
09. Floor



FUNCTION



Terraces, balconies and indoor areas

TECHNICAL DATA SHEETS

No-Crack

STRUCTURE: a disconnecting membrane comprising an HDPE dimpled membrane layer with a roughened surface and a spunbonded polypropylene fabric.



| Composite | Reference Standard | Value | Unit of measurement | Tol. |
|--------------------|--------------------|----------------------|---------------------|-------|
| Weight | EN ISO 9864 | 625 g/m ² | g/m ² | ±10% |
| Thickness at 2 Kpa | EN ISO 9863-1 | 3,5 | mm | ±0,5% |

Mechanical Properties

| | | | | |
|------------------------------------------------------------------------------------------|--------------|-------------------------------|-------------------|-------------|
| Robinson Wheel test Test Report # TCNA-0487-18, performed at the TCNA laboratories (USA) | ASTM C 627 | Extra Heavy Commercial Rating | W/m K | |
| Pull-out test (cem. adhesive, 28 days at room temperature) | EN 1348 | 0,4 | N/mm ² | +0,1 / -0,2 |
| MD/CMD breaking strength | EN ISO 10319 | > 8/8 | kN/m | -2 |
| Elongation at maximum load MD/CMD | EN ISO 10319 | > 33 | % | -3 |

Dimension

| | | | | |
|--------|---|------|---|------|
| Roll | | | | |
| Length | - | 26,2 | m | ±0,2 |
| Width | - | 1,15 | m | ±0,1 |

Accessories

| | |
|----------|--|
| T-Bandel | |
| T-Fix | |

T-K NW

STRUCTURE: a drainage geocomposite comprising a polyethylene membrane with cusped relief details, coupled with a filter fabric.



| Composite | Reference Standard | Value | Unit of measurement | Tol. |
|--------------------|--------------------|----------------------|---------------------|------|
| Weight | EN ISO 9864 | 600 g/m ² | g/m ² | ±50 |
| Thickness at 2 Kpa | EN ISO 9863-1 | 7,5 | mm | ±1 |

Mechanical Properties

| | | | | |
|-------------------------|--------------|-----|-------------------|------|
| Traction resistance | EN ISO 10319 | 9 | kN/m | ±2 |
| Elongation at max. load | EN ISO 10319 | 30 | % | ±10 |
| Compressive strength | I.M. | 240 | kN/m ² | ±10% |

Hydraulic properties

| | | | | |
|-----------------------------------|--------------------|---------|---------|------|
| Drainage capacity in the MD plane | EN ISO 12958 | | l/(m*s) | ±20% |
| | Hydraulic gradient | Contact | i=0,04 | i=1 |
| | Load: 20 kPa | M/R | 0,30 | 1,70 |
| | Load: 50 kPa | M/R | 0,17 | 1,15 |
| | Load: 100 kPa | M/R | 0,07 | 0,50 |

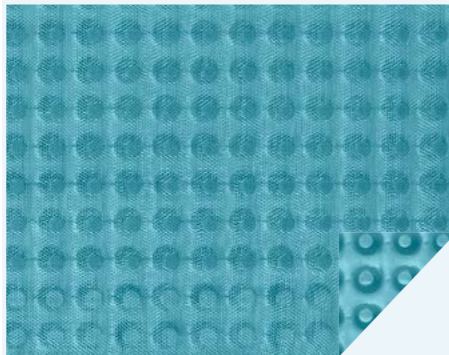
* M/R= soft/stiff contact
 **MINIMUM EXPECTED DURABILITY
 (natural terrain 4<pH<9 and T=25°C) = 25 years

Dimension

| | | | | |
|--------|---|----|---|------|
| Roll | | | | |
| Length | - | 15 | m | ±0,2 |
| Width | - | 1 | m | ±0,1 |

T-K NET

STRUCTURE: a drainage composite comprising a polyethylene membrane with a thermocoupled HDPE mesh.



| Mesh | Reference Standard | Value | Unit of measurement | Toll. |
|----------------|--------------------|-----------|---------------------|-------|
| Raw Material | | HDPE | | |
| Weight | EN ISO 9864 | 100 | g/m ² | |
| Mesh dimension | | 1,5 x 1,5 | mm | ±0,75 |

| Composite | | | | |
|--------------------|---------------|-----|------------------|------|
| Weight | EN ISO 9864 | 600 | g/m ² | ±10% |
| Thickness at 2 kPa | EN ISO 9863-1 | 7,5 | mm | ±1 |

| Mechanical Properties | | | | |
|--------------------------------|--------------|-------|-------------------|------|
| Traction resistance MD/CMD | EN ISO 10319 | > 6/6 | kN/m | ±2 |
| Elongation at max. load MD/CMD | EN ISO 10319 | 30/30 | % | ±15 |
| Compressive strength | I.M. | 240 | kN/m ² | ±10% |

| Hydraulic properties | | | | | |
|-----------------------------------|--------------------|---------|---------|--------|------|
| Drainage capacity in the MD plane | EN ISO 12958 | | l/(m*s) | | ±20% |
| | Hydraulic gradient | Contact | i=0,04 | i=0,10 | i=1 |
| | Load: 20 kPa | M/R | 0,30 | 0,50 | 1,70 |
| | Load: 50 kPa | M/R | 0,20 | 0,30 | 1,40 |

* S/R= soft/stiff contact

| Dimension | | | | |
|-----------|---|----|---|------|
| Roll | | | | |
| Length | - | 15 | m | ±0,2 |
| Width | - | 1 | m | ±0,1 |

Accessories

OPTIMUM PERFORMANCE

| T-Bandel

Three-layer waterproof band with internal polyethylene core, coupled on both sides with felted polypropylene fabric.

| T-Fix

Single-component hygro-hardening ST polymer adhesive.

Installation Tips



Before laying No-Crack, the old substrate must be demolished and a new clean flat substrate installed.

Inserting the No-Crack membrane does not eliminate the need for expansion and perimeter joints, for which it is necessary to follow the instructions in the standard UNI 11493-1.

No-Crack

DISCONNECTING FUNCTION

01 Improved cementitious mortar (class C2) must be used to lay the membrane over the substrate, using a notched trowel.

02 No-Crack must be laid over the designated area, with the spunbonded cladded side facing down. The membrane must then be pressed down into the cementitious adhesive with the aid of a float, applying pressure to prevent the creation of air pockets. The membrane must then be covered with another layer of class C2 cementitious adhesive. The tiles can then be laid without waiting for it to dry, using a notched trowel of dimensions appropriate for the size of the tiles to be laid.

Then proceed with point 7-8

03 **WATERPROOFING FUNCTION**
Other measures are required during the laying stage to provide the additional waterproofing function. After laying No-Crack, it is necessary to seal the joints between the adjacent sheets with T-Fix, spreading it with the smooth side of the notched trowel.

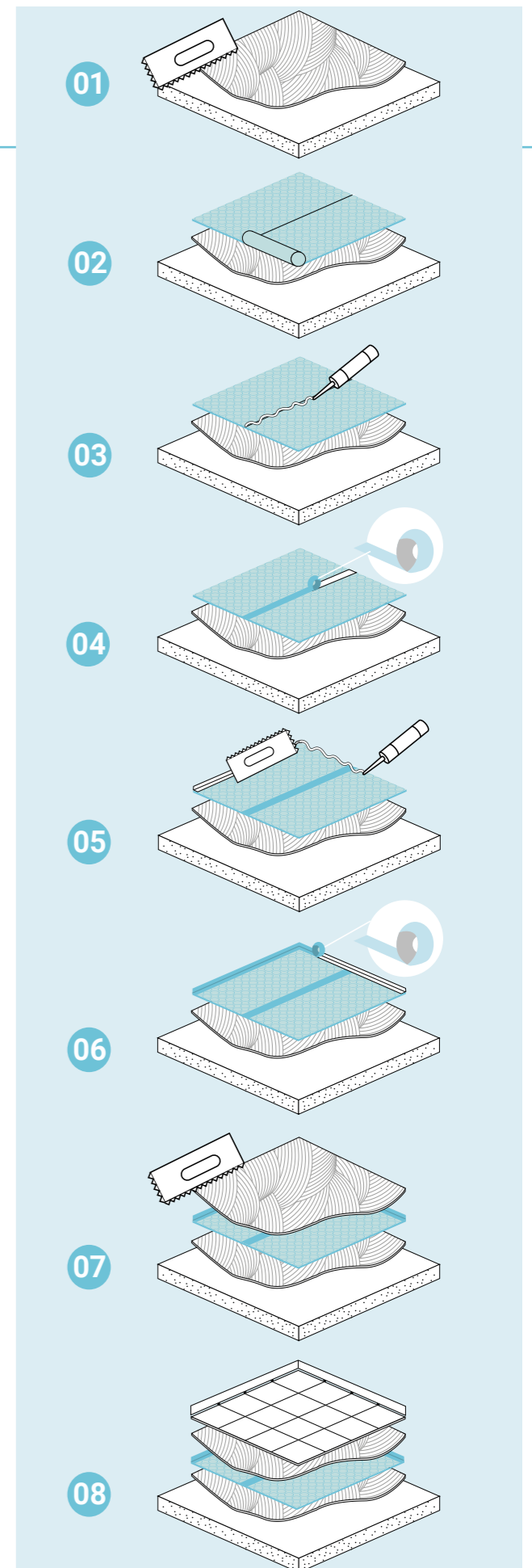
04 Then T-Bandel must be applied.

05 The same procedure must be followed for the perimeter waterproofing, then T-Fix adhesive is applied.

06 Then T-Bandel must be laid. At the joint, T-Bandel must overlap it by at least 50 mm. The same procedure must be used for the perimeter joints, using T-Bandel centred in the floor / wall connection with T-Fix.
(For outdoor applications in particular, it is important to lay the cladding over the entire area, in compliance with the current reference standard 11493-1)

07 Then the class C2 cementitious adhesive must be spread followed by the laying of the finishing product

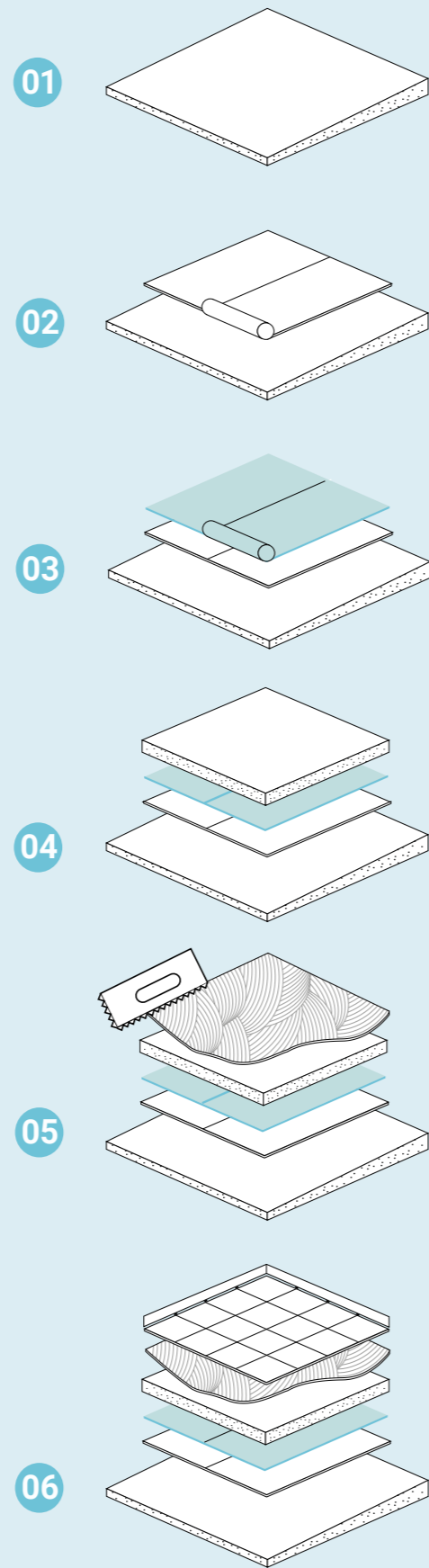
08 The plinth/skirting board must be kept detached from the floor, the remaining gap must be sealed with elastic material (silicone or similar).



T-K Net and T-K NW are HDPE drainage membranes for under-screed applications. The membranes have a dimpled surface but T-K NW is coupled with a drainage geotextile, and T-K NET with a mesh. Their embossed structure is highly resistant to heavy loads, allowing the products to protect the underlying sealing layer.

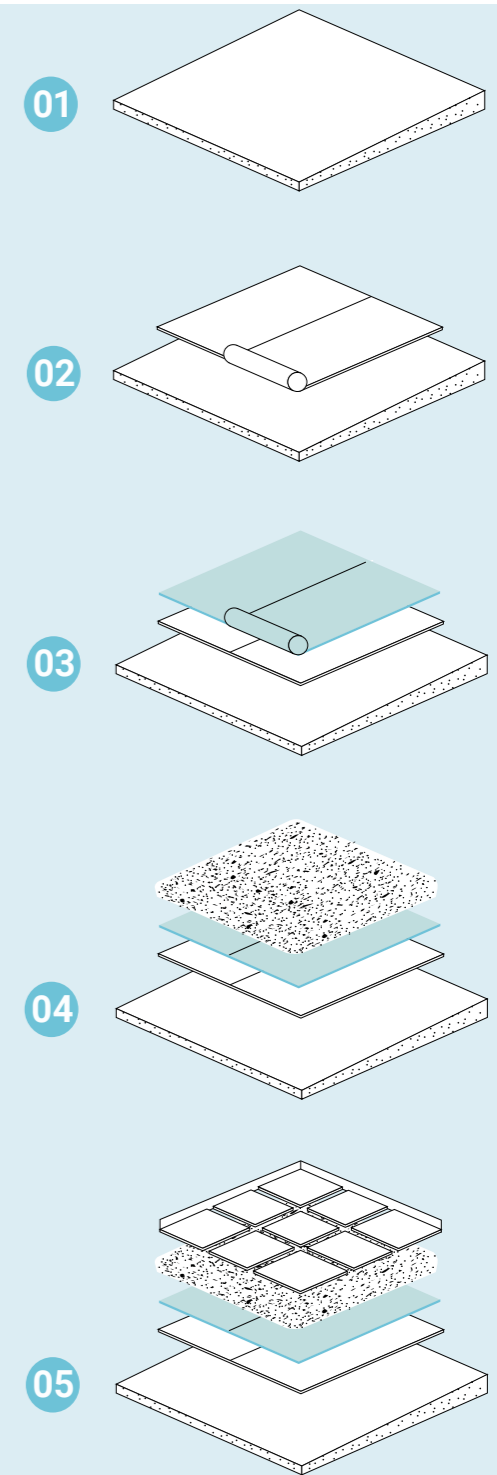
T-K NW

- 01 The first step is to create a sloping layer positioned over the floor.
To avoid the risk of water stagnation, we recommend a slope of 1.5 - 2%.
- 02 The sealing layer must then be laid over the load-bearing element.
- 03 Then the T-K NW rolls must be laid with the filter fabric facing upwards resting on the sealing layer.
- 04 The covering screed must be directly applied to the product, following the prescribed technical instructions.
- 05 Then the class C2 cementitious adhesive must be spread followed by the laying of the finishing product. After 24h, the gaps and finishes can be completed.
- 06 The plinth/skirting board must be kept detached from the floor, the remaining gap must be sealed with elastic material (silicone or similar).



T-K Net

- 01 The first step is to create a sloping layer positioned over our floor.
To avoid the risk of water stagnation, we recommend a slope of 1.5 - 2%.
- 02 The sealing layer must then be laid over the load-bearing element parallel to the chosen wall of reference.
- 03 Then the T-K Net membrane must be laid, with the mesh facing upwards, over the sealing layer.
- 04 The gravel / stone layer must be placed directly over the product.
When a floating floor is installed, the support filled with mortar, or feet, can be placed on the product.
- 05 Dry installation of the finishing tiles.
- 06 The plinth/skirting board must be kept detached from the floor, the remaining gap must be sealed with elastic material (silicone or similar).



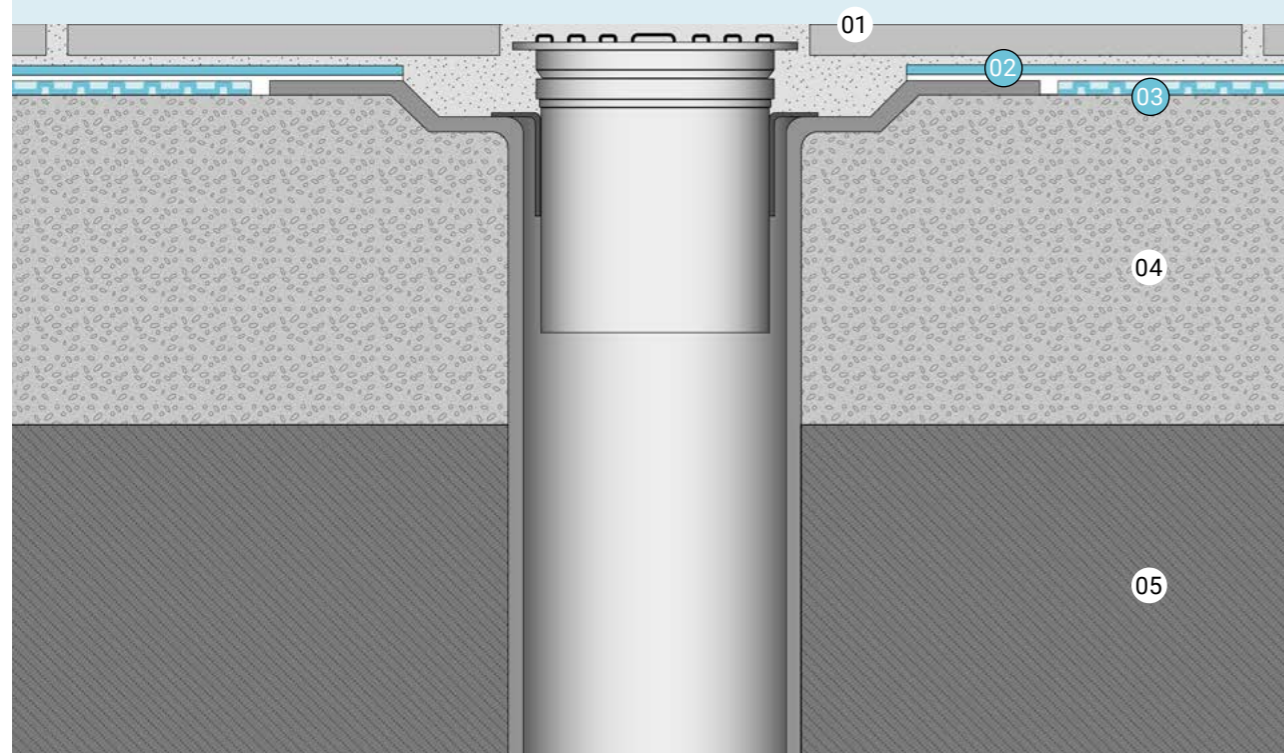
Solutions for critical points

Waterproofing the drainage column

- 01. Ceramic tile / stoneware / natural or artificial stone floor
- 02. T-Bandel applied with T-Fix
- 03. No-Crack
- 04. Screed
- 05. Floor

As described in the laying section, No-Crack must be installed up to the edge of the drainage column flange.

T-Bandel must be applied with T-Fix between the drainage flange and No-Crack in order to make this critical point waterproof.



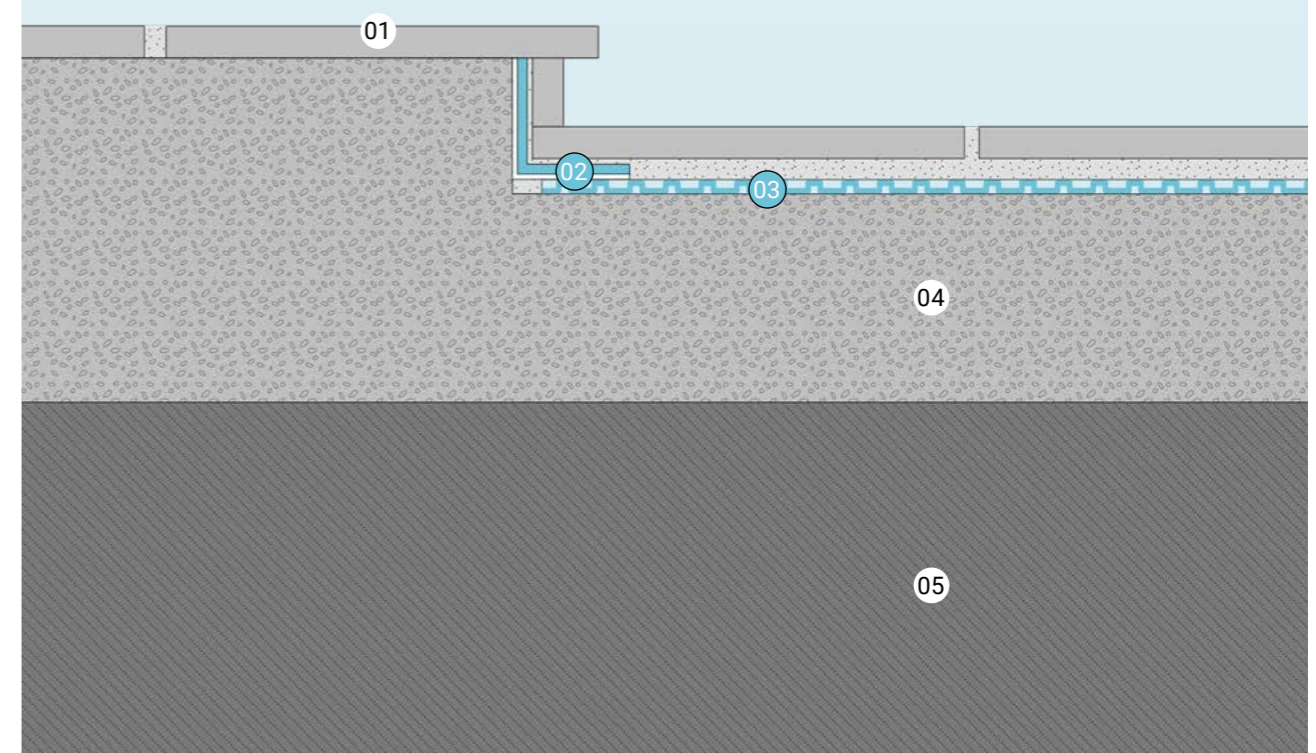
Waterproofing against a doorstep

- 01. Ceramic tile / stoneware / natural or artificial stone floor
- 02. T-Bandel applied with T-Fix
- 03. No-Crack
- 04. Screed
- 05. Floor

The first step is to cut a strip of T-Bandel at least 20cm longer than the doorstep.

T-Fix must then be applied under the doorstep for fixing T-Bandel. Special care must be taken when filling the circular cables of the No-Crack membrane.

T-Bandel must then be laid over the T-Fix sealant, following the joint between the wall and the floor and taking care to avoid the formation of creases.

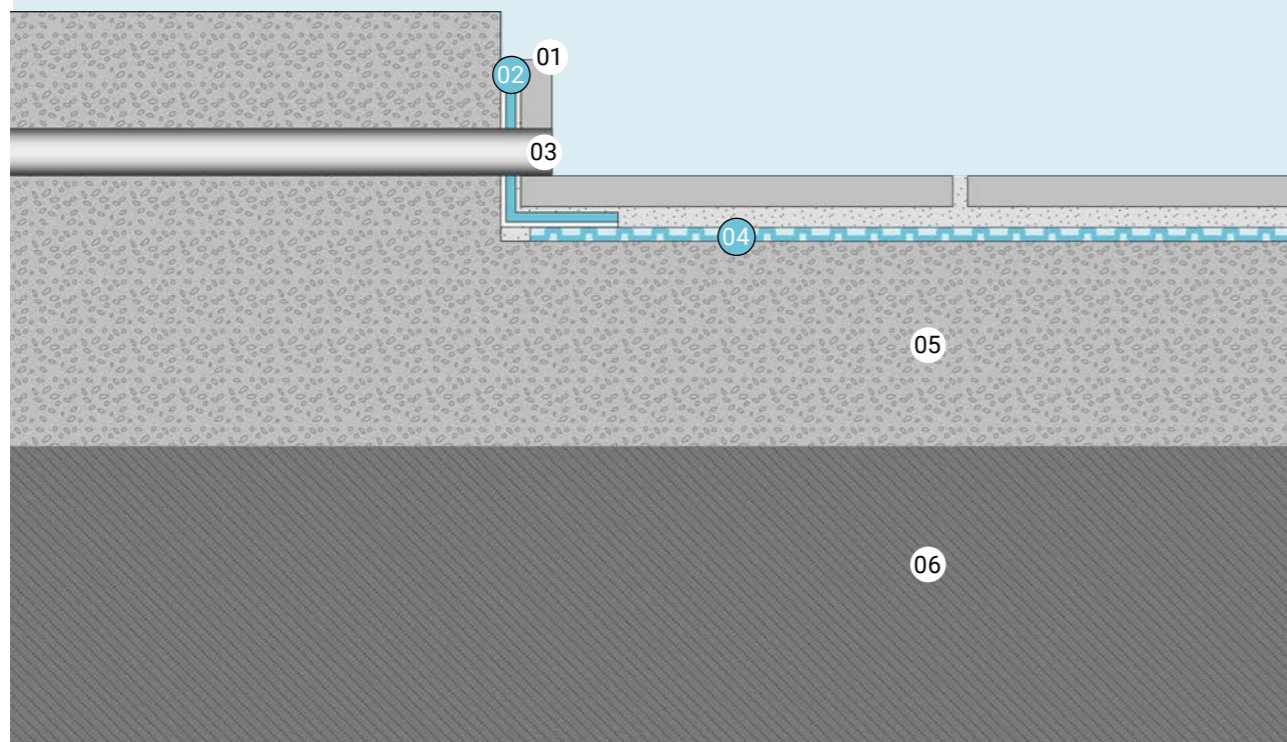


Installation tips
CRITICAL POINTS

Waterproofing the perimeter of the terrace

- 01. Ceramic tile / stoneware / natural or artificial stone floor
- 02. T-Bandel applied with T-Fix
- 03. Perimeter drainage system
- 04. No-Crack
- 05. Screed
- 06. Floor

When balconies or terraces are enclosed by walls, the rainwater run-off pipe must be cladded around the perimeter with T-Fix and T-Bandel.



Recommended Applications

| OUTDOORS | No-Crack | T-K NW | T-K Net | T-Bandel | T-Silence under-screed |
|------------------------------------------------------------------------------------|----------|--------|---------|----------|------------------------|
| Areas of application | | | | | |
| RENOVATION IN OUTDOOR AREAS OF BALCONIES, TERRACES AND PEDESTRIAN COVERINGS | | | | | |
| Disconnecting and waterproofing functions | ✓ | - | - | ✓ | - |
| NEW CONSTRUCTION IN OUTDOOR AREAS | | | | | |
| Drainage function* | - | ✓ | ✓ | - | - |
| Disconnecting and waterproofing functions | ✓ | - | - | ✓ | - |
| Disconnecting, waterproofing and sound insulation functions | ✓ | - | - | ✓ | ✓ |

* The DRAINAGE FUNCTION is provided by T-K Net where the following finishes are present (see page 22 for further info)

| INDOORS | No-Crack | T-K NW | T-K Net | T-Bandel | T-Silence under-screed |
|----------------------------------------------------------------------|----------|--------|---------|----------|------------------------|
| Areas of application | | | | | |
| RENOVATION AND NEW CONSTRUCTION IN INDOOR AREAS | | | | | |
| Disconnecting function | ✓ | - | - | - | - |
| Disconnecting and sound insulation functions with underfloor heating | ✓ | - | - | - | ✓ |
| Disconnecting and sound insulation functions | ✓ | - | - | - | ✓ |

IMPORTANT:

The information in this brochure is based on the know-how acquired and the experience gained to date and only refers to our products and their features at the time of printing this brochure. This information provides no guarantee for legal purposes, nor does it establish product quality agreed upon in the contract. During application, the specific conditions of use must always be taken into account, especially from a physical, technical and legal point of view. All technical drawings are examples that represent a principle and must be adapted to specific cases by the designer or user.



Cansiglio Forest
View from our Headquarter windows

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From the earliest years of industrial activities, the companies within the IWIS Group have set up their production plants using technologies that aim to minimize pollution into the soil, air or water: our **ISO14001 certification** is not an award but a commitment that the IWIS Group has made day after day to preserve the environment where we live and work.

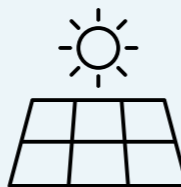
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IWIS Holding invests heavily in R&D to guarantee the quality of its products, for technological innovation and respect for the environment.

The industrial Group also uses recycled materials in some of its production processes, and as a consequence it has 4 specific systems for recycling plastics.



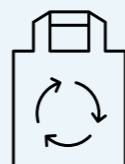
We preserve the environment where we live



We use renewable energy sources



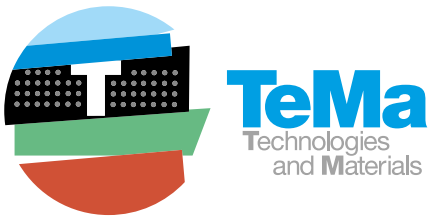
We invest in research and development



We use recycled materials

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Certified Company





TeMa | Technologies and Materials

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Thanks to a modern production system (with branches in Italy, Spain, Turkey, Russia, Romania and the USA) and to a widespread sales network in more than 60 countries, TeMa offers customised solutions for all projects that involve structural elements for protection, maintenance and safety in the residential and civil building sectors and in the field of major environmental works.

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