



**TECHLAM®**

**TECHNICAL GUIDE**



# TECHLAM® TECHNICAL GUIDE

TECHLAM® tiles are made of ceramic stoneware, and are manufactured using an innovative technology, compacting the material and then firing it in an oven at a temperature of 1200°C, specifically designed to guarantee the uniformity of the product. Cutting after firing guarantees the accuracy of the different formats.



# THICKNESS

TECHLAM® is available in different thicknesses, each one intended for a different use.

# Thickness

## CHARACTERISTICS

A ceramic tile.

Thickness: 3 mm  
Weight: 7,1 kg/m<sup>2</sup>

## INTENDED USE

Construction sector:

- Covering interior and exterior walls and ceilings and roofs using adhesive.

Interior design and decorating sector.



# TECHLAM® 3 mm

# Thickness

## CHARACTERISTICS

A ceramic tile reinforced with glass fibre netting on the back.

Thickness: 3,5 mm

Weight: 7,8 kg/m<sup>2</sup>

## INTENDED USE

Construction sector:

- Covering exterior paving and interior flooring by laying on existing materials with adhesive in areas where traffic is not so heavy.
- Covering walls, both interior and exterior, roofs and ceilings, using adhesive.
- Ventilated façades.

Interior design and decorating sector.



# TECHLAM® 3+

# Thickness

## CHARACTERISTICS

A ceramic tile.

Thickness: 5 mm

Weight: 11,87 kg/m<sup>2</sup>

## INTENDED USE

Construction sector:

- Covering walls, both interior and exterior, roofs and ceilings, using adhesive.

Interior design and decorating sector.



# TECHLAM® 5 mm

# Thickness

## CHARACTERISTICS

A ceramic tile reinforced with glass fibre netting on the back.

Thickness: 5,5 mm  
Weight: 12,57 kg/m<sup>2</sup>

## INTENDED USE

Construction sector:

- Covering walls and roofs, both interior and exterior using adhesive, in areas with medium-high traffic.

Interior design and decorating sector.



# TECHLAM® 5+

# Thickness

## CHARACTERISTICS

A ceramic sandwich tile created by superimposing two TECHLAM® 3 mm tiles of with glass fibre netting between them.

Thickness: 7 mm

Weight: 15 kg/m<sup>2</sup>

## INTENDED USE

Construction sector:

- Covering walls and roofs, both interior and exterior, using adhesive, in areas with high traffic.

Interior design and decorating sector.



# TECHLAM® 5+5





# SIZES

TECHLAM® is available in panels of up to 3000x1000 mm, providing unique solutions for all kinds of applications in the fields of architecture and interior design.

# Standard sizes

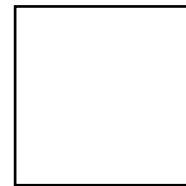
The 100x300 cm pieces can be cut-to-size for their adaptation to any architectural or interior design requirement.



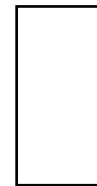
300x100 cm



150x100 cm



100x100 cm



100x50 cm



20x100 cm



50x50 cm



30x50 cm



## PACKAGING

Used for packing 3000x1000 mm tiles and other non-standard sizes which cannot be put on a pallet.

The product should be packed as follows:

1. Visual check of the material (dirt, printing problems, problems with the resin coating, cutting, chips, etc.).
2. Remove dirt.
3. Place a cardboard box on the bottom of the crate and a sheet of 3 cm polystyrene.
4. Pack the material and place a 1 cm sheet of polystyrene every 20 pieces along the length of the whole crate.
5. Place plastic straps around the exterior of the crate to hold it together securely and prevent bending.
6. Wrap the crate in plastic.
7. Nail down the top part of the wood.
8. Attach the corresponding label.

If the crate contains different materials or sizes, attach individual labels for the different materials and sizes.

Packing the crate will always be carried out automatically, but the tiles may occasionally be handled manually.



## Horizontal Crate

Used for packing tiles of 3000x1000 mm and other non-standard sizes which cannot be put on a pallet.

The product should be packed as follows:

1. Visual check of the material (dirt, printing problems, problems with the resin coating, cutting, chips, etc.).
2. Remove dirt.
3. Place a sheet of 3 cm polystyrene along the bottom of the crate.
4. Pack the material horizontally and place a 1 cm sheet of polystyrene every 20 pieces along the whole crate.
5. Nail the side panel of the crate closed.
6. Turn the crate so that it is vertical.
7. Wrap the crate in plastic.
8. Nail down the wooden top.
9. Place plastic straps around the exterior of the crate to hold it together securely and prevent bending.
10. Attach the corresponding label. If the crate contains different materials or sizes, attach individual labels for the different materials and sizes.



## Vertical crate

Packing the crate will always be carried out automatically, but the tiles may occasionally be handled manually.

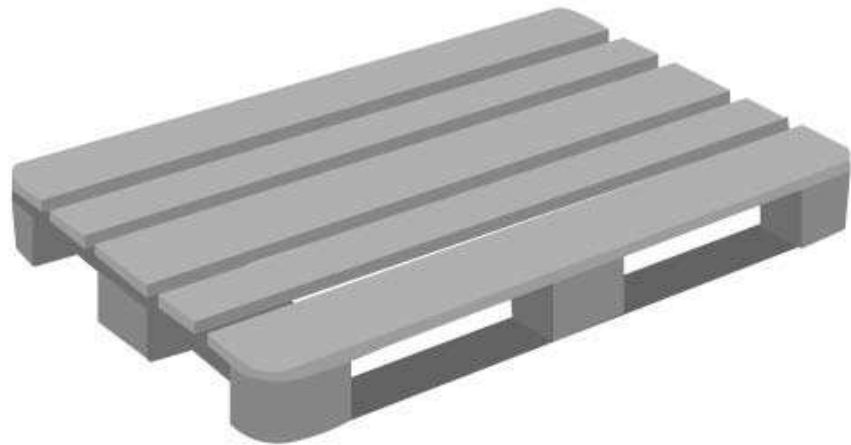
This type of packing is used for transport in a container or by air.

Used for packing small and standard size materials.

The material can be packed either in boxes or not, where the boxed pieces are packed vertically (except for the 100 x100 cm) and the unboxed pieces are packed horizontally.

The product should be packed as follows:

1. Visual check of the material (dirt, printing problems, problems with the resin coating, cutting, chips, etc.).
2. Remove dirt.
3. Place a cardboard box and a sheet of 3 cm polystyrene along the bottom of the crate.
4. For boxed material: Pack the material in the corresponding box and place on the pallet as specified.
5. For unboxed material: Place the material on the pallet and put a 1 cm sheet of polystyrene every 25 pieces along the length of the whole crate.
6. Place plastic straps around the exterior of the crate to hold it together securely and add corner protectors.
7. Wrap the pallet in plastic.
8. Attach the corresponding label. If the crate contains different materials or sizes, attach individual labels for the different materials and sizes.



## Pallet / Crate

There is no difference between the quantities held by the crate and the pallet.

These types of packaging differ in terms of the amount of wood protection and the type of transport they are going to be used for, the crate for a container, the pallet for a lorry.



- The tiles must be taken out of the crate by two people standing opposite each other.

- Hold the tiles with both hands and lift up slowly together.

- When the tile is vertical, lift it, keeping it straight.

- Never place the tile directly on the floor. Always ensure that it is placed on some form of support.

- Move the arms further apart and slowly put the tile down on the floor.

- Always place some sort of protection on the floor before putting the tile down.

- Any twisting may cause hairline cracks which may only be detected after the tiles have been laid. Take special care with handling it on site (eg. on stairs).



When lifting and moving bundles of 1000x3000 mm tiles with a fork-lift truck or crane, it is important to pick up the package in the centre of the long side, fully extending the forks which must support the full depth of the pallet.



If the pallet is picked up by the short side, as may happen when unloading containers, it is necessary to use blades with a minimum length of 2.5m.

Packaging/Transport	Container	Cont. 20 foot	Cont. 40 foot
Horizontal Crate	22 (*)	8 (*)	20 (*)
Vertical Crate	no	4 (*)	no

\* Number of crates



## Packaging - Transport

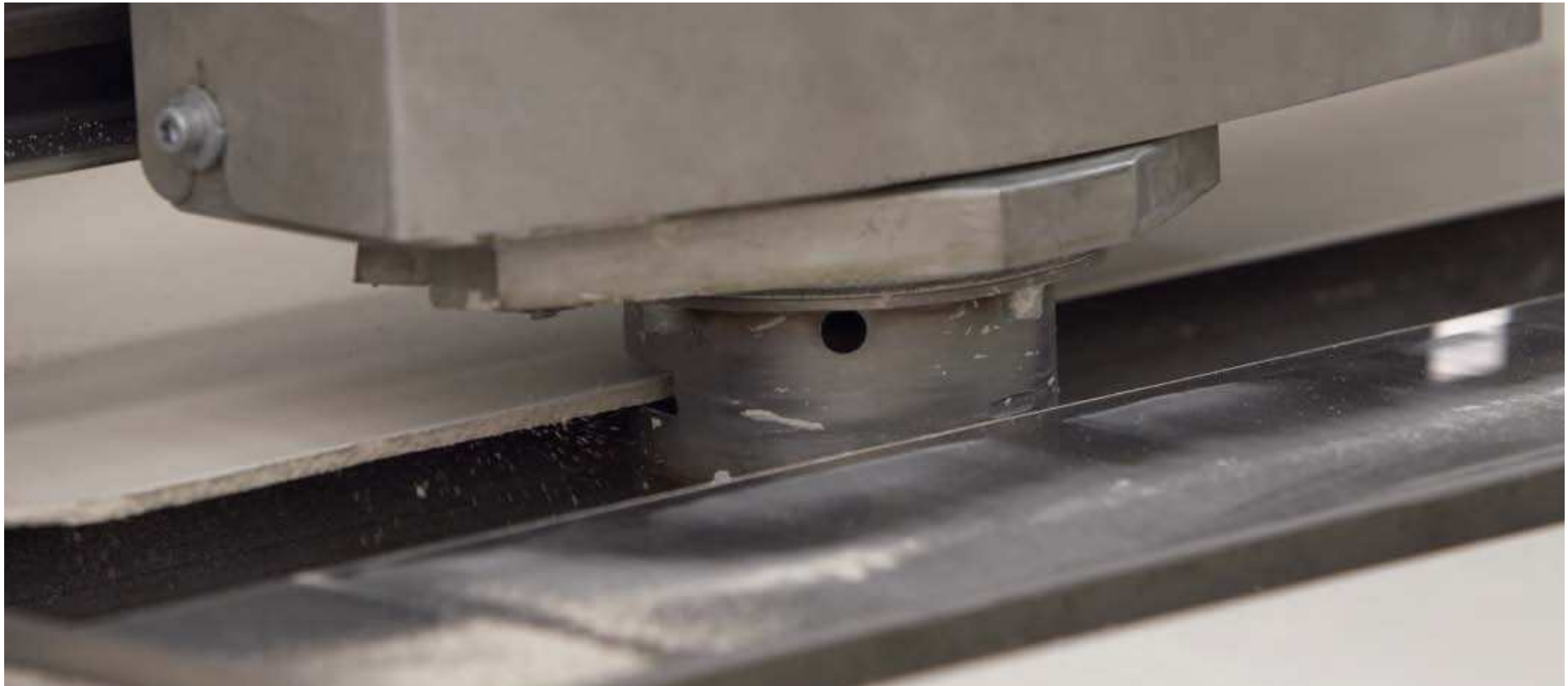


Thickness	3 mm	3+	5 mm	5+	3+3	5+5
Low Horizontal Crate (3190x1170x260mm)	25	20	15	13	10	7
High Horizontal Crate (3190x1170x380mm)	50	40	30	27	25	15
Vertical Crate (3190x550x1330mm)	130	110	78	74	65	44
Special Crate 1500x1000mm	60	50	40	35	30	-
Crate 1000x1000 mm	125	100	80	67	50	-
Crate 1000x500 mm	200	200	160	135	115	-
Crate 500x500 mm	400	400	320	265	230	-

<b>High Horizontal Crate</b>	<b>Dimensions</b>	3190x1170x380mm	<b>Weight</b>	80 Kgs
<b>Low Horizontal Crate</b>		3190x1170x260mm		65 Kgs
<b>Vertical Crate</b>		3190x550x1330mm		175 Kgs

Note: Approximate number of tiles

# TECHLAM® Packaging



# DRILLING AND CUTTING

# Drilling

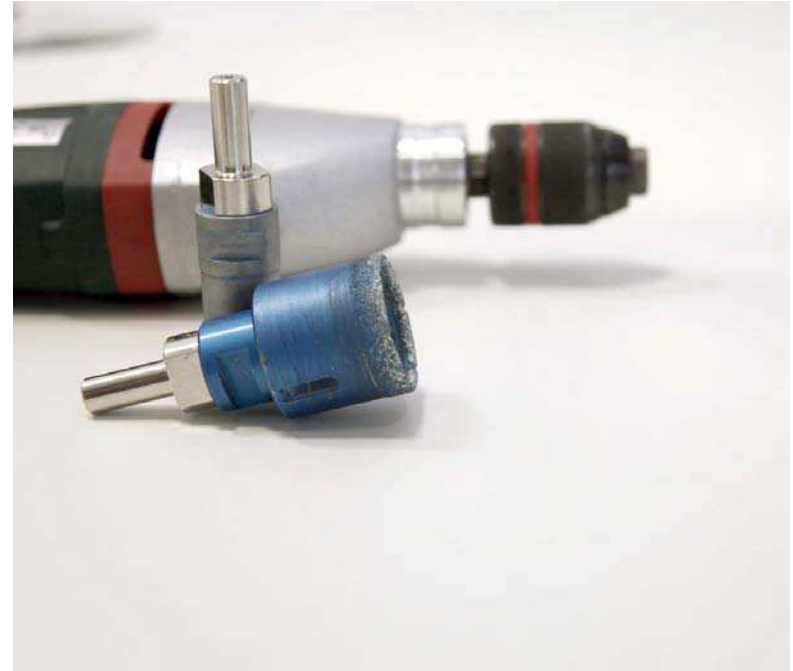
TECHLAM® can be drilled easily using diamond tools for glass and ceramic tiles, either dry or with water. Before starting any operation, make sure you have a clean and flat work surface.

Check that the circular drills and diamond discs to be used in the angle grinders are in good condition. After cutting the tiles they must be handled and placed with the greatest care.

When using handheld drilling tools, tungsten drill bits can be used with electric drills.

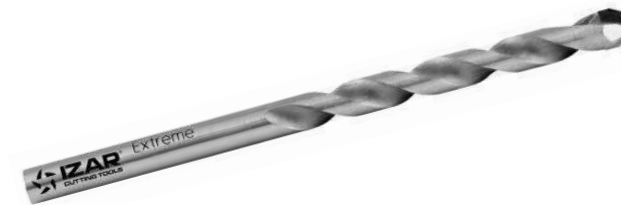
If using these tools, we recommend that you:

1. Cool the drilling area with water.
2. Start drilling at a slow speed.
3. Don't press too hard.



## Drilling tools

- Non-hammer action diamond drills:
  - Various diameters.
  - Need to cool the cut.
- Widia bits for the angle grinder:
  - 35 mm diameter.
  - Dry-cutting.
- Drill bits for ceramic tiles:
  - Small diameters.
  - Cooling while cutting.



**During the use of drills, do not use percussion mode for drilling.**

# Cutting

TECHLAM® 3mm and TECHLAM® 3+ panels can be cut using a glass cutter, a handheld tile cutter, an electric disc cutter or a handheld grinding machine. TECHLAM® 3+3 panels should be cut using handheld grinding machines or electric disc cutters.

If you are making special cuts or shapes, use a water jet system or the cutting benches usually used by marble cutters and glaziers. As with any conventional ceramic product, these panels should be cut and drilled from the front of the panel to the back of the panel.

## Cutting tools

- **Handheld glass cutter. Silberschnitt Bohle model:**

Silberschnitt is a glass cutter with a glass cutting wheel and a plastic handle for a better grip. When cutting Techlam 3mm and Techlam 3mm+ panels, it is important to keep the handheld glass cutter in contact with the scored line throughout the process.

To ensure that the cut is as straight as possible, the aluminium bars generally used by builders can help. Once the cut has been made, the two pieces of Techlam can simply be broken apart. When using Techlam 3mm+ panels, the ceramic area is firstly cut using a general cutter and then the glass fibre is cut.



- **Slim Cutter System (Rubi)**

Handheld porcelain panel cutting system for large, thin Techlam panels.

This machine enables you to cut Techlam panels on site.

It is easy to transport and includes extruded aluminium guides measuring 110 cm in length that can be joined together. The tool can cut up to 310 cm in length, making it the perfect on-site Techlam cutting machine.

The silicon cords included at the base of the guides and the suction pads ensure and provide a straight cut.

The tungsten carbide cutting wheel is treated with titanium carbide guaranteeing improved performance and a high-quality scoring line.

The separation system works by using adjustable pincers, meaning that the piece is separated gradually, reducing the risk of breakage.



- **Porcelain saw blade featuring continuous rim**

The saw blades should feature a continuous rim. They can be used on handheld electric grinding machines and on cutting benches. In both cases, high rotation speeds need to be used ( $\rightarrow 2500$  rpm) in combination with low forward speeds ( $\leftarrow 1$  m/min).

Depending on the type of blade and the length of the cut, the blade may need to be cooled using water.

One of the advantages of this type of cut is that it can easily be made using a handheld tool and another advantage is the fact that the material can be cut during the fixing stage.



# The drilling, cutting and bevelling process



- The tiles must be taken out of the crate by two people standing opposite each other.
- Hold the tiles with both hands and lift up slowly together.
- When the tile is vertical, lift it, keeping it straight.
- Never place the tile directly on the floor. Always ensure that it is placed on some form of support.
- Move the arms further apart and slowly put the tile down on the floor.
- Any twisting may cause hairline cracks which can only be detected after they have been laid. Take special care with handling it on site (eg. on stairs)



If several holes have to be made in one tile, we recommend using TECHLAM® 3+.



It is important to use diamond discs of different grades to achieve the correct finish and avoid sharp edges.



# INSTALLING ON PAVING



# Installing on Paving

TECHLAM® 3+, TECHLAM® 5, 5 + and 3+3 can be laid on any type of substrate found in a building provided they have the correct properties for installation. It is important to know that that correct installation of the product depends to a great extent on the conditions of the tiles and substrate. Before starting to lay the tiles, whatever the substrate is, it is important to check that it has the following properties:

- It is completely free of grease, oil and dust.
- It is dry, and does not have any residual cement, resin or loose particles and that they are firmly fixed. If there are problems with the above, it is vital to clean the surface and remove the residue.
- It must be completely resistant and compact.
- It must be flat. The flatness can be checked with a 2 meters ruler by placing it on the substrate in all directions. The acceptable tolerance is 3 mm. It is also important to fill in the uneven areas with appropriate levelling products.
- It must be sufficiently hard and mechanically resistant to the tensions consistent with its intended use.

- It must be sufficiently thick.
- It must have spaces around the perimeter and joints to allow for expansion.

As well as the general properties needed for all types of substrates:

**The tiles of traditional cement** must be dry, compact and completely homogenous. It normally takes 7-10 days for every cm thickness of the tiles and substrate to dry. This information should be communicated to the Site Manager/Architect or person in charge of the site.

When the concrete supports have cured sufficiently (at least three month). It is necessary to check that there are no cracks, irregularities on the surface, loose particles, old adhesive, anti-vaporising treatments and other substances which could affect the adhesion of the tiles. The substrate must also have structural joints and partition joints calculated according to the size and type of the surface. It is also vital to insulate the tiles from any source of rising damp.

**The tiles** must be sanded, cleaned of dust, dried and have a permitted damp content less than or equal to 0.5%.

**The tiles and substrates of the radiant paving** must be stable, have already undergone the shrinking process, not have cracks, be filled with epoxy resin products and have a good mechanical resistance to the predicted stresses in their intended use. It is essential to check that the heating has been turned on, keeping in mind the curing times of the tiles and substrates predicted for the material used. It must also be checked that thermal shock has occurred, bearing in mind the guidelines supplied by the manufacturer.

It is important to use a flexible or highly flexible adhesive capable of allowing for the expansion of the tiles and substrates, so absorbing the stresses generated in the covering.

**Quick-drying tiles and substrates** are both quick-drying and are subject to controlled contraction; carry out the installation and keep in mind the times given by the manufacturer for the material used.



# Laying on already existing paving

Before laying it is important to ensure that the existing paving is dry, solid, stable, firmly fixed to the substrate and has no loose parts. The substrate must be perfectly flat (a maximum tolerance of 3 mm is admissible). Check the substrate is flat using a ruler of at least 2 meters in length.

Uneven surfaces must be filled with specific levelling products.

Before laying, clean the substrate with a solution of water and caustic soda and then thoroughly rinse.

Where it cannot be cleaned with chemicals, we recommend using mechanical abrasion, which is obligatory for marble, wood and PVC coverings.

Follow the adhesive manufacturer's instructions on improving adhesion to the substrate to be covered.

When laying on existing ceramic, stone, marble, terracotta and PVC floorings, remove any oil, wax and grease.

- When laying on parquet, sand the parquet down to bare wood.
- When laying on wood surfaces it is important that the surface is perfectly dry and that the wood surfaces are laid according to the manufacturer's instructions.



# Adhesive and Laying

Check that the tiles, substrate or existing flooring is perfectly flat. Uneven surfaces can be filled in with levelling products.

The choice of trowel depends on the finish and the flatness of the substrate and is directly proportional to the size of the tile. As a general rule, for a tile measuring 1000x1000 mm, we recommend using a 6 mm notched trowel for the substrate and a 3mm notched trowel for the back of the tile.

Apply the adhesive to the whole of both surfaces without leaving any gaps, first on the back of the tile and then on the substrate, ensuring that the corners and the edges are completely covered without leaving any air pockets between the substrate and the tile. Always spread the adhesive only on the side on which the tile is to be laid, to avoid a film forming on the surface which may affect adhesion.

Place the tile gently on its long side, lean it over and lower it into place on the substrate.

Position the spacers to create the joint you want. We recommend using suction pads to facilitate exact positioning of the tile.

Tap the surface with a rubber trowel to get rid of holes and air bubbles. Always check that the corners and edges have stuck perfectly. Do not walk on the tiles during or after laying, keeping in mind the drying times given by the adhesive manufacturer.

# Joints

We recommend a minimum joint of 2 mm for laying inside which must be calculated according to the size of the tile, the area and presence of radiating floors. For laying outside we recommend a minimum joint of 5 mm which must be calculated according to the size, temperature fluctuations and the colour of the tile.

We recommend checking that tiles and substrates outside are not affected by rising damp. It is essential to choose the materials to be used according to the width and the desired finish of the joints. We recommend following the times given by the adhesive manufacturer before grouting the joints. Either cement or epoxy resin based products can be used. These adhesives guarantee greater uniformity and colour retention over time.

## Expansion Joints

During the process of laying the tiles it is essential to respect all the structural expansion joints in the substrate. With very large areas make partition joints of approx 8-10mm, dividing up the area as follows:

- On areas with high traffic and substrates subject to movement and bending, outside it is necessary to have squares of 9-12m<sup>2</sup> (the longer side must never be longer than 4m).
- In stable areas indoors there must be joints approximately every 20-25 m<sup>2</sup>.
- Make joints around the perimeter, laying TECHLAM® approximately 5-7mm from walls, edges and corners making sure this space is not filled in when grouting the tiles. Cover the expansion joints with edging strips or other products designed for this purpose. Specifying the size and the frequency of the joints is the responsibility of the Site Manager/Architect or the person in charge of the site.



## INSTALLING ON WALL COVERING

# Installing on wall covering

## Installing on interior walls

TECHLAM® 3 y TECHLAM® 3+ can be laid on concrete or exterior walls rendered with cement. Where there is a mixture of substrates on a reinforced concrete and brickwork structure the wall must be rendered before installing, using a reinforcing mesh at least where there is a variety of materials. The render must be capable of taking a ceramic covering and therefore be made of cement mortar which guarantees high mechanical resistance to bending and adhesion to the walls (adhesion value to the substrate of approximately 10 kg/cm<sup>2</sup>). The substrate must be flat, not have cracks, stable and have undergone normal drying shrinkage, unevenness areas in the surface must have been filled with levelling products. The cracks or fissures due to shrinkage must be cleaned of dust and sealed with the appropriate materials.

Before starting installation, ensure that the substrate is dry, free of dust, grease, oil and loose particles or that they are not fixed (cement, paint, lime) which will have to be removed in an appropriate manner.

## Selecting size and joints

Laying on exterior façades is subject to large fluctuations in temperature: When deciding on tile size we therefore recommend taking into account exposure to the sun, geographical position and the tile colour (dark colours, particularly black, retain heat more and are therefore subject to greater thermal expansion).

The choice of the format to be used on the façade must be calculated carefully so as to enable the operator to do the job properly (handling, application of adhesive to both surfaces and hitting the tile) bearing in mind the height of the wall and the equipment (scaffolding, cranes, lifts). As a general rule we recommend reducing the size of the tile with increasing height. Be sure to follow the existing regulations in the country where the work is being carried out. Wide joints must be used in the installation: We generally recommend a joint of 5-10mm which must be calculated according to the climatic conditions and the dimensions of the tile. Respect structural joints and make partition joints at the height of string course, corners and edges and every 9-12m<sup>2</sup> with the longer side less than 4 mm.

The joints must be sealed with the appropriate materials available on the market.

# Installing on wall covering

## Installing on interior walls

The substrate must be flat, free of cracks and stable. Uneven surfaces must be filled with levelling products, the cracks and fissures caused by shrinking must be cleaned of dust and sealed with the appropriate materials.

TECHLAM® can also be installed on existing coverings: Before laying, it is important to be sure that the existing flooring is dry, solid, stable, firmly fixed to the substrate and does not have any loose parts. The substrate must be flat, free of cracks and stable. Uneven surfaces must be filled with specific levelling products.

Before laying, clean the substrate with a solution of water and caustic soda and then thoroughly rinse. Where it is not possible to clean it with chemicals we recommend mechanical abrasion.

## Selecting size and joints

The selection of size and type must also be based on the handling and logistics possible on the site. For coverings with a lot of holes or complicated handling (for example, a small bathroom) we recommend using TECHLAM® 3+. We recommend joints of at least 1,5 mm which must be calculated according to the format of the tile and dimensions of the wall to be covered.

We recommend following the times given by the adhesive manufacturer before grouting the joints. Either cement or epoxy resin based products can be used. These adhesives guarantee greater uniformity and colour retention over time.

Respect structural joints and make partition joints at the height of the string course, corners and edges and approximately every 20-25m<sup>2</sup> of the surface.

The joints must be sealed with the appropriate materials available on the market.



## Adhesive and laying

It is important to use a flexible or highly flexible adhesive capable of following the natural movement of the covering and absorbing the stresses generated in the substrate. With very absorbent renders it may be necessary to use a professional water based sealant, according to the instructions supplied by the manufacturer of the adhesive chosen.

Apply the adhesive to both surfaces without leaving gaps, both on the substrate and the tile, ensuring that the corners and edges are thoroughly covered. The quantity of adhesive used must be directly proportional to the dimensions of the tile and the properties of the substrate.

The person installing the tiles will choose the trowels to be used: As a general rule we recommend using flat trowels or those with 3 mm notches on the tile and 6-9mm slanted notches on the substrate. It is important that sufficient adhesive is used to ensure that air pockets between the tile and the substrate are eliminated. Only spread the adhesive on the substrate to avoid a film forming on the surface which may affect adhesion. TECHLAM® 3 can be installed in interiors (without glass fibre) in the largest sizes 500x1000 mm by applying adhesive to the substrate with a 6 mm notched spatula which must in any case be checked according to the substrate.

Complete the operation by tapping on the surface with special rubber trowels to guarantee perfect adhesion and remove any air pockets.



## EDGING STRIPS

There are edging strips on the market to complete the process installation, which are produced by different manufacturers for corners, ends, decorative strips, edges, expansion joints and perimeter borders with the correct thicknesses for TECHLAM®.



# CLEANING AND MAINTENANCE

TECHLAM® is extremely easy to clean. For the best results we nevertheless recommend the following. It is important to carry out tests beforehand on a small part of the material with the product to be used, to check that it does not damage the surface. Neutral or alkaline detergents, not acid-based, must be used to clean the Cosmos and Helios collection.

## **Cleaning after installation**

After finishing installation the ceramic surface must be cleaned to remove any contaminants (cement films, residual cement). It is vital to carry out this operation correctly, as if it is done badly or too quickly, it may result in grout haze which will affect daily cleaning. To clean properly we always recommend following the instructions provided by the manufacturers of the cements and adhesives used in the installation, relating to waiting times, products which can be used and how to use them. With large surfaces we recommend using a mechanical polisher with soft pads.

We do not recommend cleaning after installation when the temperature is high, the cooler times of the day are more appropriate.

## **Cleaning cement products**

Residual cement, limescale, grout and cement mortars can be removed when and how indicated by the manufacturer using de-scaling products. These products must be used according to the manufacturer's instructions.

In any case, bear in mind that apart from the properties of the detergent used, this operation may be more or less aggressive depending on:

- Possible use of abrasive substances.
- Temperature (high temperatures can make a detergent more aggressive).
- Contact time (longer contact time increases the risk of chemical attack).

After cleaning with chemicals it is essential to rinse with clean water. It is also essential to immediately remove residual cement mortar with additives (resins, latex, etc.)

## Cleaning epoxy products

Residual epoxy mortars must be removed immediately after installation with a sponge and abundant clean water. Then thoroughly clean with alkaline detergent, carefully following the instructions given on the products used.

## Normal Cleaning

Grease removing products or neutral detergents can be used for day-to-day cleaning of TECHLAM® tiles. These must be diluted in water according to the instructions given on the packaging. Shiny films may form on the surface of the tile over time with the use of normal detergents. Pouring some drinks, such as cola, water and wine on the flooring may remove these films and re-establish their original appearance. The parts with opaque grout haze are therefore the only clean areas of the flooring. To prevent accumulation of wax and the formation of shiny films we recommend using only neutral detergents for day-to-day cleaning whereas all the flooring will have to be dewaxed to remove all these deposits.

## Extraordinary Cleaning

To remove particularly stubborn stains or residues we generally recommend cleaning initially with abundant running hot water.

If this is not sufficient, increasingly aggressive cleaning techniques can be used depending on the properties of the cause of the stains:

- PH neutral non-abrasive detergents
- Abrasive detergents
- Acid or low PH detergents (except for Cosmos and Helios)
- Solvent based detergents (except for Cosmos and Helios)

# Cleaning recommendations

## Final clean-up

Having fixed the panels, it is extremely important to thoroughly clean them in order to remove all excess grout and general building dirt. We recommend you use a slightly acidic detergent for this task, such as FILADETERDEK. This product will not let off toxic fumes and it is kind to the grouting, materials and the user. Materials fixed using an epoxy or resin based grout should be cleaned using a product designed specifically for epoxy based dirt, such as FILAC310.

## Maintenance

To ensure the flooring tiles remain in good condition, we recommend using a highly effective, neutral detergent, such as FILACLEANER. In the event of heavy dirt that has been embedded over time, we recommend you look at the table below to find the perfect Fila product.

Type of embedded dirt	Fila product
Fixing cement, lime, metal scratches and rust.	<b>DETERDEK</b>
Epoxy based, enamel and resinous grout.	FILACR10
Drink, food, grease, oil, rubber, dyes, pen, drops of plastic-based paint.	DGREASER
Graffiti, acrylic spray, alkyd and nitro-synthetic paints.	FILANOPAINT STAR
Candle wax, tree resin, adhesive tape and tar.	FILASOLV

**Note:** During the polishing process applied to porcelain flooring (Viso series), the micropores on the surface open meaning that they are more likely to be stained by certain liquids. It is therefore very important that any agent that could harm the polished porcelain flooring (oils, fizzy drinks, alcoholic and acidic drinks, etc) is cleaned as quickly as possible using water in order to minimize its exposure time to the tiles. If this is not done, the flooring may be damaged.



# USES DEPENDING ON THICKNESSES AND COLLECTION

# Uses depending on Thickness

	3	3+	5	5+	3+3	5+5
Interior Walls	●	●	●	●	●	●
Interior Floors			●	●	●	●
Exterior Walls	●	●	●	●	●	●
Exterior Floors					●	●
Ventilated Façades seen anchors		●		●	●	●
Vanity Tops - Kitchens						●
High Transit Floors			●	●	●	●
Refurbishment directly over existing walls	●	●	●	●	●	●
Refurbishment directly over existing floors		●	●	●	●	●
Skirting		●	●	●	●	●
Composite panels (Aluminium, plywood, plasterboard)	●	●	●	●	●	●



# Uses depending on Collections

	Basic	Hydra	Vulcano	Blizzard	Madeira	Natura	Zahir	Déco	Viso
Floors	●	●	●	●	●	●			
Walls	○	○	○	○	○	○	○	○	○
Façades	●	●	●	●	●	●			
Fittings	○	○	○	○	○	○			



## RECOMMENDED ADHESIVES

# Installing in Interiors

Installing on interior flooring on cement screeds or on existing ceramic (tiles with or without glass fibre reinforcing netting).

RECOMMENDED ADHESIVES				
NORMAL SETTING			FAST SETTING	
Size of the tile	Adhesive	Degree of comp. with EN 12004	Adhesive	Degree of comp. with EN 12004
<5000 cm <sup>2</sup> (The bigger side must not be more than 100 cm)	KERAFLEX MAXI S1	C2TE S1	GRANIRAPID	C2F S1
	ULTRALITE S1	C2TE S1	ULTRALITE S1 QUICK	C2FT S1
> 5000 cm <sup>2</sup>	KERABOND + ISOLASTIC	C2E S2	ELASTORAPID	C2FTE S2
	ULTRALITE S2	C2E S2	ULTRALITE S2 QUICK	C2FE S2

Installing on interior underfloor heating (tiles with or without glass fibre reinforcing netting).

<b>RECOMMENDED ADHESIVES</b>				
NORMAL SETTING			FAST SETTING	
Size of the tile	Adhesive	Degree of comp. with EN 12004	Adhesive	Degree of comp. with EN 12004
<5000 cm <sup>2</sup> (The bigger side must not be more than 100 cm)	KERABOND + ISOLASTIC	C2E S2	ELASTORAPID	C2FTE S2
> 5000 cm <sup>2</sup>	ULTRALITE S2	C2E S2	KERAQUICK + LATEX PLUS	C2FT S2

Installing on interior walls (tiles with or without glass fibre reinforcing netting).

<b>RECOMMENDED ADHESIVES</b>				
NORMAL SETTING			FAST SETTING	
Size of the tile	Adhesive	Degree of comp. with EN 12004	Adhesive	Degree of comp. with EN 12004
<5000 cm <sup>2</sup> (The bigger side must not be more than 100 cm)	KERAFLEX MAXI S1	C2TE S1	GRANIRAPID	C2F S1
	ULTRALITE S1	C2TE S1	ULTRALITE S1 QUICK	C2FTE S1
> 5000 cm <sup>2</sup>	KERABOND + ISOLASTIC	C2E S2	ELASTORAPID	C2FTE S2
	ULTRALITE S2	C2E S2	ULTRALITE S2 QUICK	C2FE S2

# Installing Outside

Adhesives for installing on façades of tiles without glass fibre reinforcing netting.

RECOMMENDED ADHESIVES				
NORMAL SETTING			FAST SETTING	
Size of the tile	Adhesive	Degree of comp. with EN 12004	Adhesive	Degree of comp. with EN 12004
<5000 cm <sup>2</sup> (The bigger side must not be more than 100 cm)	KERAFLEX MAXI S1	C2TE S1	ELASTORAPID	C2FTE S2
	ULTRALITE S1	C2TE S1	ULTRALITE S1 QUICK	C2FTE S1
> 5000 cm <sup>2</sup>	KERABOND + ISOLASTIC	C2E S2	KERAQUICK + LATEX PLUS	C2FT S2
	ULTRALITE S2	C2E S2	ULTRALITE S2 QUICK	C2FE S2

Adhesives for installing on façades of tiles with glass fibre reinforcing netting.

RECOMMENDED ADHESIVES				
NORMAL SETTING			FAST SETTING	
Size of the tile	Adhesive	Degree of comp. with EN 12004	Adhesive	Degree of comp. with EN 12004
<5000 cm <sup>2</sup> (The bigger side must not be more than 100 cm)	KERABOND + ISOLASTIC	C2E S2	ULTRALITE S2 QUICK	C2FE S2
	ULTRALITE S2	C2E S2		
> 5000 cm <sup>2</sup>	KERALASTIC T	R2T	KERAQUICK + LATEX PLUS	C2FT S2

# Installing on Special Substrates

Adhesives for installing in interiors on damp-proofing systems (tiles with or without glass fibre reinforcing netting).

RECOMMENDED ADHESIVES				
NORMAL SETTING			FAST SETTING	
Size of the tile	Adhesive	Degree of comp. with EN 12004	Adhesive	Degree of comp. with EN 12004
<5000 cm <sup>2</sup> (The bigger side must not be more than 100 cm)	KERAFLEX MAXI S1	C2TE S1	ELASTORAPID	C2FTE S2
	ULTRALITE S1	C2TE S1	ULTRALITE S1 QUICK	C2FT S1
> 5000 cm <sup>2</sup>	KERABOND + ISOLASTIC	C2E S2	KERAQUICK + LATEX PLUS	C2FT S2
	ULTRALITE S2	C2E S2	ULTRALITE S2 QUICK	C2FE S2



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