



**BETONTECH**

**terratinta** 100%  
ceramiche made in  
Italy





**BETONTECH**

*The value of simplicity*











**BETONTECH**



10

White



12

Beige



14

Clay





18

Mud

20

Grey

22

Anthracite



A selection with a concrete minimalist look, both warm and cool.  
A range that represents modernity and tradition, residential and commercial.

A range with a genuine look for a new generation.

Inspired by our market and our clients needs, we designed this collection for all those who passionately believe that simplicity is a priceless value.

*Una selezione di cementi dal look minimalista, dai colori sia caldi che freddi.  
Una gamma che rappresenta modernità e tradizione, per spazi residenziali e commerciali.*

*Ispirati dal nostro mercato e dalle esigenze dei nostri clienti, abbiamo progettato questa collezione per coloro che credono appassionatamente che la semplicità sia un valore inestimabile.*





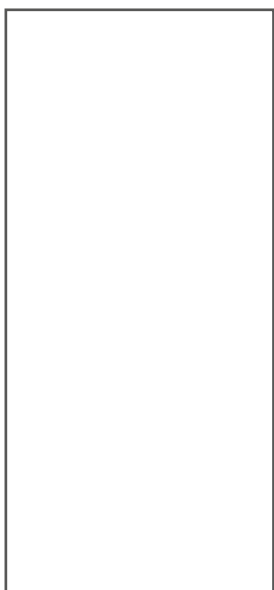
# WHITE

LAPPATO  
RECTIFIED  
FINISH

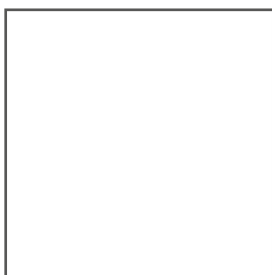
*Light* 6 mm

10,5mm

120x260



120x120



90x90



60x60

60x60 LAPPATO



30x60

30x60 LAPPATO



60x120



15x60



10x60



5x60



20x20



10x10



PORCELAIN STONEWARE  
GRES PORCELLANATO

RECTIFIED AND MODULAR  
RETTIFICATI E MODULARI

MOSAIC

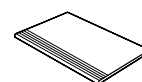
30x30 (2,5x5)

30x30 (2,5x5) LAPPATO



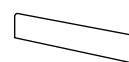
SPECIAL PIECES

STEP 30x60



SKIRTING 7x60

SKIRTING 7,5x90



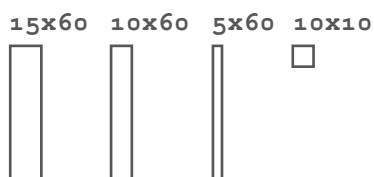
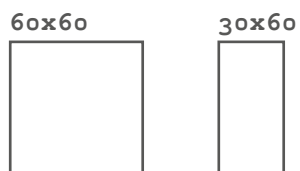


WHITE 60X60cm LAPPATO (floor) - BETONBRICK FLOOR WHITE-GREY 10x20cm (wall)



# BEIGE

± 10,5mm



MOSAIC

30x30 (2,5x5)

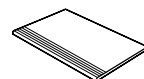


PORCELAIN STONEWARE  
GRES PORCELLANATO

RECTIFIED AND MODULAR  
RETTIFICATI E MODULARI

SPECIAL PIECES

STEP 30X60



SKIRTING 7X60





BEIGE 60X60cm MATT

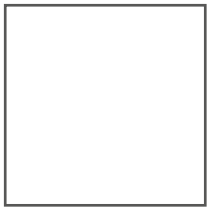


# CLAY

LAPPATO  
RECTIFIED  
FINISH

± 10,5mm

90x90



60x60  
60x60 LAPPATO



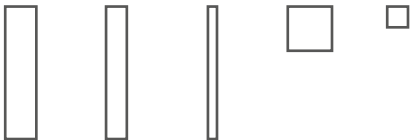
30x60  
30x60 LAPPATO



PORCELAIN STONEWARE  
GRES PORCELLANATO

RECTIFIED AND MODULAR  
RETTIFICATI E MODULARI

15x60 10x60 5x60 20x20 10x10



MOSAIC

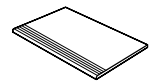
30x30 (2,5x5)

30x30 (2,5x5) LAPPATO



SPECIAL PIECES

STEP 30X60



SKIRTING 7X60

SKIRTING 7,5X90







CLAY 60X60cm MATT (floor) - BETONBRICK WALL 7,5X30cm CLAY GLOSSY (wall)



*Light* BETONTECH WHITE 120x260cm MATT (floor)  
BETONTECH GREY 120x260cm MATT (wall)





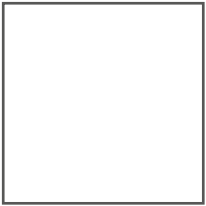
# MUD



LAPPATO  
RECTIFIED  
FINISH

± 10,5mm

90x90



60x60  
60x60 LAPPATO



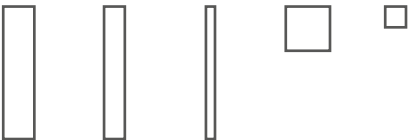
30x60  
30x60 LAPPATO



PORCELAIN STONEWARE  
GRES PORCELLANATO

RECTIFIED AND MODULAR  
RETTIFICATI E MODULARI

15x60 10x60 5x60 20x20 10x10



MOSAIC

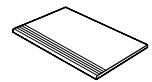
30x30 (2,5x5)

30x30 (2,5x5) LAPPATO



SPECIAL PIECES

STEP 30X60



SKIRTING 7X60

SKIRTING 7,5X90







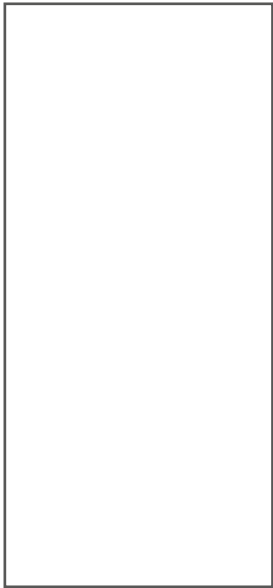
# GREY

LAPPATO  
RECTIFIED  
FINISH

*Light* 6 mm

10,5mm

120x260



120x120



90x90



60x60

60x60 LAPPATO



30x60

30x60 LAPPATO



60x120



15x60



10x60



5x60



20x20



10x10



PORCELAIN STONEWARE  
GRES PORCELLANATO

RECTIFIED AND MODULAR  
RETTIFICATI E MODULARI

MOSAIC

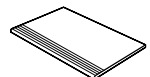
30x30 (2,5x5)

30x30 (2,5x5) LAPPATO



SPECIAL PIECES

STEP 30x60



SKIRTING 7x60

SKIRTING 7,5x90



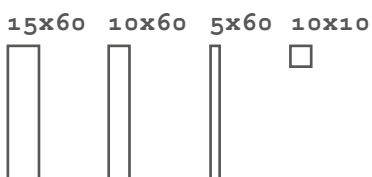




GREY 60X60cm MATT

# ANTHRACITE

± 10,5mm



MOSAIC

30x30 (2,5x5)

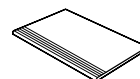


PORCELAIN STONEWARE  
GRES PORCELLANATO

RECTIFIED AND MODULAR  
RETTIFICATI E MODULARI

SPECIAL PIECES

STEP 30X60



SKIRTING 7X60







# the **FOUR**shades concept



WHITE



GREY



CLAY



MUD

The Four Shades Concept is a project designed starting from four colours of Betontech collection: White, Grey, Clay and Mud.

We worked on these four shades and created a unique, fresh and unusual concept, where the porcelain tiles meet glass mosaics, where a re-interpretation of graphic decoration meets the latest ceramic technologies.

The Four Shades Concept: a sophisticated and polyhedric project.

*The Four Shades Concept è un progetto realizzato partendo da 4 colori della collezione Betontech: White, Grey, Clay e Mud.*

*Abbiamo lavorato su queste quattro tonalità e creato un concetto unico, fresco e insolito, in cui le piastrelle in gres incontrano i mosaici di vetro, dove una reinterpretazione della decorazione grafica incontra le ultime tecnologie ceramiche.*

*The Four Shades Concept: un progetto sofisticato e poliedrico.*

**BETON**  
—AXIS

**BETON**  
wood

**BETON**epoque

—vetri5—

**betonbrick** wall

**betonbrick** floor

**BETON**SQUARE



# BETON —AXIS



**WHITE**



**GREY**

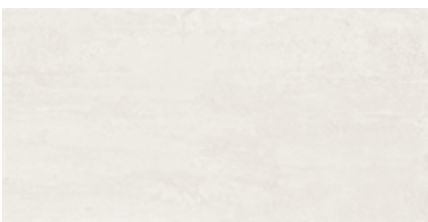
**WHITE**

*(full range available also in grey color)*

*Light 7,3mm*



120x120cm

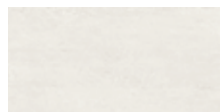


60x120cm

± 9,5



60x60cm



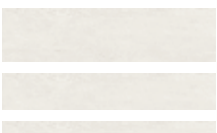
30x60cm



30x30cm



15x15cm



Listels 15/10/5x60cm mix



mosaic  
30x30cm (2,5x5cm)

**ESAGONA  
WHITE-GREY**



21x18,2cm

**ESAGONA  
WHITE-GREY  
DECOR**



21x18,2cm



# BETON wood

±10  
all rectified



WHITE

GREY



CLAY

MUD

## GREY

(full range available in all colours)



45x90cm



22,5x90cm



15x90cm



mosaic  
22,5x90cm

# BETONepoque

±10,5  
all rectified



20x20cm WHITE-GREY patterns mix

20x20cm CLAY-MUD patterns mix



20x20cm White



20x20cm Grey



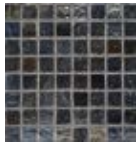
20x20cm Clay



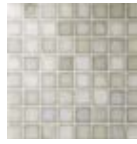
20x20cm Mud



BWMN405



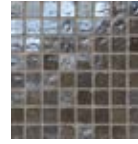
BWMN400



BBMN404



BBMN407



BBMN408

GLASS MOSAICS  
\_ONE.FIVE PLUS

sheet size 31x31cm

**betonbrick** floor

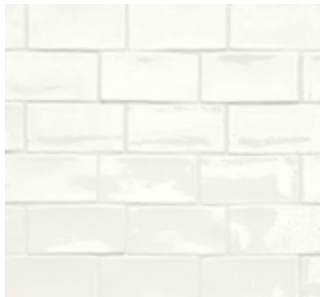


WHITE-GREY 10x20cm

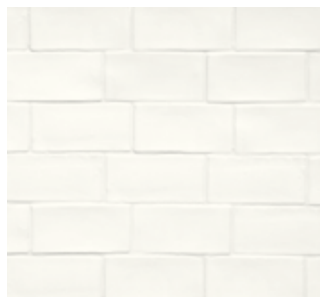


CLAY-MUD 10x20cm

**betonbrick** wall



WHITE glossy 7,5x15cm



WHITE matt 7,5x15cm



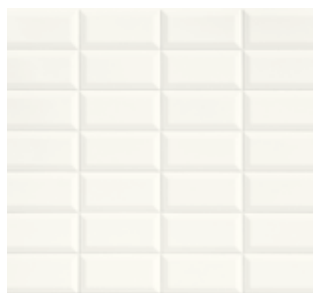
GREY matt 7,5x15cm



CLAY matt 7,5x15cm



MUD matt 7,5x15cm



WHITE glossy 7,5x15cm  
DIAMOND



BLACK glossy 7,5x15cm  
DIAMOND



WHITE glossy 7,5x30cm



GREY glossy 7,5x30cm



CLAY glossy 7,5x30cm



MUD glossy 7,5x30cm

## BETONSQUARE BETONSQUARE MOSAICS



WHITE-GREY 10x10cm



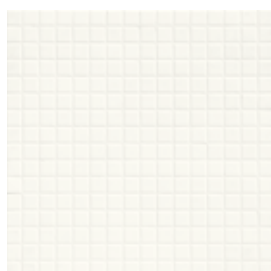
CLAY-MUD 10x10cm



WHITE-GREY DECOR 10x10cm



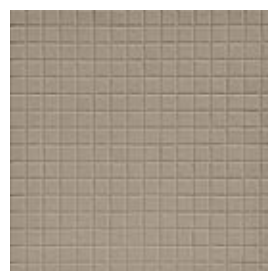
CLAY-MUD DECOR 10x10cm



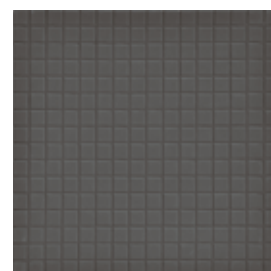
WHITE mosaic 31,6x31,6  
(chip 1,7x1,7)



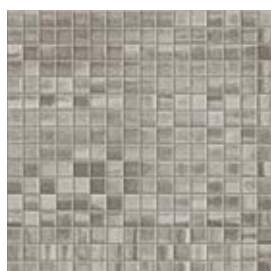
GREY mosaic 31,6x31,6  
(chip 1,7x1,7)



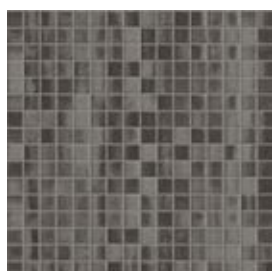
CLAY mosaic 31,6x31,6  
(chip 1,7x1,7)



MUD mosaic 31,6x31,6  
(chip 1,7x1,7)



WHITE-GREY mosaic mix  
31,6x31,6 (chip 1,7x1,7)



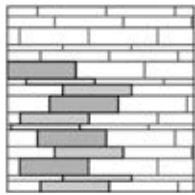
CLAY-MUD mosaic mix  
31,6x31,6 (chip 1,7x1,7)



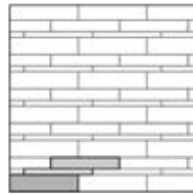


CLAY 90X90 MATT (FLOOR) – BETONEPOQUE CLAY-MUD 20X20 PATTERNS MIX –  
 BETONSQUARE CLAY-MUD MOSAIC MIX 31,6X31,6 – BETONBRICK WALL MUD 7,5X15 MATT (WALL)

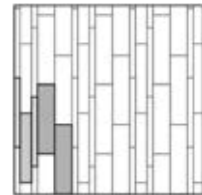
LAYING SCHEMES/listels





LS1  
 13% /m2 5x60cm  
 35% /m2 10x60cm  
 52% /m2 5x60cm



LS2  
 17% /m2 5x60cm  
 33% /m2 10x60cm  
 50% /m2 15x60cm



LS3  
 20% /m2 5x60cm  
 20% /m2 10x60cm  
 60% /m2 15x60cm

PACKAGING BETONTECH						
	Pieces	Sq. Mt.	Kg	Boxes	Sq. Mt.	Kg
120x260cm - 48"x102"	1	3,12	43,99	20	62,40	955
120x120cm - 48"x48"	2	2,88	40,61	25	72,00	1.057
60x120cm - 24"x48"	3	2,16	30,46	16	34,56	522
90x90cm - 36"x36"	2	1,62	39,3	22	35,64	885
60x60cm - 24"x24"	3	1,08	25,10	32	34,56	1.024
30x60cm - 12"x24"	5	0,90	20,65	48	43,20	1.011
15x60cm - 6"x24"	12	1,08	24,80	40	43,20	1.012
10x60cm - 4"x24"	15	0,90	20,65	40	36,00	846
5x60cm - 2"x24"	34	1,02	23,40	40	40,80	956
20x20cm - 8"x8"	25	1	22,95	54	54,00	1.239
10x10cm - 4"x4"	50	0,50	11,50	50	25,00	595
Mosaic 30x30cm - 12"x12" (chip 2,5x5cm)	11	1	22,95	30	30,00	709
Skirting 7x60cm - 3"x24"	14	8,40ml	14,70	-	-	-
Skirting 7,5x90cm - 3"x36"	6	5,40ml	8,70	-	-	-
Step 30x60cm - 12"x24"	6	1,08	20,65	-	-	-













TECHNICAL FEATURES UNGLAZED PORCELAIN STONEWARE

CONFORMING TO EUROPEAN STANDARDS EN 14411 ISO 13006 APP. G (GRUPPO BIA UGL CON  $E_b \leq 0,5\%$ )

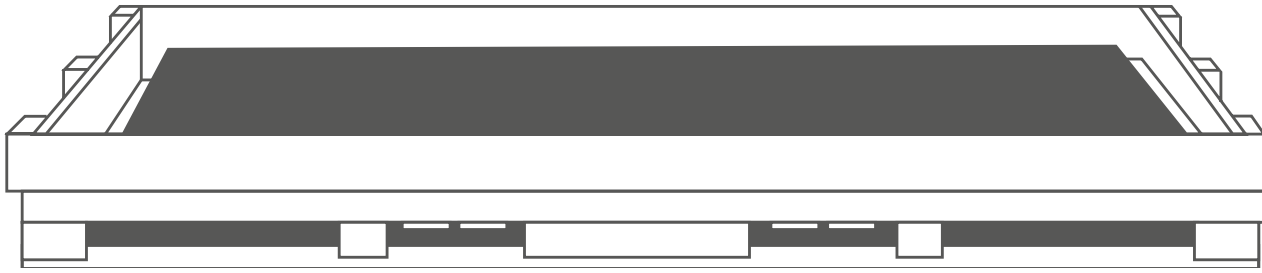
CARATTERISTICHE TECNICHE GRÈS PORCELLANATO TUTTA MASSA Conformi a Norme Europee EN 14411 ISO 13006 App. G (Gruppo Bia UGL con  $E_b \leq 0,5\%$ )

TECHNISCHE EIGENSCHAFTEN FEINSTEINZEUG DURCHGEFÄRBT Gemäß den Europäischen Normen EN 14411 ISO 13006 App. G (Gruppe Bia UGL mit  $E_b \leq 0,5\%$ )

CARACTERISTIQUES TECHNIQUES GRÉS CERAME PLEIN MASSE Conformes aux Normes Européennes EN 14411 ISO 13006 App. G (Groupe Bia UGL avec  $E_b \leq 0,5\%$ )

	TECHNICAL FEATURES CARATTERISTICHE TECNICHE TECHNISCHE DATEN CARACTERISTIQUE TECHNIQUE	TESTING METHOD METODICA DI PROVA PRÜFVERFAHREN NORME D'ESSAIS	REFERENCE STANDARD RIFERIMENTO NORMA STANDARDWERT RÉFÉRENCE NORME	TEST RESULTS VALORE PRODOTTO PRODUKT WERTE VALEUR PRODUIT
	Sizes Dimensioni Abmessungen Dimensions	EN ISO 10545-2	<p><math>N \geq 15</math> cm</p> <p>(%) (mm)</p> <ul style="list-style-type: none"> <li>Length and width - Lunghezza e larghezza - Länge und Breite - Longueur et largeur <math>\pm 0,6\%</math> <math>\pm 2,0</math> mm</li> <li>Thickness - Spessore - Stärke - Epaisseur <math>\pm 0,5</math> <math>\pm 0,5</math></li> <li>Linearity - Rettilinearità spigoli - Kantengeradheit - Rectitude des arêtes <math>\pm 0,5</math> <math>\pm 1,5</math></li> <li>Wedging - Ortogonalità - Rechtwinkligkeit - Orthogonalité <math>\pm 0,5</math> <math>\pm 2,0</math></li> <li>Warpage - Planarità - Ebenföchigkeit - Planéité <math>\pm 0,5</math> <math>\pm 2,0</math></li> </ul> <p>• Appearance: percentage of acceptable tiles, per lot Aspetto: percentuale di piastrelle accettabili nel lotto Oberflächenbeschaffenheit: Prozentsatz der Fliesen, die den geforderten Eigenschaften entsprechen Aspect: pourcentage de carreaux acceptables sur la fourniture totale 95% min. -</p>	Compliant Conforme Erfüllt Conforme
	Water absorption Assorbimento d'acqua Wasseraufnahme Absorption d'eau	EN ISO 10545-3	$E_b \leq 0,5\%$	Compliant Conforme Erfüllt Conforme
	Modulus of rupture Resistenza alla flessione Biegezugfestigkeit Résistance à la flexion	EN ISO 10545-4	Medium value 35 N/mm <sup>2</sup> min.	Compliant Conforme Erfüllt Conforme
	Breaking strength Carico di rottura Bruchlast Charge de rupture		sp. > = 7,5 mm: min 1300 N	Compliant Conforme Erfüllt Conforme
	Abrasion resistance Resistenza all'abrasione Abriebbeständigkeit Résistance à l'abrasion	EN ISO 10545-6	175 mm <sup>3</sup> max	Average Medio - Mittelwert Moyenne < 150 mm <sup>3</sup>
	Thermal expansion coefficient Coefficiente di dilatazione termica lineare Wärmeausdehnung Coefficient de dilatation thermique linéaire	EN ISO 10545-8	*Declared value Valore dichiarato Angegebener Wert Valeur déclaré	$\leq 9$ MK-1
	Thermal shock resistance Resistenza agli sbalzi termici Temperaturwechselbeständigkeit Résistance aux écarts de température	EN ISO 10545-9	*Pass according to iso 10545-1 Test superato in accordo con iso 10545-1 Test ueberstanden nach ISO 10545-1 Pv en accord avec norme en 10545-1	Resistant Resistente Widerstandsfähig Résistant
	Frost resistance Resistenza al gelo Frostbeständigkeit Résistance au gel	EN ISO 10545-12	*Pass according to iso 10545-1 Test superato in accordo con iso 10545-1 Test ueberstanden nach ISO 10545-1 Pv en accord avec norme en 10545-1	Resistant Resistente Widerstandsfähig Résistant
	Resistance to low concentrations of acids and alkali Resistenza a basse concentrazioni di acidi e alcali Beständigkeit gegen schwach konzentrierten Säuren und Laugen Résistance à des basses concentrations d'acides et bases		*Declared value Valore dichiarato Angegebener Wert Valeur déclaré	From ULA to ULB Da ULA a ULB Von ULA bis ULB De ULA jusqu'à ULB
	Resistance to high concentrations of acids and alkali Resistenza ad alte concentrazioni di acidi e alcali Beständigkeit gegen stark konzentrierten Säuren und Laugen Résistance à des hautes concentrations d'acides et bases	EN ISO 10545-13	*Declared value Valore dichiarato Angegebener Wert Valeur déclaré	From UHA to UHB Da UHA a UHB Von UHA bis UHB De UHA jusqu'à UHB
	Resistance to domestic chemicals and additives for swimming pools Resistenza ai prodotti chimici di uso domestico e agli additivi per piscina Beständigkeit gegen chemischen Haushaltsreiniger und Zusatzstoffe für Schwimmbäder Résistance aux prod. chimiques d'usage domestique et additifs pour piscines		UB min.	UA
	Stain resistance of unglazed porcelain Resistenza alle macchie di piastrelle non smaltate Fleckenbeständigkeit von unglasierten Fliesen Résistance aux taches des carreaux non émaillés	EN ISO 10545-14	*Declared value Valore dichiarato Angegebener Wert Valeur déclaré	CLASSE 5
	Colors resistance to light Resistenza dei colori alla luce Lichtbeständigkeit Résistance des couleurs a la lumière	DIN 51094	No noticeable color change. Non devono presentare apprezzabili variazioni di colore. Die Muster dürfen keine sichtbaren Farbveränderungen aufweisen. Ne doivent pas présenter de variations importantes des couleurs.	No alteration after testing Materiale inalterato dopo il test Keine Veränderung nach dem Test Aucune altération relevée
	Friction coefficient (Slipperiness) Coefficiente di attrito (Scivolosità) Reibungskoeffizient (Schlupfrigkeit) Coefficient de friction (Glissement)	DIN 51130 ANSI A137.1 (DCOF)	*Declared value Valore dichiarato Angegebener Wert Valeur déclaré	R10 matt >0,42 matt

\* It's advisable to refer Contract Division for all necessary guidelines to a correct use.  
Si raccomanda di consultare Contract Division per le indicazioni necessarie al corretto utilizzo.  
Zur korrekten Anwendung wird empfohlen mit unserem Contract Division Kontakt aufzunehmen.  
Merci de consulter notre Contract Division pour les indications a un usage correct.



## 1\_PACKAGING

Special packaging has been developed to store and transport large tiles safely. Large tiles, whether all the same size or in different sizes, are loaded into crates. All packages are dispatched full or according to individual order requests.

**IT IS RECOMMENDED TO MOVE THE CRATES ONE AT A TIME.**

### Crate for 120x260

Cm 275 x 136 x h 28, • Kg per tile 44 • tile per crate 20 • Sqm per crate 62,40  
• Kg per full crate 880 • Stockability max 10 pallets in warehouse

### Crate for 120x120

Cm 130 x 130 x h 58 • Kg per tile 20,30 • tile per crate 50 • Sqm per crate 72  
• Kg per full crate 1015 • Stockability max 4 pallets in warehouse

### Crate for 60x120

Cm 129 x 69 x h 58 • Kg per tile 10,15 • tile per crate 48 • Sqm per crate 34,46  
• Kg per full crate 522 • Stockability max 4 pallets in warehouse

## 2\_MOVING PACKAGES

### Long side

This is the best option. Use forks at least 1.4 m long, set to the width that provides the best possible support for the package.

### Short side

Use forks at least 2.1 m long, set to the width that provides the best possible support for the package.

## LOADING TRUCKS AND CONTAINERS

To load packages into a container, you can either use a fork lift or load from the ground using ramps of suitable height.

Use straps, ties and airbags to keep the material secure during transport. When loading, always make sure that weight is distributed evenly to avoid displacement during transport. Loading calculations must always take account of transport weight limits.

## ARRANGEMENT FOR LOADING ON CONTAINERS

### SIZE 120x260

CONTAINER 20': 12 CRATES

CONTAINER 40': 24 CRATES - PAY ATTENTION TO MAXIMUM GROSS WEIGHT

### SIZE 120x120

CONTAINER 20': 12 CRATES

CONTAINER 40': 27 CRATES - PAY ATTENTION TO MAXIMUM GROSS WEIGHT

### SIZE 60x120

CONTAINER 20': 24 CRATES

CONTAINER 40': 54 CRATES - PAY ATTENTION TO MAXIMUM GROSS WEIGHT

## 3\_MOVING LARGE TILES ON SITE

### ON-SITE EQUIPMENT

It is important to use suitable equipment to move large tiles on site.

#### Suction cups

Use vacuum pump suction cups on non-smooth or textured surfaces to ensure a firm grip during manual movement (120x120).

Use non-marking rubber suction cups on light coloured surfaces.

#### Suction cup bars or lifting frames with cross-bars

Applying this type of lifting device to large tiles improves rigidity and permits completely safe transport on tile trolleys (120x260).

#### Reinforced trolley

We recommend the use of reinforced trolleys to move tiles around large sites and to move tiles in which holes, cutouts or cuts have been made to permit the passage of electrical cables or water pipes.

#### Work bench with aluminium profiles

Use a work bench with aluminium profiles to support the tiles you need to work on practically and safely. Install the work bench on a stable and level surface. Suitable for 60x120, 120x120, 120x260.

## MOVING TILES BY HAND ON SITE

To ensure operator safety, always move large tiles one at a time. At least two people are needed to move each tile, and more may be needed depending on the weight of the tile.

Manual tile lifting kits include single suction cups for 120x120 tiles or suction cup frames for tiles of 120x260 and above.

#### Single suction cups

Use suction cups with individual handles only to lay a small number of tiles in ground level areas that are easily accessible and provide plenty of room for manoeuvre. Attach the suction cup to the centre of the tile to ensure good balance when moving it.

#### Suction cup frames

Place the frame over the centre of the tile so that the ends of bars touch the walls of the crate. To stop the edges of the tile coming into contact with the floor, adjust the end hooks to leave a small gap between the tile and the floor.



## 4\_WORKING ON LARGE TILES

Accurate cuts, shapes, cutouts and holes can be made by specialist tile workshops and processing centres using cutting discs, CNC systems, water jets and other professional equipment.

Simple jobs can be completed on site, but special attention is needed during both movement and working.

A bench of suitable size, with aluminium support profiles is ideal for cutting and drilling jobs.

### CNC MACHINING (OFF-SITE)

CNC machines can perform high-precision operations on large tiles, including the forming of sink surrounds.

### WATER JET MACHINING (OFF-SITE)

Water jet machines can be used for various operations including cutting, shaping and hole formation, with accurately formed corners and edges and correct final chamfering.

### EDGE FINISHING (OFF-SITE)

Automatic machines and special tools are required to finish edges. All kinds of edge should be finished using a cutter and an edge chamfering tool.

The minimum width of straight edges is 2 mm.

The minimum radius of rounded edges is 2 mm.

## HOLES

Holes for accessories, taps, fittings and electrical cables must be at least 5 cm away from the edge of the tile. The minimum corner radius of internal cutouts must be 5 mm. Outside edges should always be chamfered for maximum strength.

### Instructions:

1. Position the large tile on a stable, clean and flat work bench. Keep the finished surface facing up.
2. Start the work using a diamond disc mounted on an angle grinder or drill (normal mode, not hammer). Cut the tile at an angle of about 75°.
3. Gently oscillate the tool to complete the hole. Keep the cutting disc wet to avoid overheating. Use a diamond countersink to make holes that will remain visible.
4. On completion of work, clean the area thoroughly.

## STRAIGHT CUTS

Use a cutting guide to align the cutting tool. Only use diamond cutting discs that are designed for porcelain tile and suitable for use on the machine in question. Discs must be water cooled and speed reduced at the beginning and end of the cut. Adjust rotation and feed speed to suit the dimensions of the disc and the nature of the cut. To obtain 'L' shapes, make straight cuts first and then drill a hole at the corner.

## MANUAL STRAIGHT CUTS

Position the large tile you need to cut on a stable work bench of suitable size. Use a cutting guide to align a tungsten carbide cutting tool over the line to be cut.

### Instructions:

1. Lower the bar and cutting wheel on to the line to be cut.
2. Cut the ends of the tile for about 5 cm, working from the inside towards the outside.
3. Complete the cut without stopping and at constant speed and pressure.
4. Move the tile so that the line of the cut protrudes about 10-15 cm from the bench.
5. Break off one of the two ends with a pincers. Again using a pincers, apply gentle pressure to the other end to detach the entire section along the cutting line. Two people are needed for this job to avoid the cut section falling and breaking.
6. Remove the cutting guide and smooth the remaining sharp edge of the tile with a diamond pad or resin grinder.

## MANUAL CURVED CUTS

Position the large tile you need to cut on a stable work bench of suitable size. Use a cutting guide to align a tungsten carbide cutting tool over the line to be cut.

### Instructions:

1. Mark out the cutting line with a pencil.
2. Use an angle grinder with a suitable cutting disc to cut the tile along the marked line.

## RECTANGULAR CUTOUTS

'L' or 'C' shaped cutouts may be required:

- on the edge of a tile, near corners or columns
- in the centre of a tile, to fit accessories, taps, electrical equipment, sinks, hobs, etc. Cutouts must be positioned at least 5 cm from the edge of the tile and from other holes.

### Instructions:

1. Position the large tile on a stable, clean and flat work bench. Keep the finished surface facing up.
2. Mark the outline of the cutout.
3. Use a drill in normal (not hammer) mode with a diamond bit or an angle grinder with a cutting disc of 6-8 mm in diameter. Proceed to make circular holes at the inside corners of the marked cutout. The cutting tool must be cooled continuously.
4. Complete the cutout using an angle grinder with a small diameter (max. 125 mm) diamond disc to cut along the straight edges.

## 5\_PREPARING THE SURFACE AND APPLYING ADHESIVE

Before applying adhesive, make sure that the back of the tile is perfectly clean and free from ceramic powder and engobe.

Make all necessary 45° corner tile cuts before applying adhesive.

To clean the tiles, use a sponge damped in a water and detergent solution.

The adhesive must cover the entire surface and be of uniform thickness.

To achieve this condition use the technique of double application.

Apply adhesive in straight lines parallel with the short side of the tile.

This permits air to escape more easily. Start by applying adhesive to the back of the tile using a square toothed spatula with teeth no smaller than 3 mm. Proceed parallel with the short side of the tile, taking care to cover the entire back of the tile, including the corners. Now apply adhesive to the substrate using a slant ridge spatula with teeth of at least 10 mm, proceeding in the same direction as for the back of the tile and taking care not to leave any area uncovered. Facing tiles should be applied with the aid of an additional mechanical support.

Use a class C2-S1/S2 adhesive on floors. For walls, use a class T adhesive with reduced vertical slip. Always choose the type of adhesive best suited to the substrate.

## 6\_INSTALLATION

Before you start installing tiles, make sure that the lot is of sufficient quantity and of the right colour and thickness. Follow all the rules and precautions necessary for correct installation. Prepare the substrate, ensure the correct composition of mortars or adhesives, respect specified drying times, expansion joint positions and beating methods, etc.

### Installing tiles with adhesives

Tiles must be installed by qualified persons using suitable equipment. Installation should always be performed under good lighting conditions.

The choice of adhesive depends on the type of tile (material and size), the substrate to be covered and the use to which the tile will be subject.

Check that the material has been correctly installed before the adhesive dries completely, so that minor corrections can be made if necessary.

### Installing tiles with fresh mortar

The use of fresh, cement-based mortar or "thick-bed" mortar is not recommended for tile sizes with long sides of over 30 cm or for non-absorbent substrates.

### Instructions:

1. Check that the substrate (screed) is hard enough, clean, free from cracks and smooth, with a maximum variation in level of 1 mm/2 metres.
2. First apply adhesive to the tile and substrate, then lift the tile and, with great care and using suitable moving equipment, lay it gently on the adhesive of the substrate. Once in place, the tile cannot be lifted again, and position adjustments are restricted to a maximum of 4-5 cm.
3. Use a manual or electric, anti-bounce tile beater to beat the tile, working from the centre outwards and in straight lines. This ensures maximum adhesion between the tile/adhesive/substrate and facilitates the elimination of air. Remove any adhesive forced out from the joints to keep them free for grouting.
4. Place spacers around the edges of contact with other tiles to form a joint of at least 2 mm.
5. Position the tiles one after another, moving them into place with a suitable manual tool and leaving a joint of at least 2 mm between them. Always lay floors first and then tile the walls. A gap of at least 3 mm should be left between the perimeter of the floor and the bottom of walls.

6. Use self-levelling spacers to ensure the accurate positioning of tiles. These should be removed when the adhesive is dry and before grouting. Insert wedges by pushing them towards the tile laid previously. Wedges can correct up to 1 mm of difference in height.
7. When the adhesive is completely set, remove the levelling wedges with a mallet.
8. After installation, and depending on the type of adhesive used, floor surfaces should not be walked on for 12-24 hours.

#### **Technical Joints**

Structural expansion and movement joints are essential to the durability of an attractive tiled surface. Ask a professional tiler for advice and/or help.

Structural expansion joints should be located over those found in the substrate and made using a suitable sealant or profile.

In outdoor floors, movement joints must be provided in areas of 9-12 sq.m. depending on the substrate and in high traffic indoor areas or on flexible substrates. Areas can be increased to 20-25 sq.m for indoor floors over a stable substrate.

In any case, always leave a gap of 3-5 mm between the perimeter of the floor and any walls, columns or corners and between tiled sections and sections covered in other materials.

The manufacturer declines all responsibility for installations without adequate joints between tiles: the minimum acceptable joint between tiles is 2 mm.

## **7\_GROUTING**

Wait for the adhesive to set completely before grouting.

#### **Instructions:**

1. Make sure that the joints are clear and free from all traces of adhesive and/or powder. Residual material preventing filling of the joint to at least 2/3 the thickness of the tile must be removed.
  2. Grout small areas at a time (4-5 sq.m.) especially when working with textured, non-slip or polished tiles. Use a suitable rubber spatula. Always test grout of a colour that contrasts with the tiles on a small, hidden area before grouting the rest of the surface.
  3. Remove excess grout from the surface in diagonal strokes before the product dries, and remove all residues.
  4. Clean the surface thoroughly with a sponge damped in clean water then wipe down the surface, including the joints with a damp cloth. Use a sponge and plenty of water to clean off epoxy grouts.
- The reaction times and hardness of these products makes it impossible to remove residues once set. Always refer to the grout manufacturer's specifications to ensure that the product is suitable for the type of tile.

## **8\_CLEANING**

The entire tiled surface must be cleaned, including the tiles, joints, movement joints and profiles. Cleaning must continue until all traces of installation materials have been eliminated.

#### **INITIAL CLEANING**

Initial cleaning is of fundamental importance for all subsequent steps and for correct maintenance over time. Thorough initial cleaning helps floors remain attractive and protected for years to come, and only has to be performed once, before the floor is used.

Initial cleaning should be performed 4-5 days after completion of grouting, when the grout sealant is perfectly dry, but no later than 10 days after. Use an acid or alkaline detergent to suit the characteristics of the sealant. Always test detergents on an unused tile or on a small hidden area of the floor to ensure compatibility, especially in the case of lapped or polished tiles. Do not use cleaning products containing hydrofluoric acid (HF) or its derivatives.

After grouting and cleaning, the surface may still present a film of cement residue that cannot be removed using water alone. In such cases, the residue must be removed using an acid-based product, diluted according to the manufacturer's instructions.

#### **Instructions:**

1. Start by wetting the tile surface, especially the joints, which are not normally acid resistant.
2. Next, distribute the prepared acid solution over the surface and leave it react for a short time (2 minutes).
3. Do not allow the solution to dry on the floor. Remove it either manually or using a single-head scrubber-dryer fitted with a non-abrasive disc.
4. Rinse the surface thoroughly afterwards.

Use of a floor cleaner is particularly recommended for textured tiles and large surfaces. Manual methods can then be used to clean points inaccessible to the machine such as corners, along walls and wherever the machine cannot operate.

#### **ORDINARY CLEANING**

The purpose of ordinary cleaning is to remove dirt and marks and to restore the surface's original appearance. Porcelain tile does not require protective treatment: regular, thorough cleaning is sufficient

to keep it in perfect condition. Clean tiled surfaces thoroughly using hot water, a soft cloth or sponge and neutral detergent if necessary.

Industrial scrubber-dryers can be used to clean large floors, with inaccessible areas cleaned manually afterwards.

## **9\_GENERAL RECOMMENDATIONS**

Never rub surfaces with abrasive materials such as metal scrubbing pads or hard brushes as these might leave indelible scratches or marks.

Remove greasy or oily residues using a detergent containing organic solvents or with an alkaline detergent (pH>9), then rinse the area thoroughly.

Do not use soaps as they can leave a slippery film on the surface, especially if used with hard water.

Do not use products containing waxes or shine- enhancing rinse agents. Do not use abrasive detergents on smooth and/or polished surfaces.

In the case of matt materials, always test abrasive detergents on a small area of tile first.

Always test any non-neutral detergent on an unused tile or on a hidden area of the floor first.

#### **WARNING:**

For material that has already been laid, Terratinta Group Srl:

- does not accept any complaints for visible defects.
- does not accept liability for the quality of the tiled surface but only for the characteristics of the material supplied.
- once the material has been laid, it is wise to keep aside a few tiles for possible future repairs or to have a sample of the material in the event of complaints.





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