

TACT SPOT has been established based on 22 years of experience since 2001, started its activities by supplying industrial and building materials. Believing in the value of investing in HR, all sales forces of the company, are selected among graduated QUALIFIED ENGINEERS with site operational experiences and have been trained in several different fields.

TACT SPOT has Enriched its customers need cognition by wide range of connections with the builders, contractors, consultant firms and Architectural offices. After the recognition of customer needs, most trended designs are selected from well-known design ateliers finalized by high-quality raw materials, machinery, and technology.

All products are real porcelain, producing as full-body porcelain. Different range of porcelain ceramics producing in sizes 20x120 ,60x120, 80x160, 100x100, 120x240, 120x280 and 160x320 cm, carefully monitored by TACT SPOT's QC team. These products are appropriated for different application areas.

All products in TACT SPOT obtained Europe CE Certificate. In addition, TACT SPOT is sampling randomly among its production and sending them to different qualified LAB such as Road, Housing & Urban Development Research Center, lab institutes in Turkey, all reports are recorded.

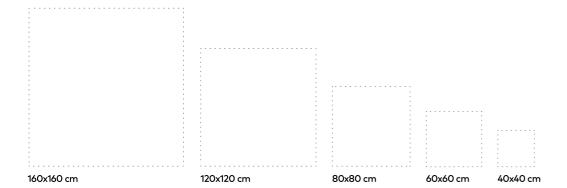
Product Selection Consulting Services are provided by our Sales Forces, considering Customer's requirements, situation, Project fields of application & products technical characteristics.

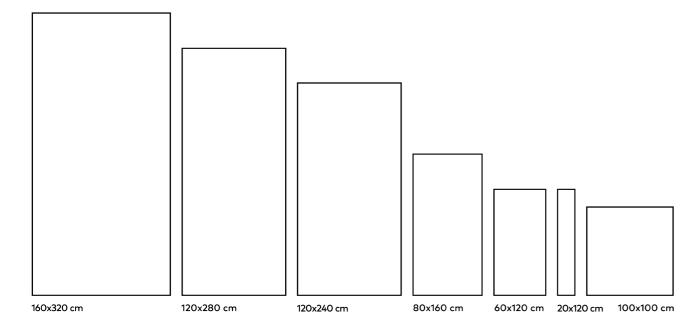
To enhance the quality of our services after delivering the goods, all sales forces with the support of the technical support department provide different services such as technical visits during project execution, case assistance according to customers need.

All projects subject to heavy traffic with specific usage are supported by our technical assistance in order to improve their maintenance while periodic visits. Tact SPOT has set its mission, based on Training & Learning. In this regard, has organized related seminars and workshops.

WE SOLVE, SUPPLY & SUPPORT, BASED ON TACT & FINESSE

By Order
Standard





General Index

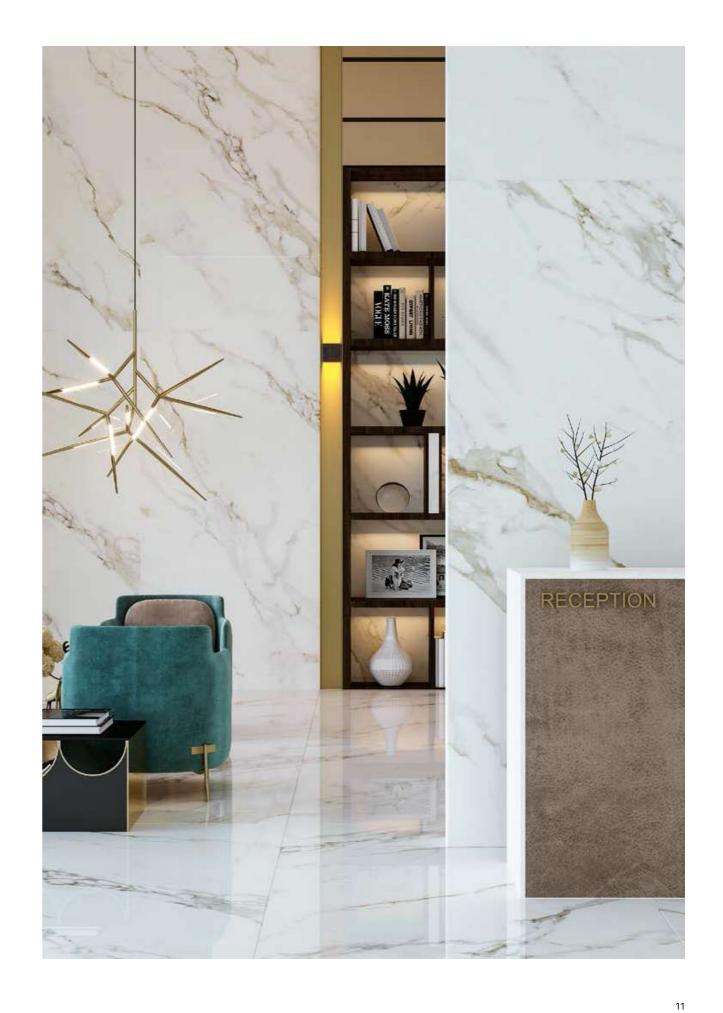
1.	Products	06	20x120 cm	60x120 cm	80x160 cm	100x100 cm	120x240 cm	120x280 cm	160x320 cm
1.1.	Calacatta Gold	08		✓	✓	✓	✓	✓	
1.2.	Saint Laurent	16			✓	✓	~	~	√
1.3.	Golden Black	22		✓					
1.4.	Calacatta Silva	30		✓	✓	✓	✓	✓	~
1.5.	Elegant Blue	38			✓			~	
1.6.	Nero Marquina	46		✓	~		✓	~	√
1.7.	Statuario Extra	54		✓		✓		~	
1.8.	Elegant Grey	62						~	
1.9.	Pantheon Marble	70		✓	✓	✓		~	
1.10.	White Fantasy	78			✓				
1.11.	Oxide	84						~	
1.12.	Native	90		✓				✓	
1.13.	Stonetech	100		✓	✓				
1.14.	Riven Slate	110						✓	
1.15.	Lithos	118		✓					
1.16	Branch	126		✓					
1.17	Contemporary	132		✓					
1.18	Monte Viso	138		✓					
1.19	Pietra Grey	144		✓					
1.20	Natural Concrete	148		✓	~	✓	✓	✓	✓
1.21	Beton Art	160		✓					
1.22	Luxury Concept	166		✓					
1.23	Metallic	172			✓				
1.24	Monocolor Night	178		✓					
1.25	Maxiwood	186	✓						
1.26	Selva	198	√						
2.	Technical Information	206							
2.1	Symbology	208							
2.2	Technical Characteristic	209							
2.3	Packaging	212							
2.4	Standards	214							
2.5	Test Report & Certificate	215							
2.6	Technical Details	216							

PRODUCTS

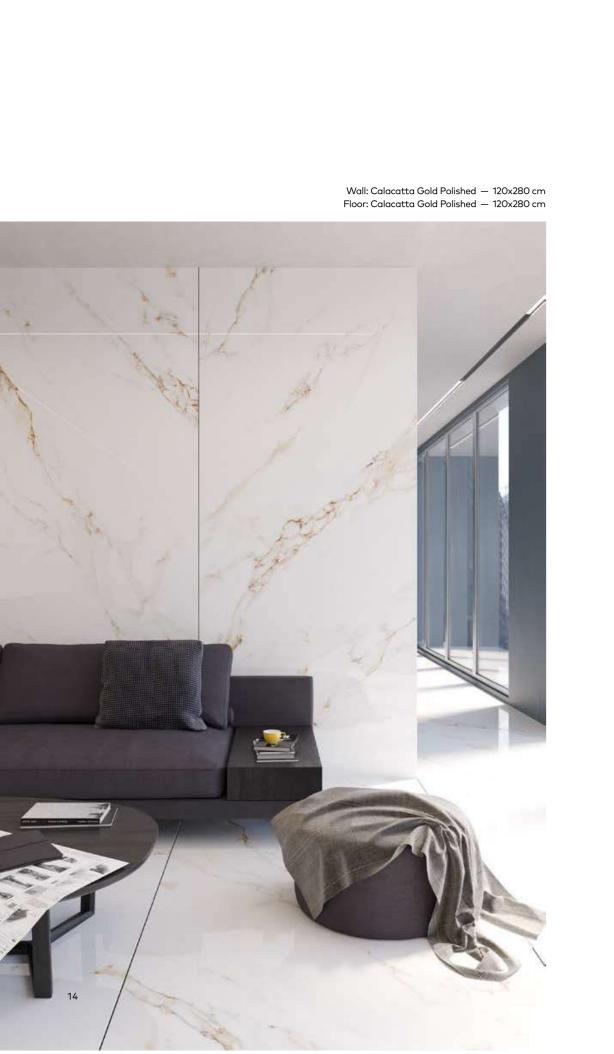




Wall: Calacatta Gold Polished — 120x280 cm Floor: Calacatta Gold Polished — 120x280 cm





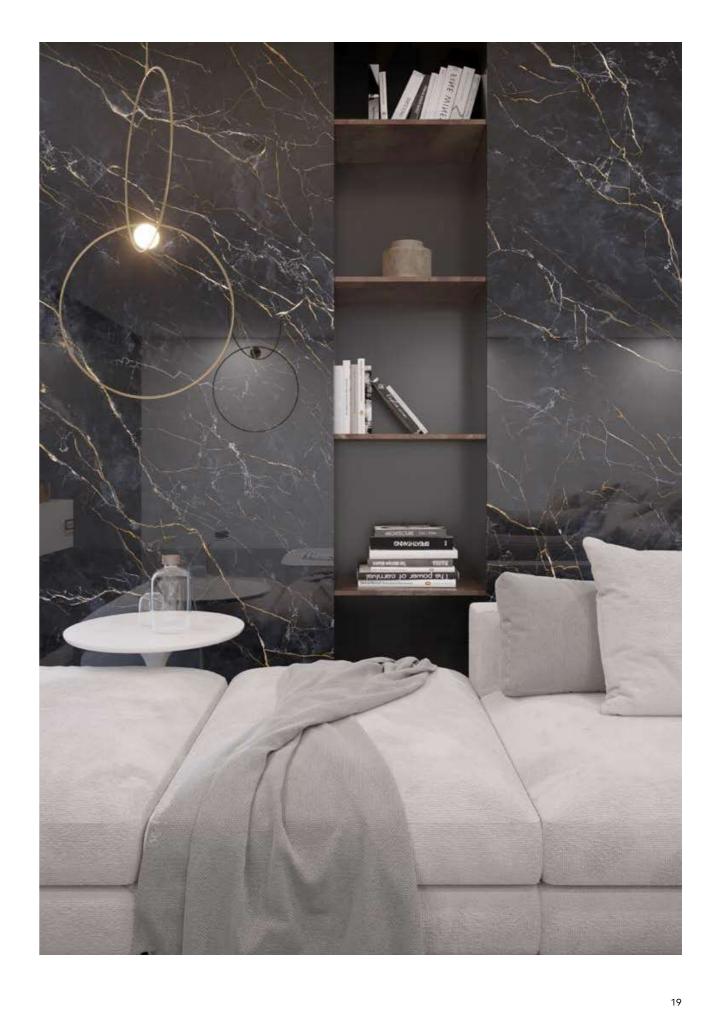








Wall: Saint Laurent Polished — 120x280 cm Floor: Saint Laurent Polished — 120x280 cm

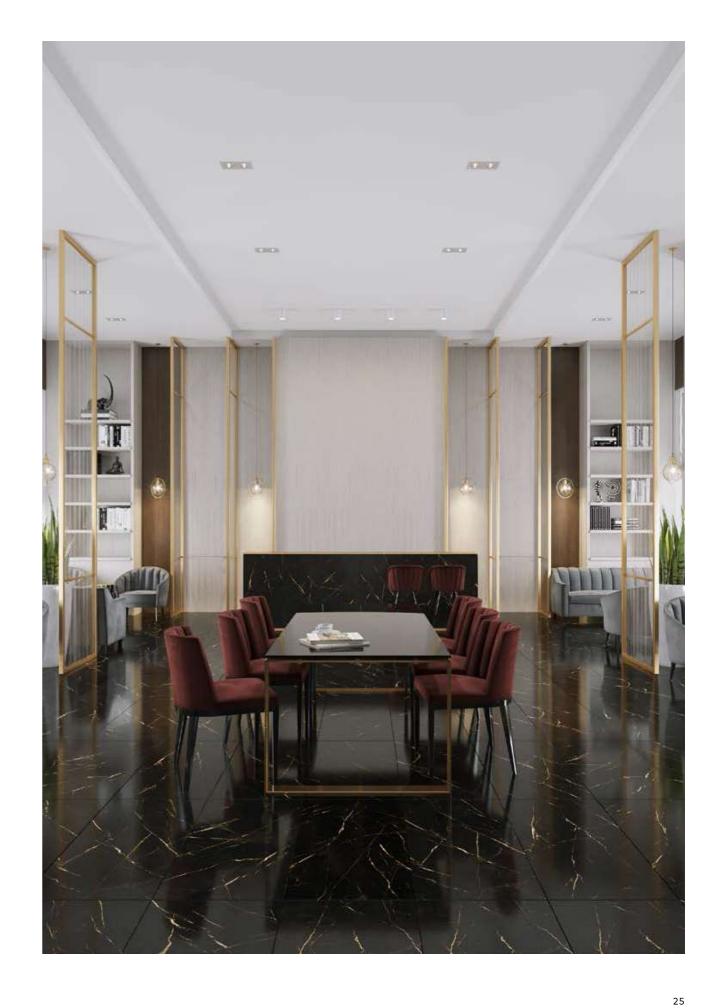


Saint Laurent Available other sizes upon demand. For more detail please contact sales department. Wall: Saint Laurent Polished — 120x280 cm 120x280 cm FGPB-L5160 Polished | 5 Faces 160x320 cm FGPB-X5160 Polished | 4 Faces 100x100 cm FGPB-W5160 Polished | 10 Faces 80x160 cm FGPB-C5160 Polished | 8 Faces 120x240 cm FGPB-A5160 Polished | 5 Faces

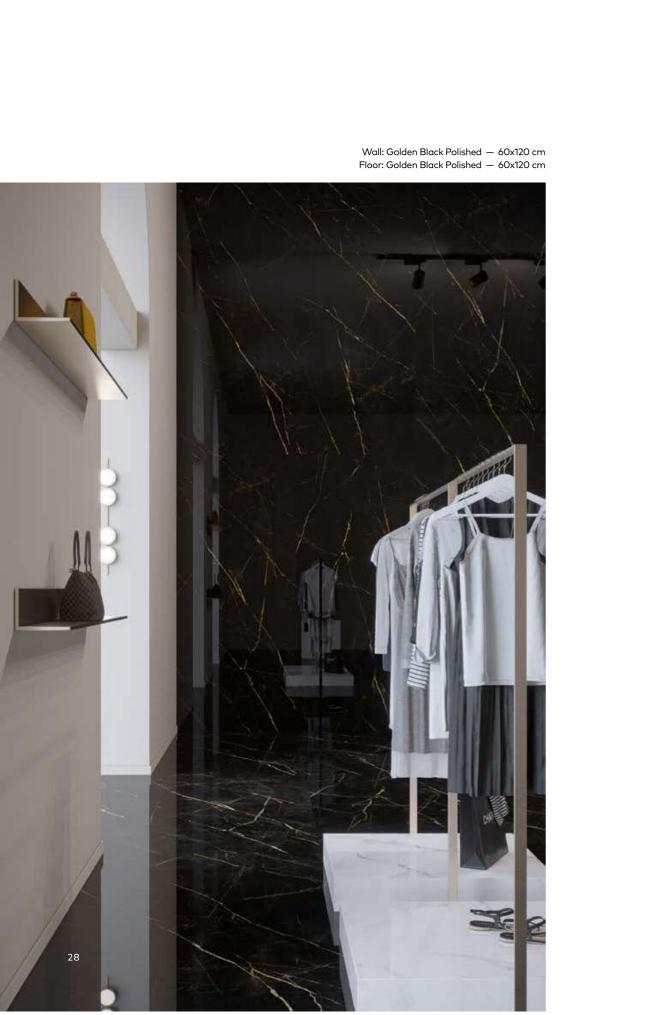




Floor: Golden Black Polished — 60x120 cm





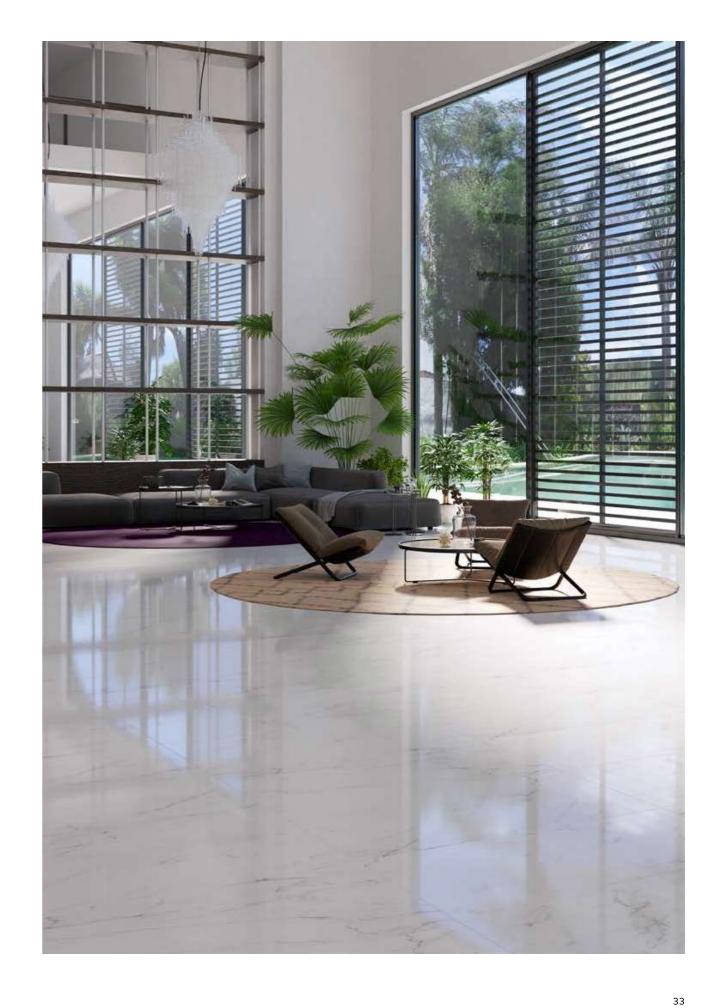








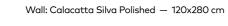
Floor: Calacatta Silva Semipolished - 60x120 cm

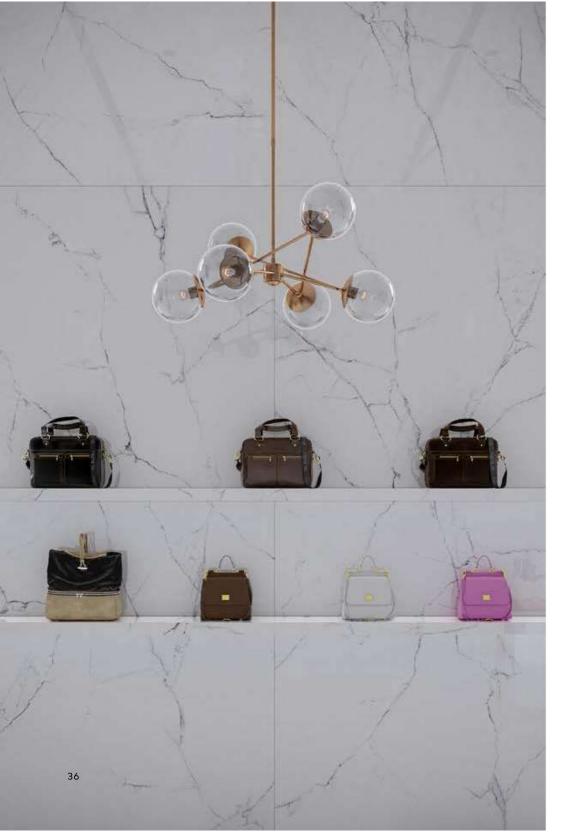






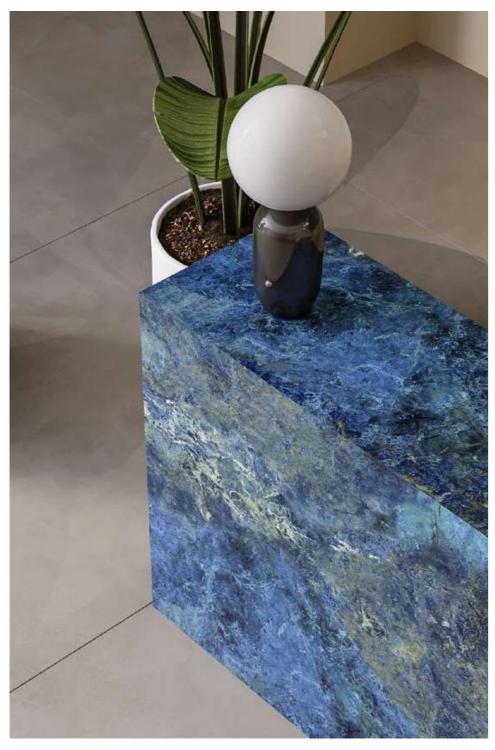
Available other sizes upon demand. For more detail please contact sales department.



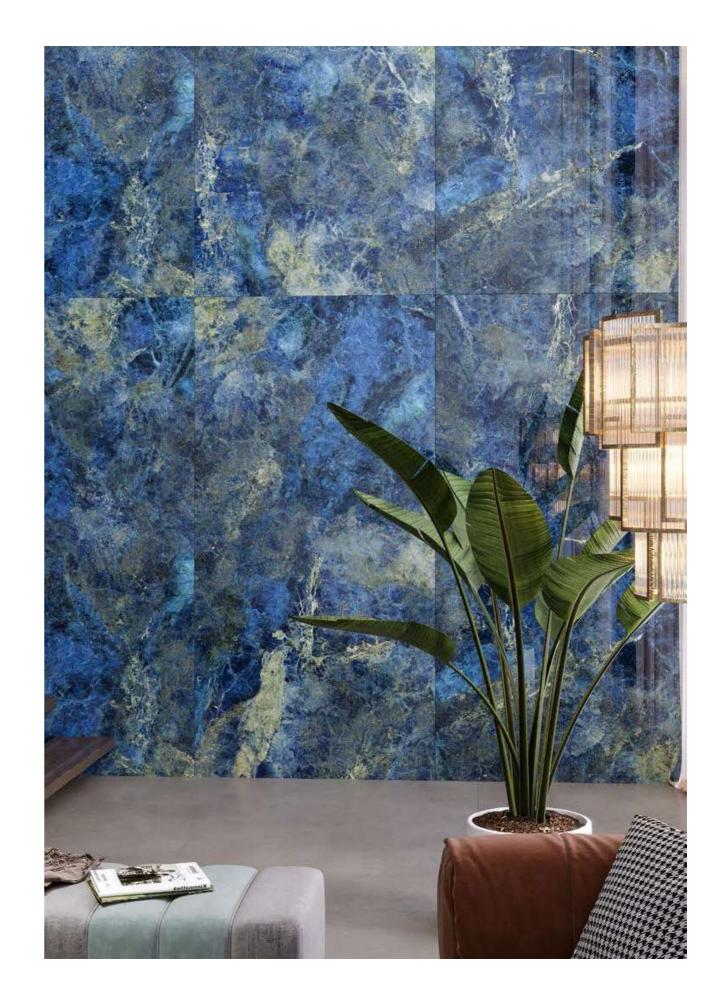








 $\mbox{Wall: Elegant Blue Polished} \ -\ 120 \mbox{x} 280\mbox{ cm}$ $\mbox{Floor: Natural Concrete Light Grey Soft Matte} \ -\ 120 \mbox{x} 280\mbox{ cm}$





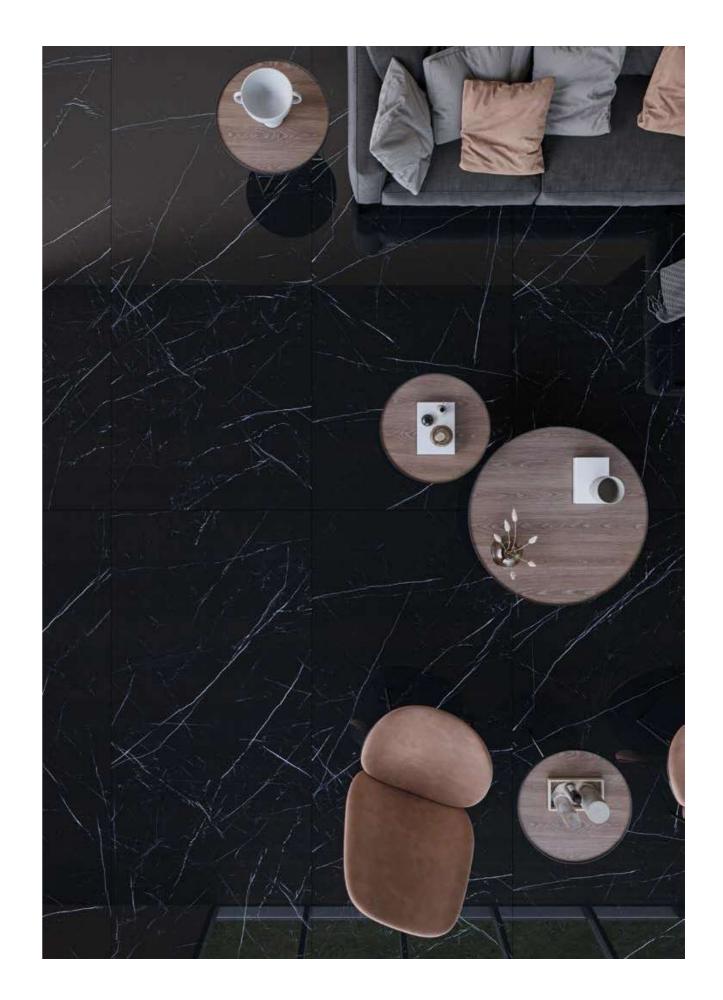
Wall: Elegant Blue Polished — 120x280 cm Floor: Calacatta Silva Natural — 120x280 cm 44

Elegant Blue 120x280 cm FGPB-L5165 Polished | 4 Faces





Floor: Nero Marquina Polished - 60x120 cm

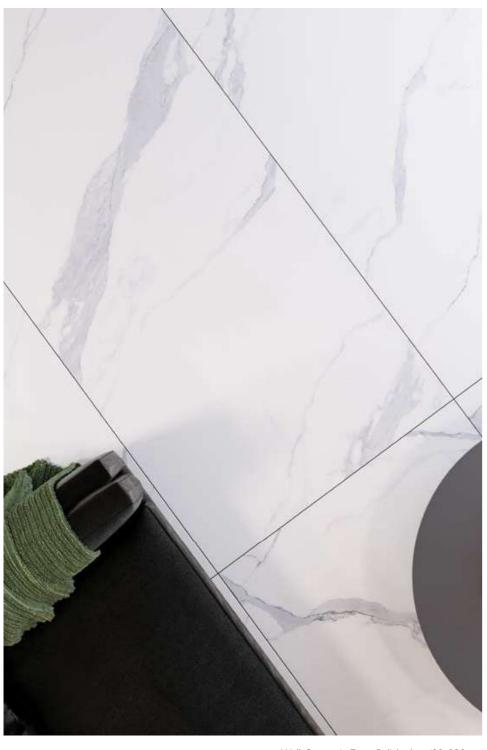




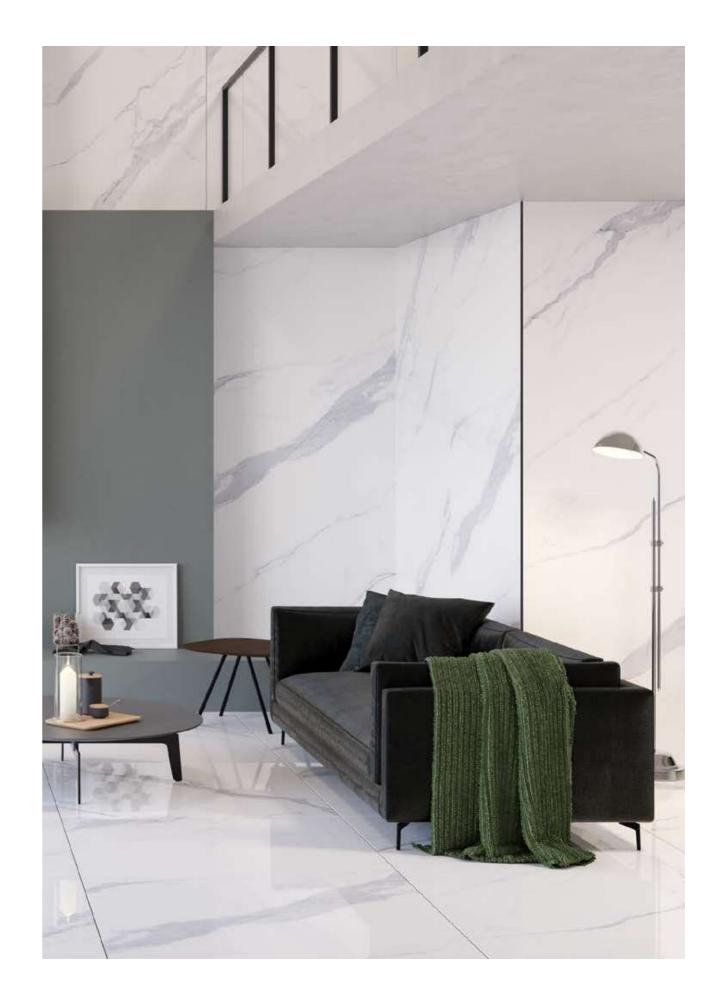
Floor: Nero Marquina Natural — 60x120 cm

Nero Marquina e other sizes upon demand. For more detail please contact sales department. **160x320 cm** FGM-X5030 Natural | 4 Faces 60x120 cm FGPB-R5030 Polished | 9 Faces | 80x160 cm FGPB-C5030 Polished | 7 Faces 120x240 cm FGM-A5030 Natural | 5 Faces 120x280 cm FGM-L5030 Natural | 5 Faces FGPB-L5030 Polished | 5 Faces





 $\mbox{Wall: Statuario Extra Polished} \ -\ 120x280\ \mbox{cm}$ Floor: Statuario Extra Polished Book Match $-\ 120x280\ \mbox{cm}$















Floor: Elegant Grey Natural — 120x280 cm





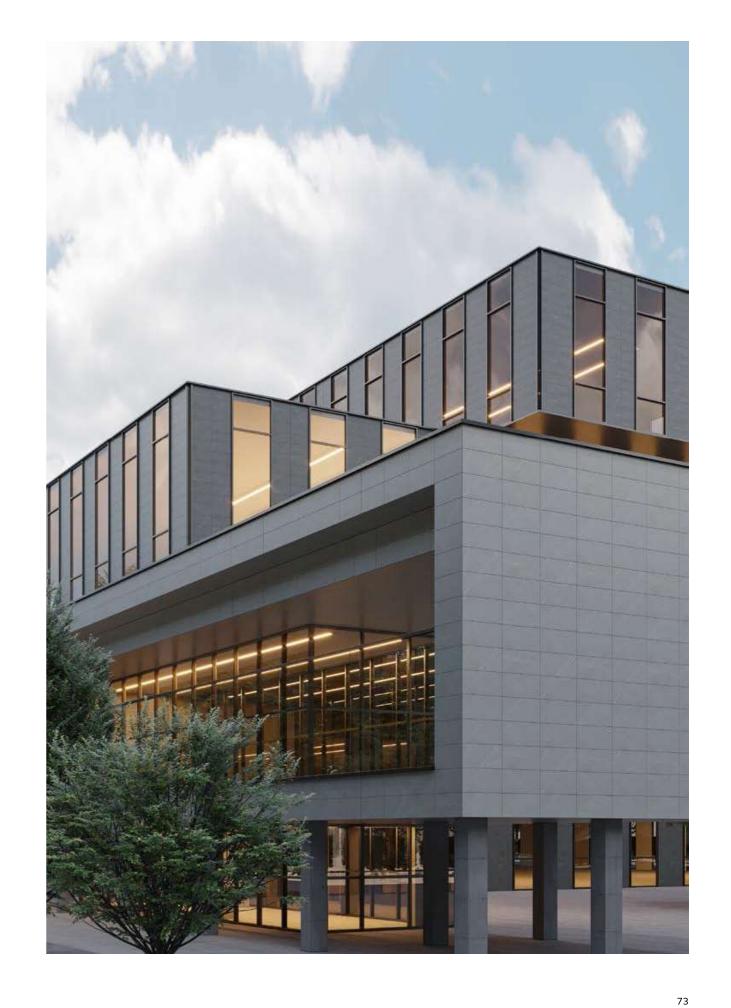
Wall: Elegant Grey Natural — 120x280 cm Floor: Elegant Grey Natural — 120x280 cm





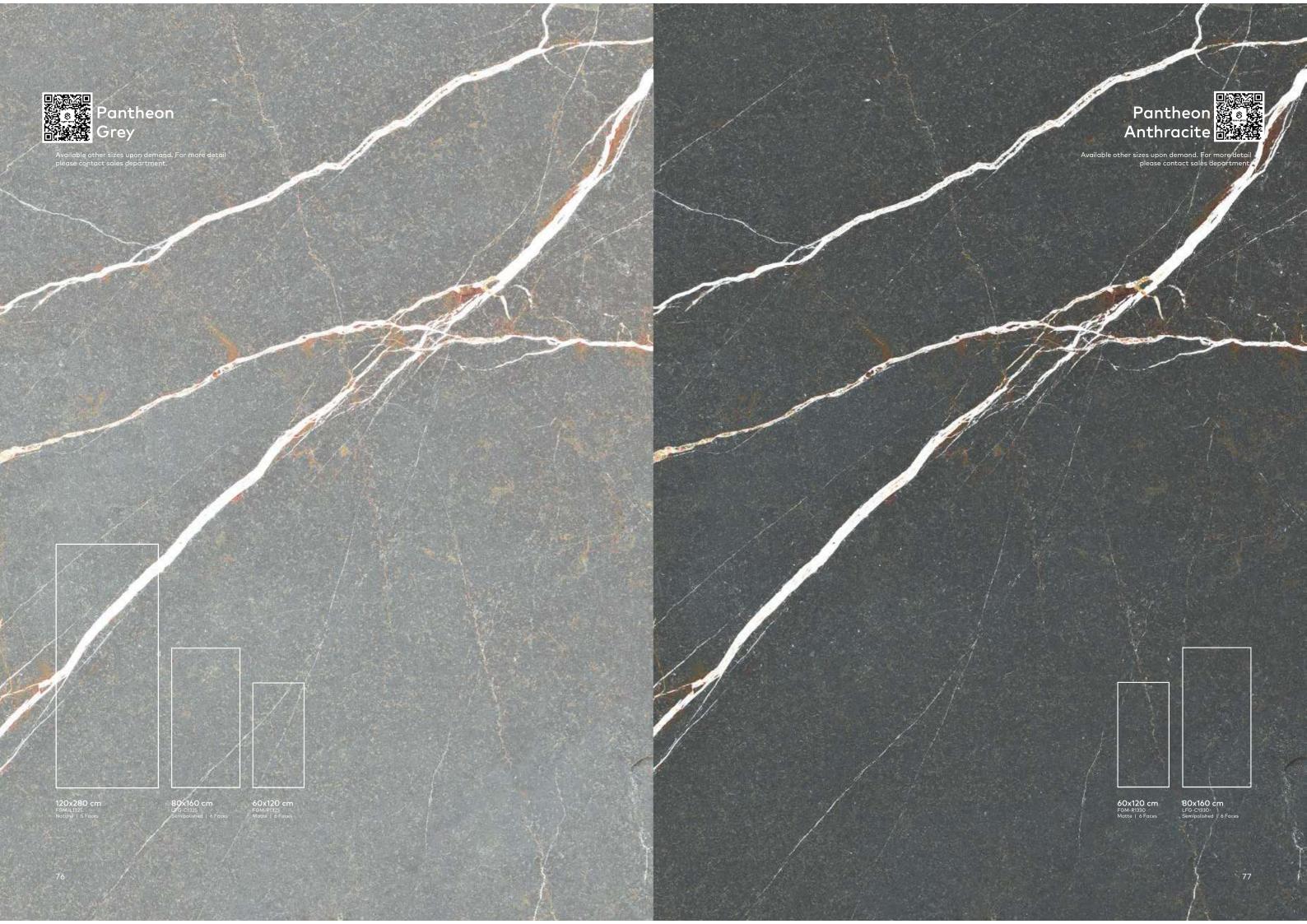


Facade: Pantheon Light Grey Matte -60x120 cm



Floor: Pantheon Light Grey Semipolished — 80x160 cm 74

Pantheon S Light Grey Available other sizes upon demand. For more detail please contact sales department. 100x100 cm FGM-W1320 Matte | 11 Faces 75



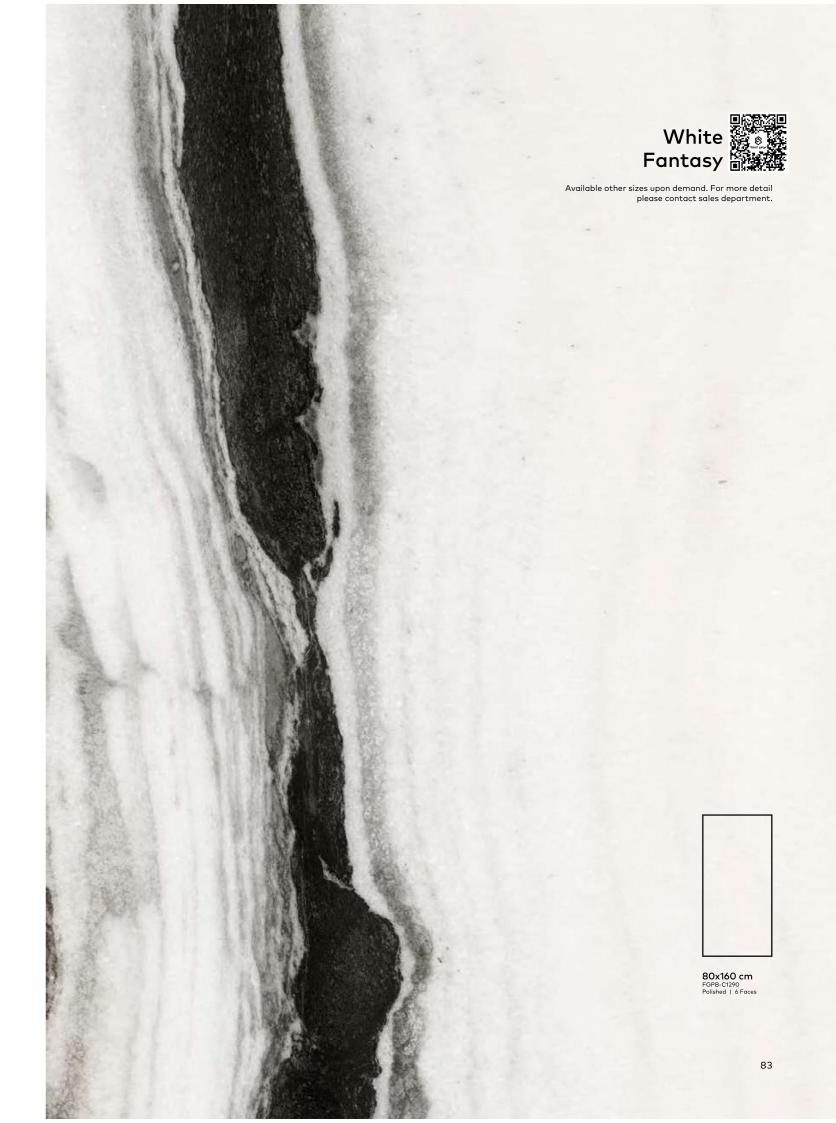




Wall: White Fantasy Polished — 80x160 cm Floor: White Fantasy Polished — 80x160 cm





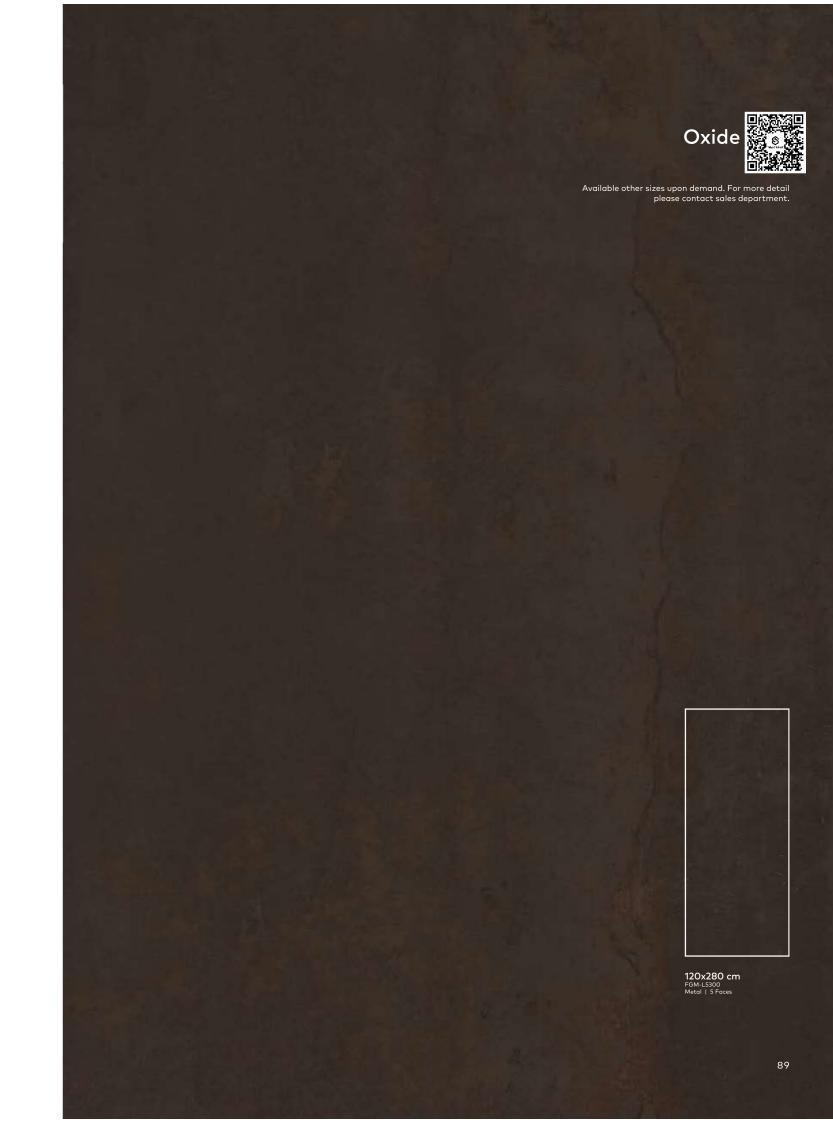






Wall: Oxide Metal — 120x280 cm













Wall: Native Black Relief — 120x280 cm





Native Section White Available other sizes upon demand. For more detail please contact sales department. 60x120 cm FGM-R1450 Relief | 10 Faces 95



Native s

Available other sizes upon demand. For more detail please contact sales department.

60x120 cm FGM-R1460 Relief | 10 Faces



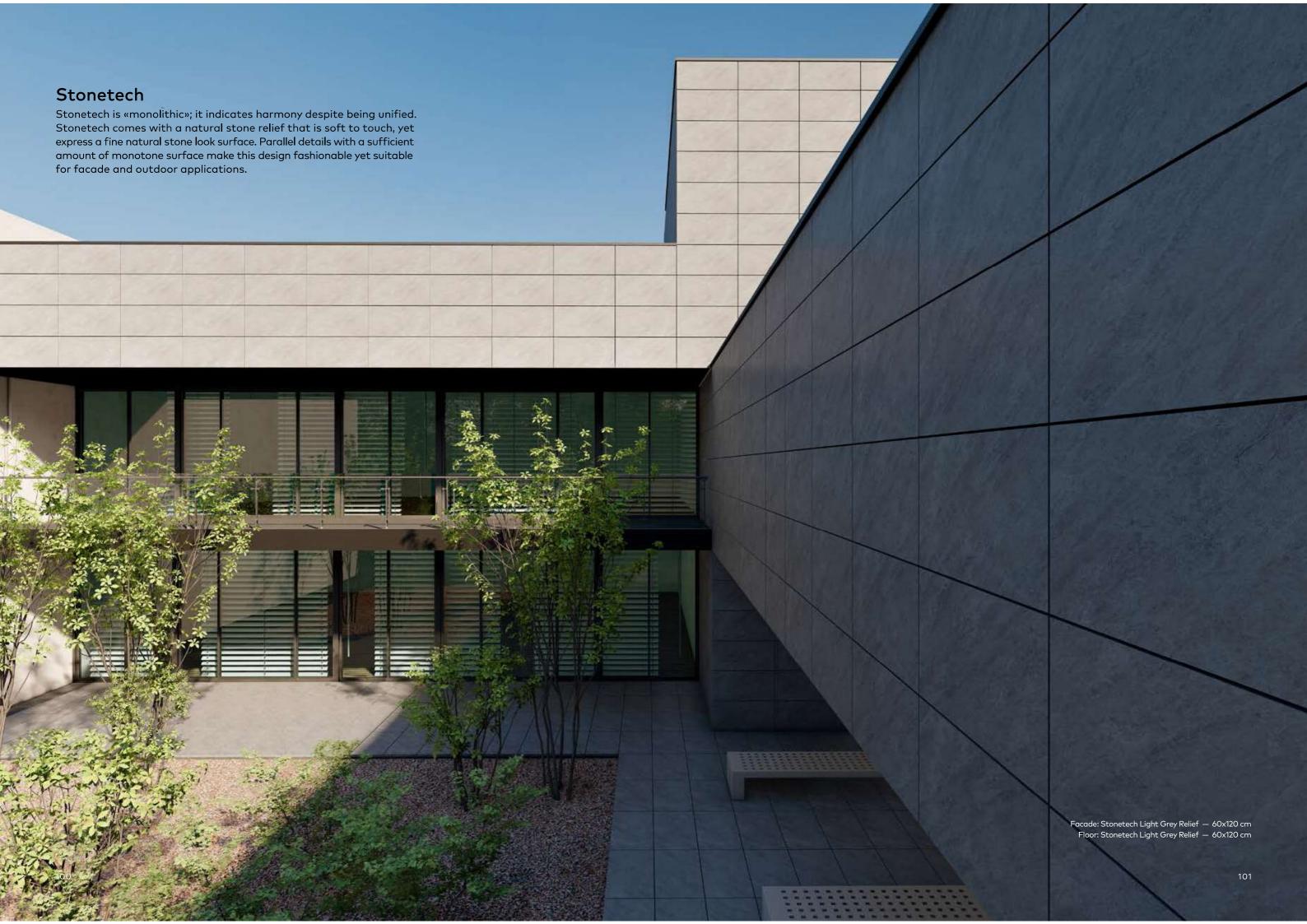
Native 6

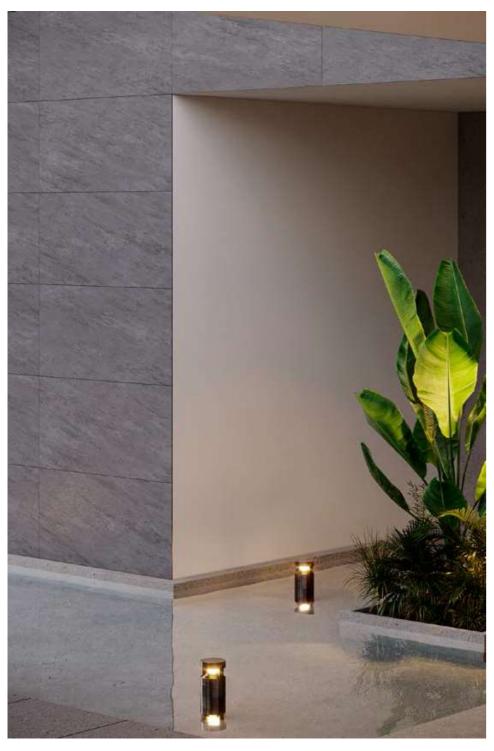
Available other sizes upon demand. For more detail please contact sales department.



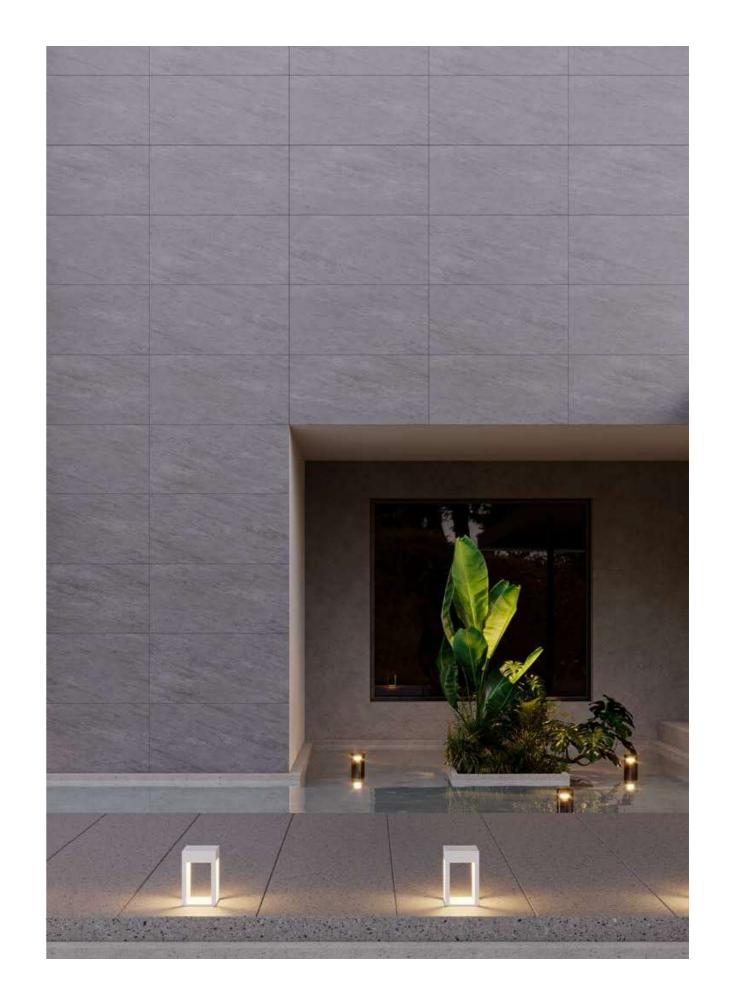
60x120 cm FGM-R1465 Relief | 10 Faces

60x120 cm FGM-R1470 Relief | 10 Faces | 120x280 cm FGM-L1470 Relief | 5 Faces





Facade: Stonetech Grey Relief -60x120 cm











Stonetech Stonet

Available other sizes upon demand. For more detail please contact sales department.

60x120 cm 80x160 cm FGM-R1160 FGM-C1160 Relief | 5 Faces Relief | 5 Faces

106

60x120 cm FGM-R1175 Relief | 5 Faces









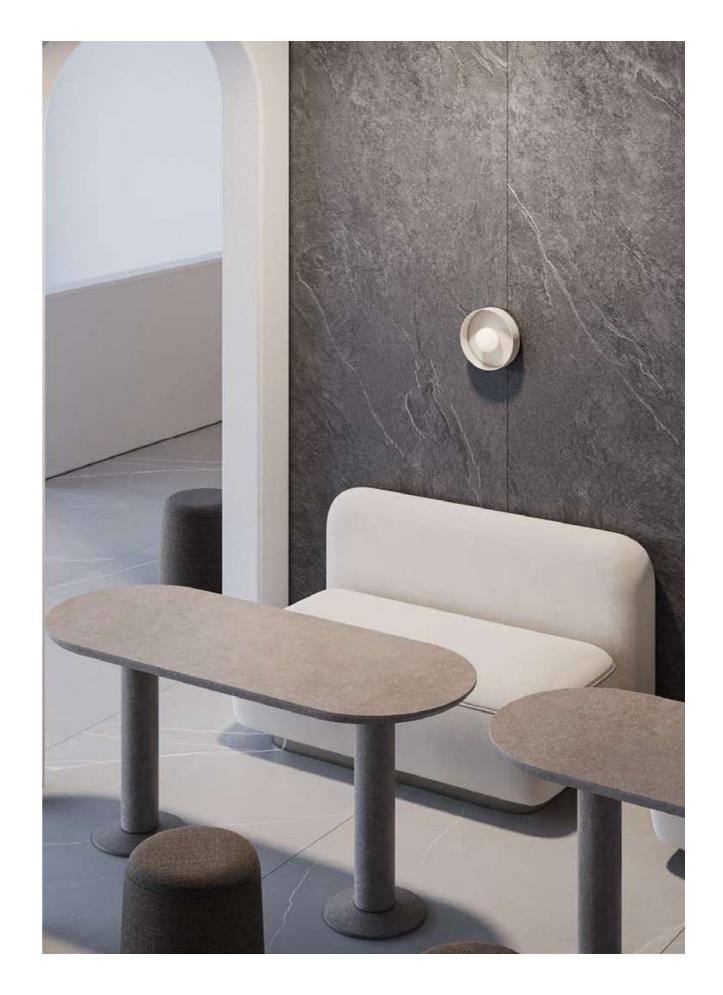


60x120 cm 80x160 cm FGM-R1170 FGM-C1170 Relief | 5 Faces Relief | 5 Faces





Wall: Riven Slate Light Grey Relief — 120x280 cm Floor: Pantheon Marble Grey Natural — 120x280 cm







Riven Slate & S. Grey

Available other sizes upon demand. For more deta

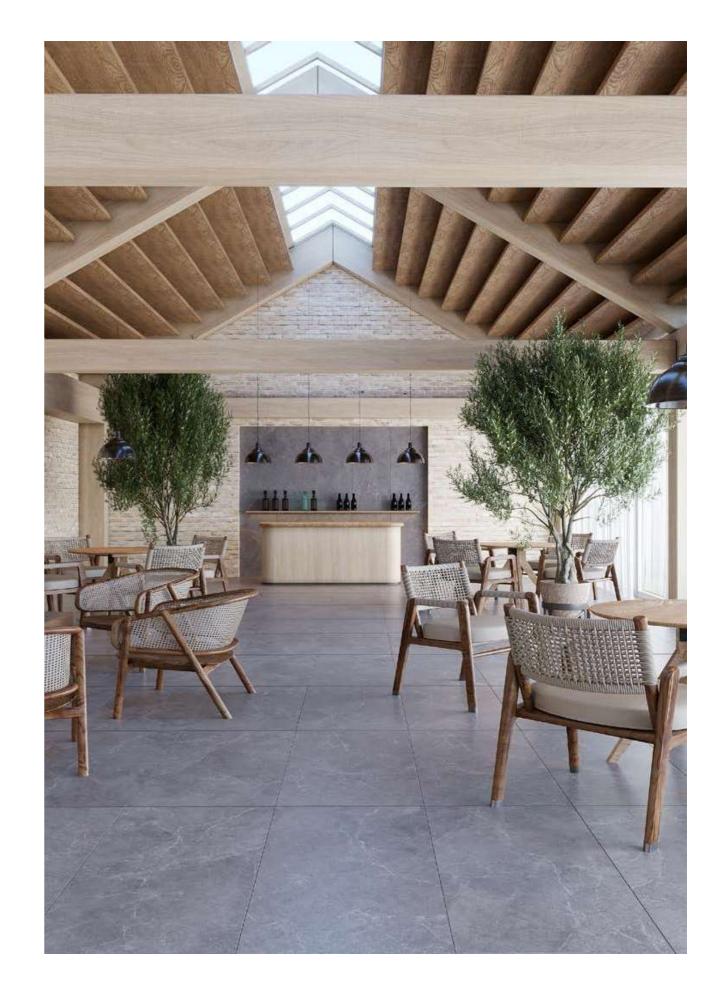


120×280 cm FGM-L5310 Relief | 5 Faces 120x280 cn

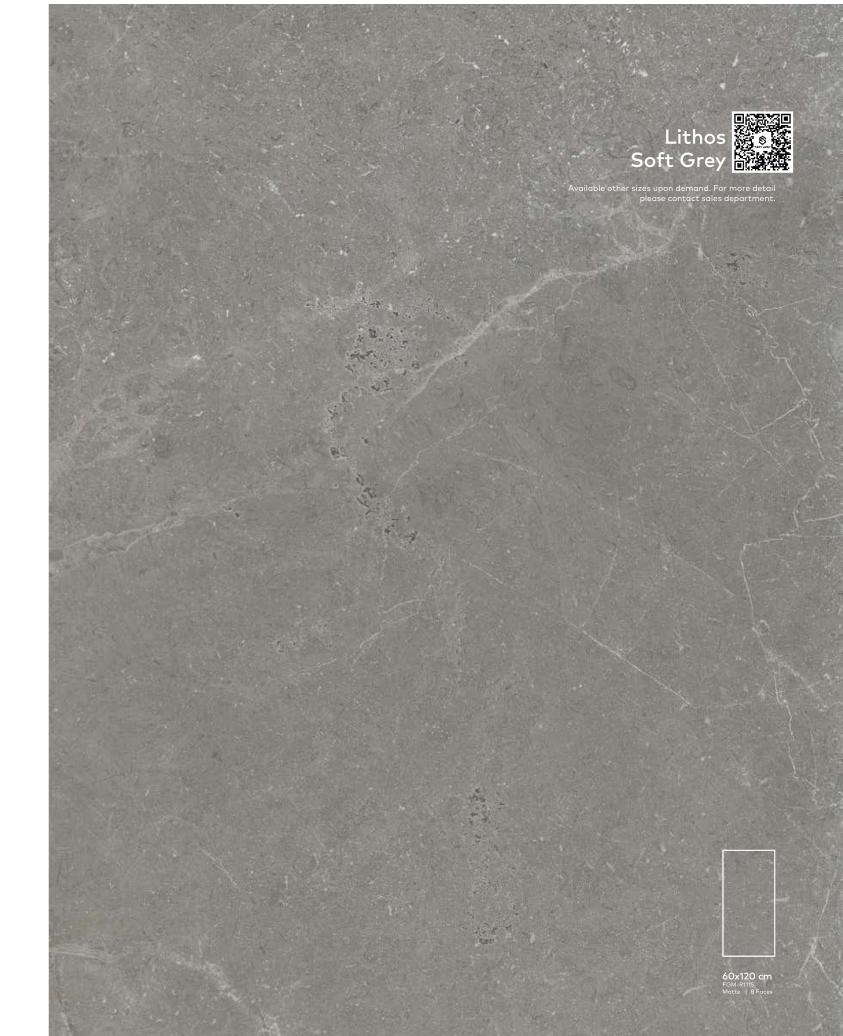




Floor: Lithos Grey Matte — 60x120 cm Wall: Lithos Grey Matte — 60x120 cm









Lithos s

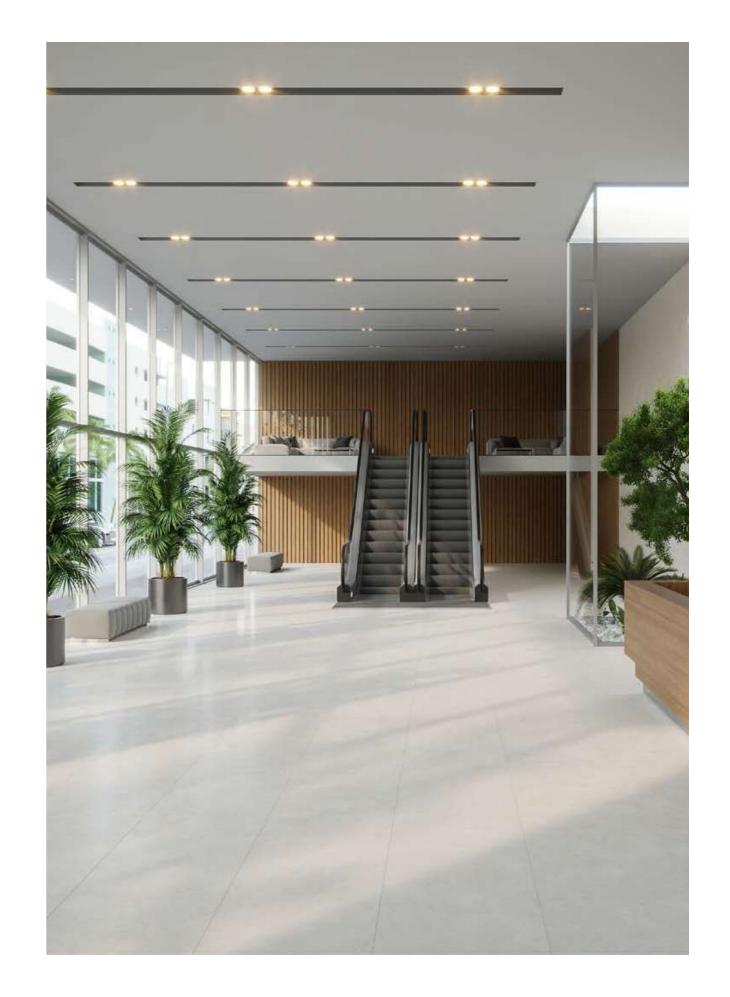
Available other sizes upon demand. For more detail please contact sales department.

60x120 cm FGM-R1120 Matte | 8 Faces 60x120 cm FGM-R1125 Matte | 8 Faces

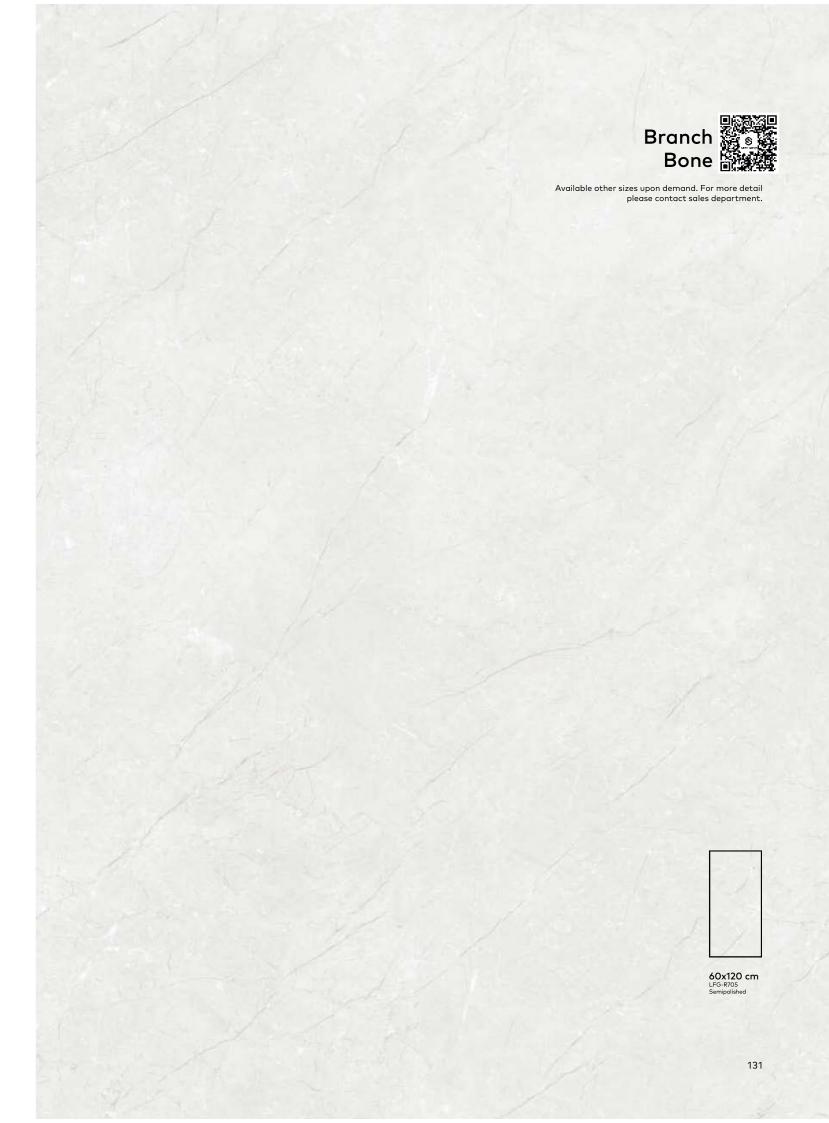




Wall: Branch Bone Semipolished $-60x120 \mathrm{\ cm}$ Floor: Branch Bone Semipolished $-60x120 \mathrm{\ cm}$











Floor: Contemporary Dark Grey Matte — 60x120 cm





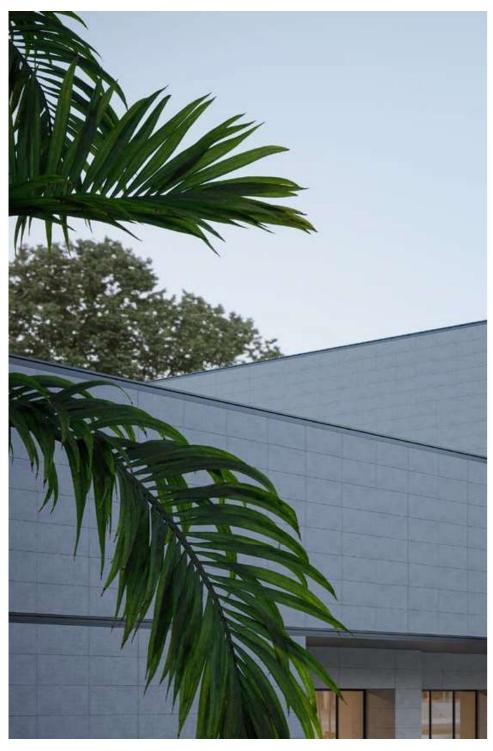
Contemporary Dark Grey Available other sizes upon demand. For more detail please contact sales department.

60x120 cm FGM-R1380 Matte | 10 Faces

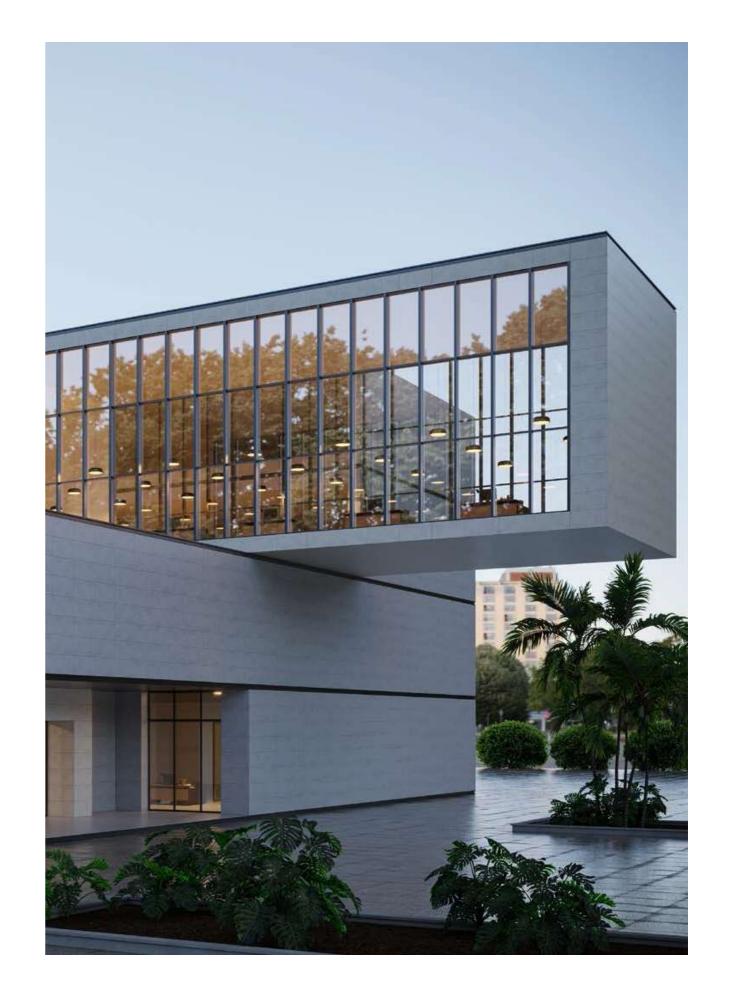
136

60x120 cm FGM-R1370 Matte | 10 Faces

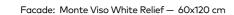




Facade: Monte Viso White Relief $-60x120 \ \mathrm{cm}$









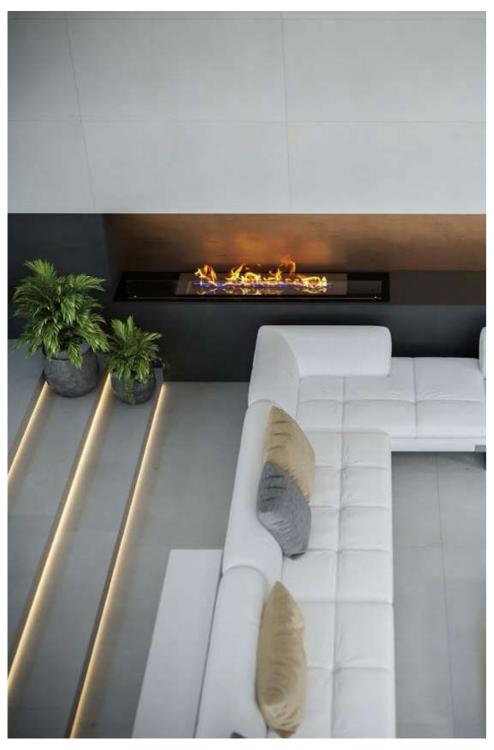
60x120 cm FGM-R220 Relief



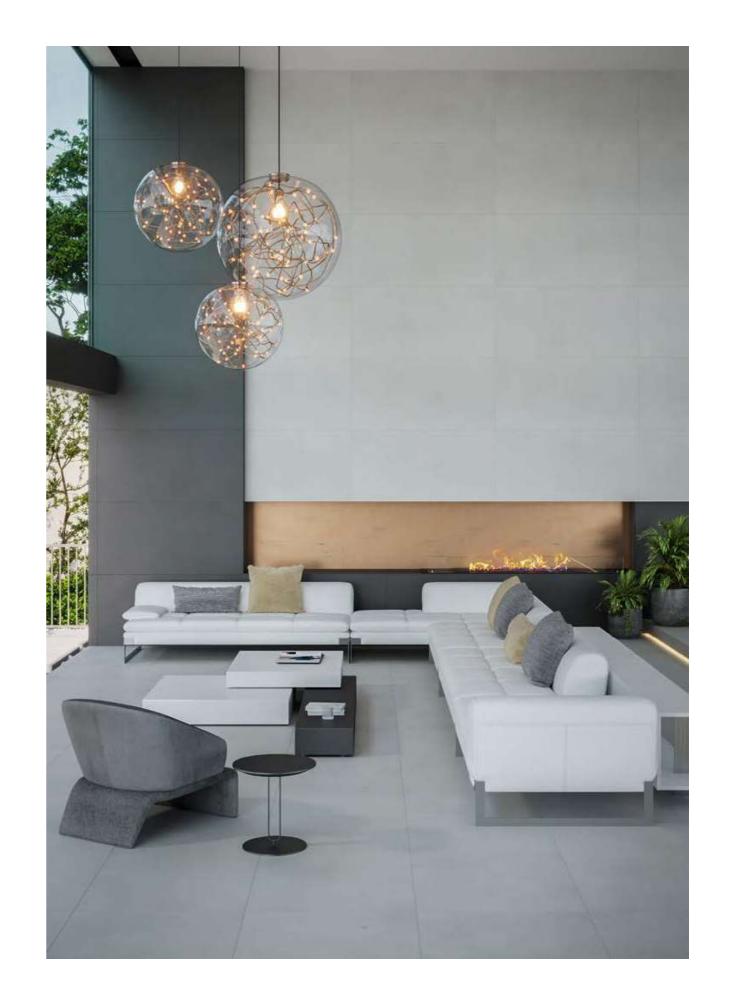


Pietra & & ...
Grey 60x120 cm FGPB-R1005 Polished | 4 Faces





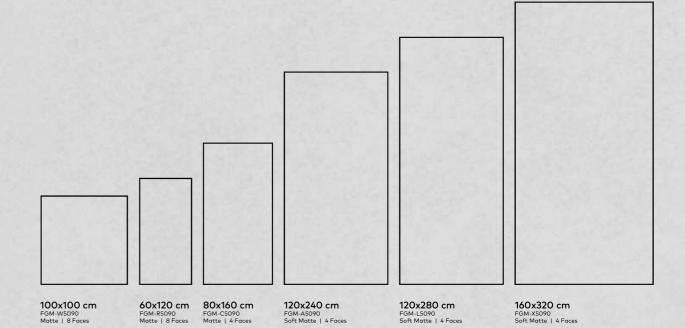
Wall: Natural Concrete Ash & Dark Matte — 80x160 cm Floor: Natural Concrete Light Grey Matte — 80x160 cm

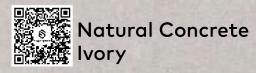










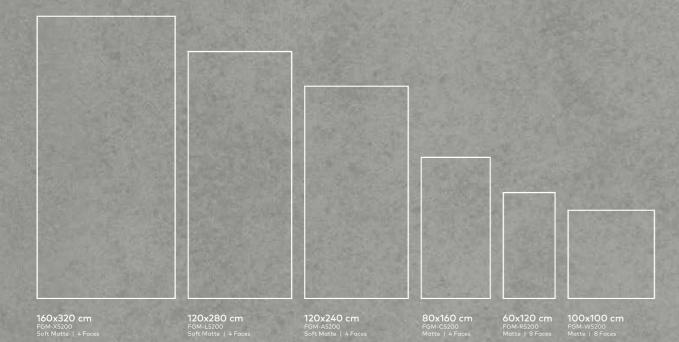


60x120 cm FGM-R5260 Matte | 8 Faces Natural Concrete Cream

Available other sizes upon demand. For more detail please contact sales department.

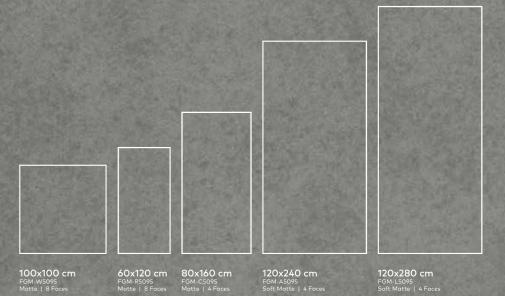
60x120 cm FGM-R5255 Matte | 8 Faces





Natural Concrete Section 6

Available other sizes upon demand. For more detail



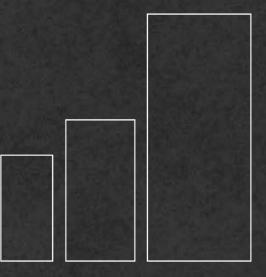


120x280 cm FGM-L5100 Soft Matte | 4 Faces

60x120 cm FGM-R5100 Matte | 8 Faces

Natural Concrete Anthracite

Available other sizes upon demand. For more detail please contact sales department.



60x120 cm 80x160 cm FGM-R5250 FGM-C5250 Matte | 8 Faces Matte | 9 Faces

120x280 cm FGM-L5250 Soft Matte | 4 Faces





Wall: Beton Art Grey Matte $-60x120 \ cm$ Floor: Beton Art Smoke Matte $-60x120 \ cm$





Beton Art

Available other sizes upon demand. For more detail

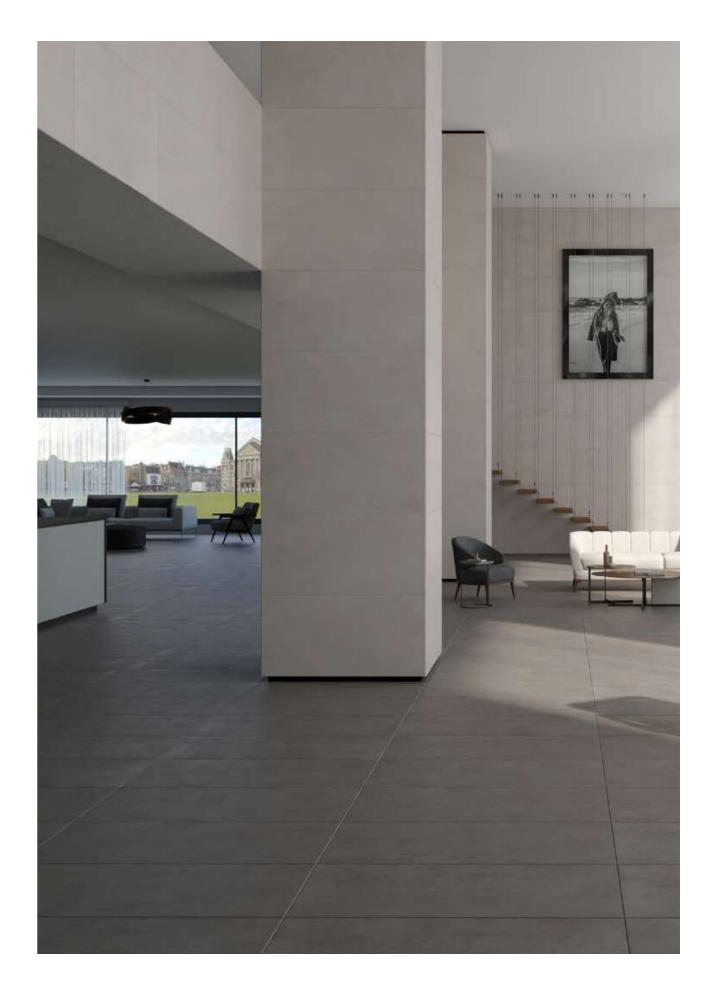
60x120 cm FGM-R780 Matte | 5 Faces

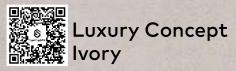
60x120 cm FGM-R785 Matte | 5 Faces





Floor: Luxury Concept Dark Grey Matte — 60x120 cm Wall: Luxury Concept Ivory Matte — 60x120 cm





Luxury Concept Section 1985

Available other sizes upon demand. For more detail

60x120 cm FGM-R440 Matte | 5 Faces

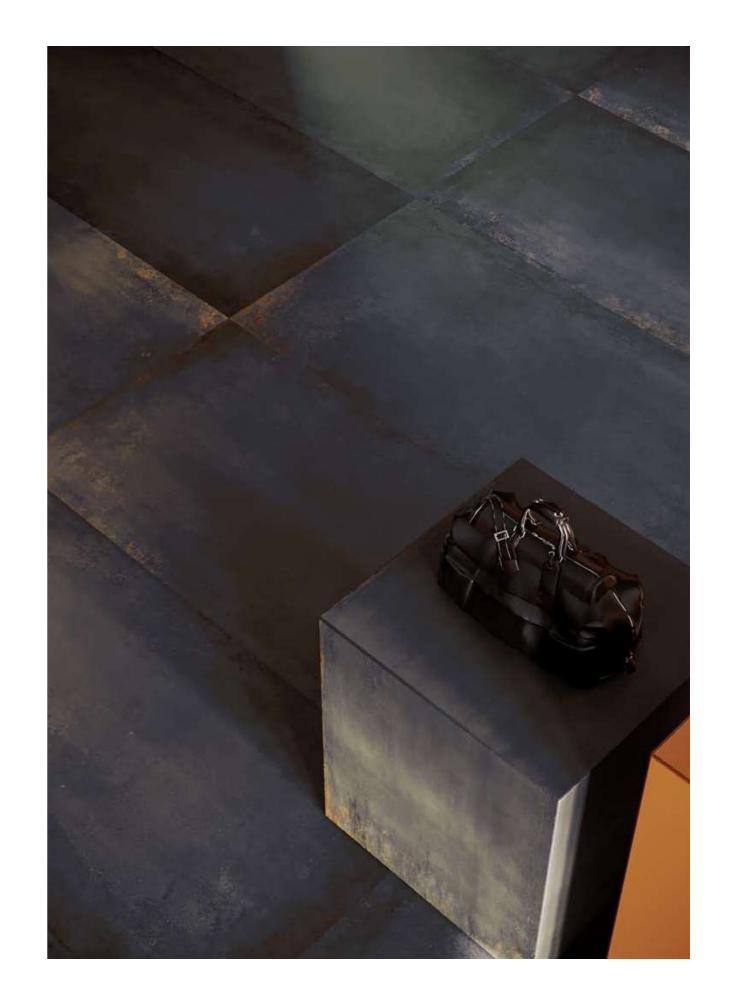
170

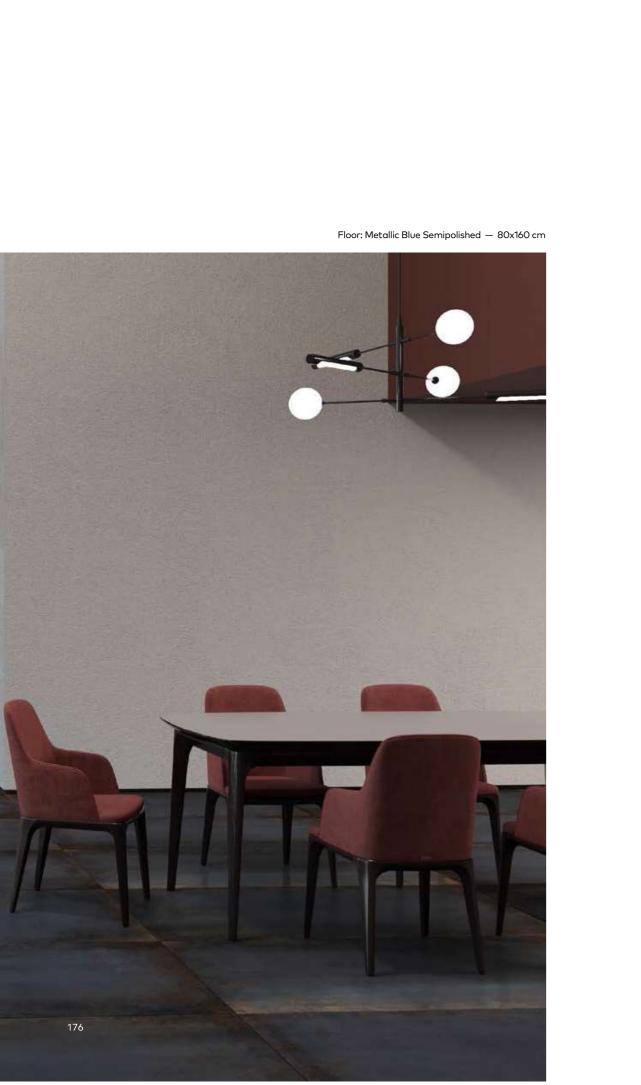
60x120 cm FGM-R445 Matte





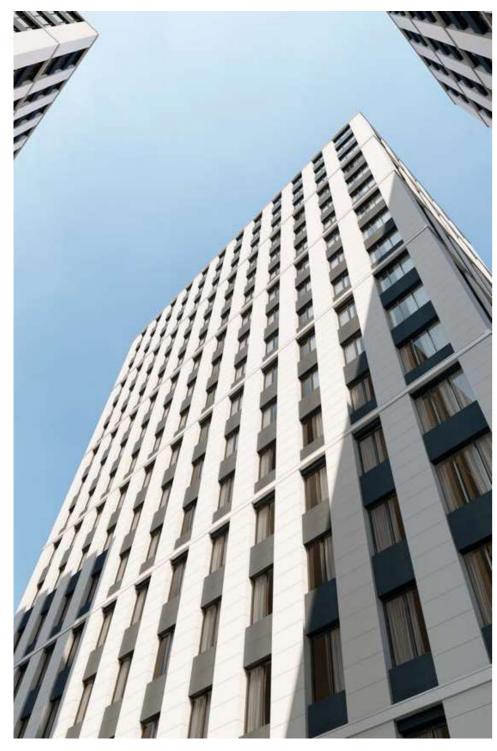
Wall: Metallic Blue Semipolished — 80x160 cm Floor: Metallic Blue Semipolished — 80x160 cm



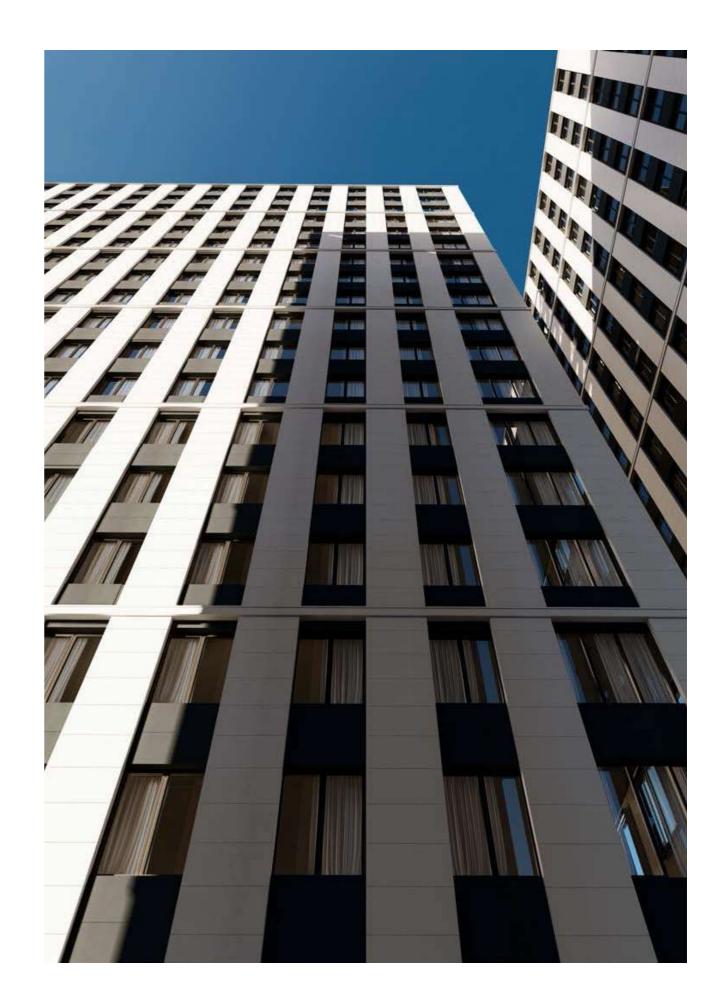


Available other sizes upon demand. For more detail please contact sales department. 80x160 cm LFG-C1350 Semipolished | 5 Faces





Facade: Monocolor White Matte - 60x120 cm





60x120 cm GM-R9305 Matte

Available other sizes upon demand. For more detail please contact sales department.



Available other sizes upon demand. For more detail please contact sales department.

60x120 cm GM-R9380 Matte



60x120 cm GM-R9385 Matte

Available other sizes upon demand. For more detail please contact sales department.



Available other sizes upon demand. For more detail please contact sales department.

(0.422

60x120 cm GM-R9388 Matte

185





Floor: Maxiwood Venge Relief — 20x120 cm









Available other sizes upon demand. For more detail

20x120 cm FGM-B810 Relief | 12 Faces



Maxiwood (1) (8) (8) (8) (8) (8)

Available other sizes upon demand. For more detail please contact sales department.

20x120 cm B820 Relief | 12 Faces 20x120 cm FGM-B825 Relief | 12 Faces



Available other sizes upon demand. For more detail

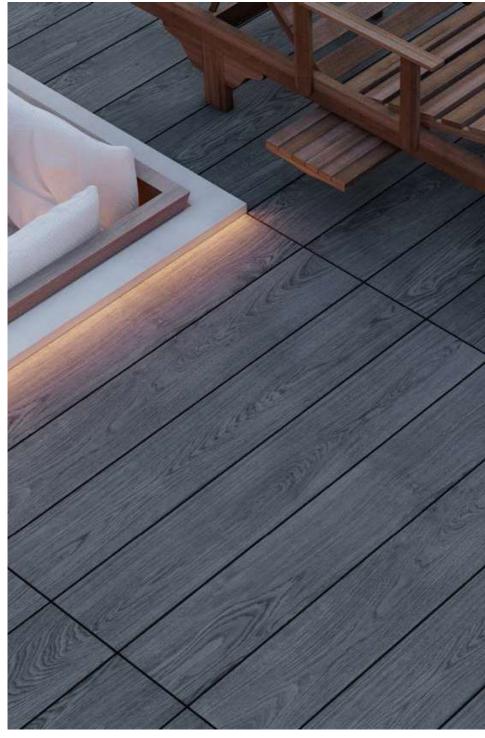
Maxiwood 6 6 5 Platinum

Available other sizes upon demand. For more detail

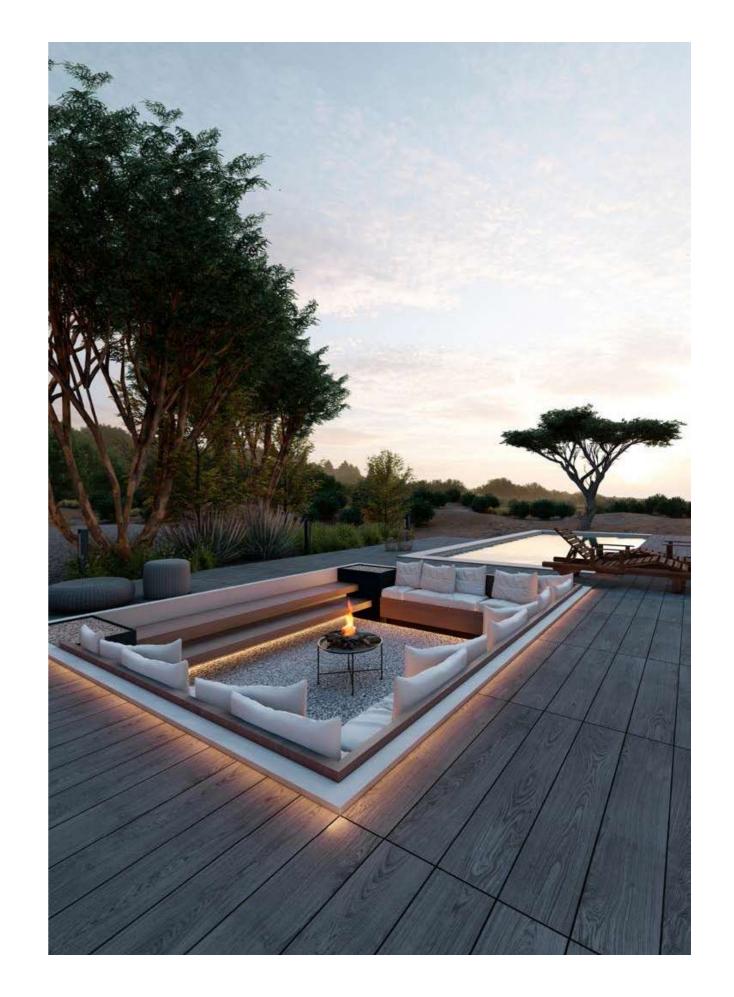
20x120 cm FGM-B835 Relief | 12 Faces

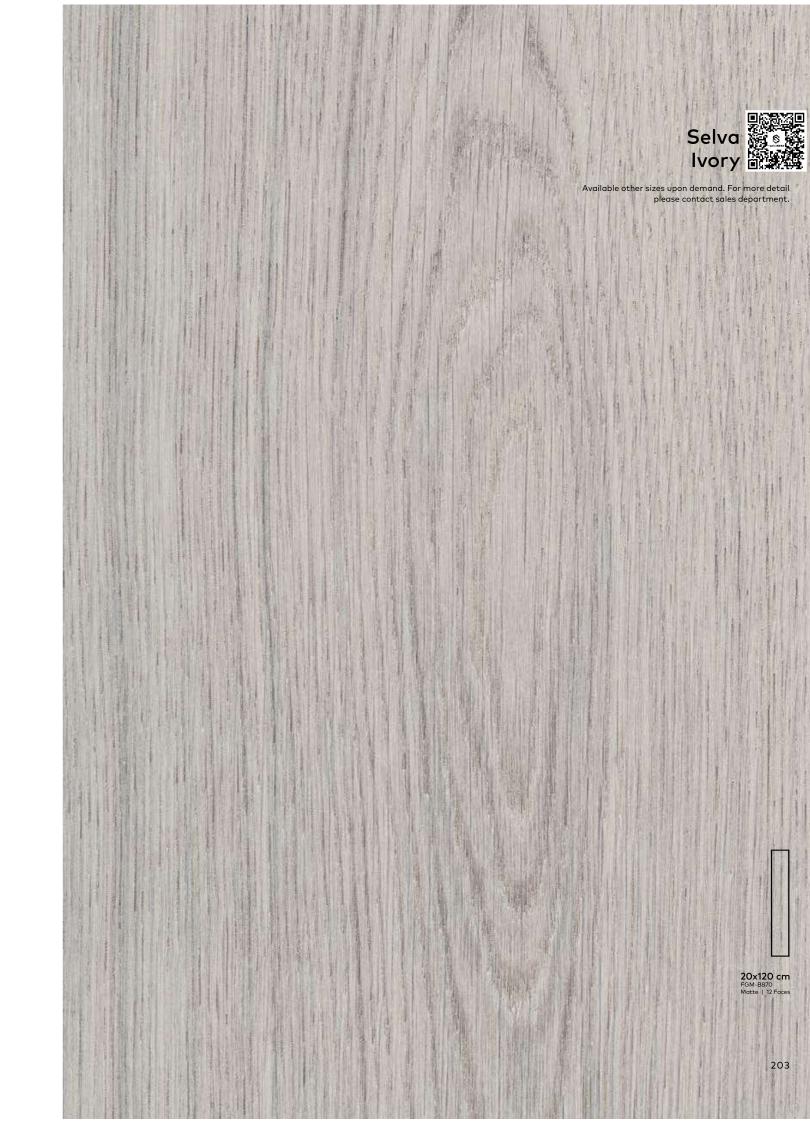
FGM-B830 Relief | 12 Faces



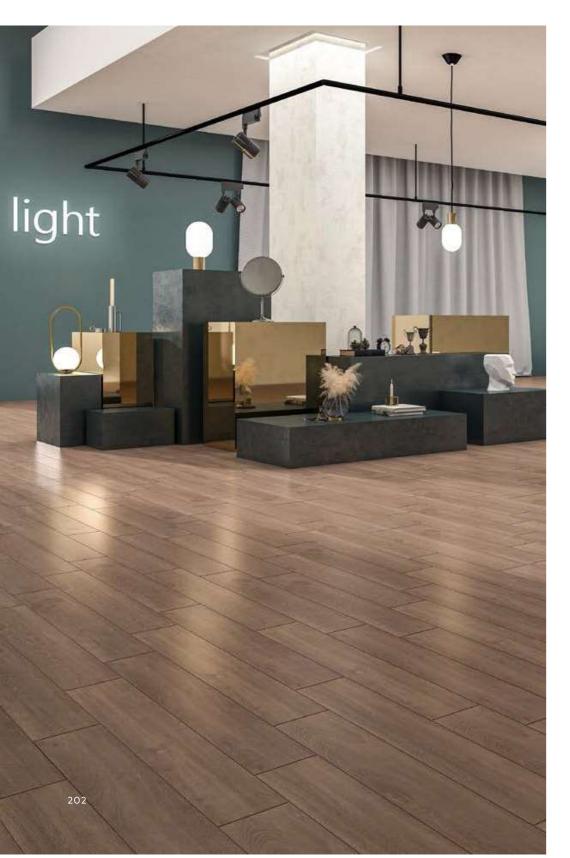


Floor: Selva Silver Matte — 20x120 cm













Available other sizes upon demand. For more detail please contact sales department.

20x120 cm FGM-B865 Matte | 12 Faces

20x120 cm FGM-B885 Matte | 12 Faces

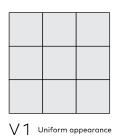
TECHNICAL INFORMATION

SYMBOLOGY

Chemical resistance Frost resistance Stain resistance Deep abrasion resistance

Thermal shock $\frac{\downarrow}{\uparrow\uparrow}$ Breaking strength \bigcirc Low water absorption

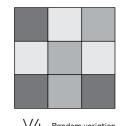
SHADE VARIATION











OUR PORCELAIN TILE TECHNICAL CHARACTERISTICS

EUROPEAN STANDARD EN 14411

CHARACTERISTICS	Annex G	Group Bla	Tank Martin at	Test Result	
CHARACTERISTICS	Requirments for r	normal size n>15cm	Test Method	rest Result	
DIMENSIONS AND SURFACE QUALITY					
Length and width (cm)	±0.6%	max ±2 mm	EN ISO 10545-2	Affirmative	
Thickness	±5%	max ±0.5 mm	EN ISO 10545-2	Affirmative	
Rectangularity	±0.5%	max ±2 mm	EN ISO 10545-2	Affirmative	
Straightness of sides	±0.5%	max ±1.5 mm	EN ISO 10545-2	Affirmative	
Length and width (cm)	N>15 cm ±0.6%	max ±2 mm	EN ISO 10545-2	Affirmative	
Thickness	±5%	max ±0.5 mm	EN ISO 10545-2	Affirmative	
Rectangularity	±0.5%	max ±2 mm	EN ISO 10545-2	Affirmative	
Straightness of sides	±0.5%	max ±1.5 mm	EN ISO 10545-2	Affirmative	
Surface flatness	±0.5%	max ±2 mm	EN ISO 10545-2	Affirmative	
SURFACE FLATNESS					
a) Center curvature, related to diagonal calculated from the work sizes	±0.5%	max ±2 mm	EN ISO 10545-2	Affirmative	
b) Edge curvature, related to the corresponding work size	±0.5%	max ±2 mm	EN ISO 10545-2	Affirmative	
c) Warpage, related to diagonal calculated from the work size	±0.5%	max ±2 mm	EN ISO 10545-2	Affirmative	
PHYSICAL PROPERTIES					
Water absorption (in % by mass)	E _b < 0.5% Indi	ividual Maximum 0.6%	EN ISO 10545-3	Affirmative	
BREAKING STRENGTH (N) for Thickness ≥ 7.5mm	Not Less Than 1300	N		Affirmative	
Flexural tensile strength or Modulus of rupture (N/mm²)	Minimum 35 N/mm² Individual Minimum 3	Minimum 35 N/mm² ndividual Minimum 32 N/mm²		Affirmative	
Impact resistance, as: Coefficient of restitution (COR)	Declared Value		EN ISO 10545-5	Affirmative	
Resistance to deep abrasion of unglazed tiles: Removed value (mm³)	Maximum 175 mm³	Maximum 175 mm³		Affirmative	
Resistance to surface abrasion of glazed tiles intended for use on floors	Abrasion class and c	ycles passed	EN ISO 10545-7	Affirmative	
Coefficient of linear thermal expansion	Declared Value		EN ISO 10545-8	Affirmative	
Resistance to thermal shock	Pass according to EN	N ISO 10545-1	EN ISO 10545-9	Affirmative	
-rost resistance	Pass according to EN	N ISO 10545-1	EN ISO 10545-12	Affirmative	
Water absorption (in % by mass)	E, ≤0.5% Indi	ividual maximum 0.6%	EN ISO 10545-3	Affirmative	
Breaking strength for thickness 7.5mm and more	Not less than 1300 N	1		Affirmative	
Flexural tensile strength or Modulus of rupture (N/mm²)	Minimum 35 N/mm² Individual minimum 3		EN ISO 10545-4	Affirmative	
Resistance to deep abrasion of unglazed tiles: Removed Volume	Maximum 175 mm³		EN ISO 10545-6	Affirmative	
Coefficient of linear thermal expansion	Declared value		EN ISO 10545-8	Affirmative	
Resistance to thermal shock	Pass according to EN	N ISO 10545-1	EN ISO 10545-9	Affirmative	
Frost Resistance	Pass according to EN	N ISO 10545-1	EN ISO 10545-12	Affirmative	
CHEMICAL PROPERTIES					
Resistance to the low concentration of acids & alkanes	Declared Value			Affirmative	
Resistance to the high concentration of acids & alkanes	Declared Value		EN ISO 10545-13	Affirmative	
Resistance to household chemicals & swimming pool salts	Minimum Class B			Affirmative Affirmative	
Resistance to staining (unglazed tiles)	Declared Value		EN ISO 10545-14	Affirmative	
Resistance to staining (Unglazed tiles)	Declared value		EN ISO 10545-14	Affirmative	
Resistance to the low concentration of acids & alkalis	Declared value		LN 150 10545-14	Affirmative	
resistance to the low concentration of acids & d[Ka]IS	Declared value		EN ICO 105/5 12		
Pesistance to the high concentration of golds & alleglis	Doclared value				
Resistance to the high concentration of acids & alkalis Resistance to household chemicals & swimming	Declared value Minimum class B		EN ISO 10545-13	Affirmative Affirmative	

TECHNICAL CHARACTERISTICS

WATER ABSORPTION

ISO 10545-3

The water absorption of the slabs is minimized thanks to production and quality control standards of an extremely high level, which guarantees compactness and a reduced level of porosity. The value given in the tables of technical characteristics refers to the percentage of water absorbed with respect to the mass.

BENDING RESISTANCE

ISO 10545-4

The value expressed allows an analysis of the ability of the slabs to withstand static and dynamic stress in the test conditions.

ABRASION RESISTANCE

ISO 10545-6

The test is performed on unglazed (UGL) surfaces in order to determine the quantity of material that is removed following the action of an abrasive disc (150 revs).TACT SPOT slabs prove to be more resistant the less material is removed by the disc.

FROST RESISTANCE

ISO 10545-12

Outdoor applications are particularly prone to deterioration due to frost, because in the event that any water absorbed turns into ice, this can lead to the tile breaking. TACT SPOT slabs are not damaged by frost in any way thanks to their compactness and low porosity.

RESISTANCE TO CHEMICAL AGGRESSION

ISO 10545-13

The laboratory analysis is able to determine the resistance of glazed (GL) and unglazed (UGL) surfaces to chemical aggression by using acids and bases with a high concentration in line with the following classification: LA, HA, A: no visible effect.

SLIPPERINESS

DIN 51130-1

In this test, a person is asked to stand on a flat surface covered with tiles and sprinkled with oil. This surface is then tilted until the person, wearing specific footwear, starts to slip. The following classification is established by the angle of inclination of the tiled surface at the moment the person starts to slip: up to $<\delta^o$ unclassified

6°≤ to ≤10° R9

STAIN RESISTANCE

ISO 10545-14

Three different elements (oil, iodine solution, and green chrome solution) are applied to and left on the tiles for 24 hours, after which they are then cleaned: > Class E 5

The stain is removed with hot running water for 5 minutes.

Class E 4

The stain is removed using a weak neutral detergent and a non-abrasive sponge.
• Class E 3

The stain is removed using a basic detergent containing an abrasive agent and a rotating brush with hard bristles.

Class E 2

The stain is removed using a suitable solvent, left on the stain for 24 hours.

→ Class E

The stain cannot be removed.

CHARACTERISTICS OF THE TACT SPOT SLABS

The TACT SPOT slabs are produced only with natural, mineral raw materials. Research on the product has made it possible to obtain an effect that is extremely close to the natural material, with the advantage that the typical defects and blemishes in the original product found in nature can be removed using technology.

Basic formats and special trims can be supplied in autonomous shades. Any minor variations in size fall within the standard tolerance values;

Any minor dots add to the natural feel of the material;

• Any second choice or discontinued products are sold on an "as seen" basis and may not be returned:

The use of our slabs with non-rectified edges is allowed only after the de-tensioning of the slab by removing any excess from the outer edges, as per the specifications in the technical manual.

DOCUMENTATION

The engineered surface reserves the right to make changes to the products illustrated in this catalog for production requirements or with the aim of improving the technical/aesthetic quality.

The samples are purely indicative.

The packaging and weight information is shown may vary for production requirements.

To avoid any problems, we recommend contacting the sales department at the time of placing an order.

USE AND MAINTENANCE

SUGGESTIONS FOR CORRECT FITTING AND CLEANING

Although the slabs are mainly intended for furnishing, our slabs may also be fitted in the traditional way as flooring and wall coverings to create spaces with a "total look". The following specifications refer to slabs fitted as flooring and wall coverings. With regard to the gluing of the slabs on furnishing elements, we recommend you consult the our technical manual.

ITTING

When you receive the material ordered and in any case before fitting, it is important to check carefully the characteristics of the material (compliance with size, shade, and quality). No complaints will be accepted for any materials that have already been fitted if the defects were visible prior to fitting. To obtain the best aesthetic results, we recommend mixing the graphics accurately to avoid repeating patterns and to obtain the best possible results in terms of layout and color.

The slabs can be fitted using specific high-performance adhesives for porcelain stoneware, adhesives in category C2 or above. We recommend applying the adhesive on both sides to prevent any breakages of the material once fitted.

Please remember that at the time of fitting, the substrate must be stable, dry, and properly prepared, not frosted, and not too hot and that it is necessary in any case to follow the instructions provided by the manufacturers of the materials for the specific substrates and adhesives used.

Cement-based adhesives must be applied at room temperature, in general between $5^{\rm o}{\rm c}$ and $30/35^{\rm o}{\rm c}.$

It is hereby understood that we recommend observing the technical times indicated by the manufacturers of the adhesives used.

The most suitable adhesives for fitting the our slabs are listed in the European Standard currently in force: EN12004.

When fitting the material, avoid using pencils (graphite) or permanent markers to make marks on the surface, particularly on polished products.

The Our slabs can be shaped and cut using purpose-built diamond discs and equipment for porcelain stoneware.

JOINTS AND GROUTING

We strongly advise against fitting the slabs without joints. We also recommend a minimum joint of 3 mm (this type of fitting allows the grout to have a better grip on the sides of the slabs, greater absorption of any movements of the substrate, and consequently of the slabs themselves).

In large, open spaces it is absolutely essential to position the expansion joints at regular intervals; in smaller rooms, on the other hand, it is sufficient to leave a slight space between the tiled surface and the walls around the room, adding a final touch with a skirting board or with the wall covering.

Please refer in any case to the advice/suggestions of the planner, the works director, or the tile fitter to avoid problems of any sort.

For the best possible results, we suggest using tone-on-tone grouting. It is important to remove any excess grouting immediately and accurately after application while still fresh, using a sponge and plenty of water.

A few days after fitting, once the joints are completely dry, it is essential to thoroughly clean the tiled surface using buffered acids (see the after fitting instructions) in order to completely remove all cement-based residues.

CLEANING "AFTER FITTING"

Properly cleaning the files after they have been fitted is crucial.

If residues of grouting are not properly removed, this may leave marks that are difficult to remove later, due to a film of cement that can absorb any kind of dirt. It is essential to loosen and eliminate these residues completely using buffered acids diluted in water (read the instructions for use on the packages of the products used), soon after fitting, and to thoroughly rinse any residues from the fitted surface in order to prevent any damage to the material.

After this, the floor must then be cleaned using a basic or alkaline detergent.

These must be degreasing because the surface treatment might help to trap dirt.

For Polished slabs with a marble effect, we recommend taking special care when cleaning the surface using buffered acids, as the surface may be damaged if the acid is not removed quickly.

For polished surfaces, the use of non-abrasive cleaning equipment is necessary to prevent the surface from losing its shine or becoming scratched.

ROUTINE CLEANING

For routine cleaning of the porcelain, we strongly advise against the use of waxes, greasy soaps, fillers and various treatments (water repellent) treatments.

In order to prevent any shiny patinas from forming on the slabs, we would like to point out that hydrofluoric acid (HF) and its derivatives cause irrevocable damage to its products.

For routine cleaning operations, we recommend the use of bleach and ammonia, appropriately diluted in water; for the Polished finish, it suggests drying the floor after cleaning to avoid any marks.

EXTRAORDINARY CLEANING

In the case of particularly stubborn stains, we recommend the use of specific detergents, which are indicated in greater detail in the table entitled "cleaning products". Furthermore, it should not be forgotten that it is easier to remove any stain when still fresh.

It is always important to test the detergents on a small area before applying them to the entire surface, particularly on Polished surfaces.

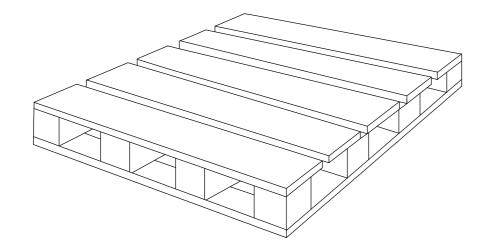
RAISED FLOORINGS

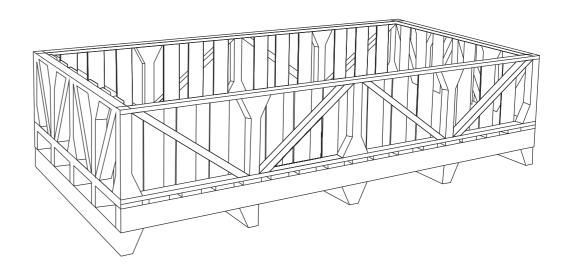
In the case of raised floorings, it is not possible to use a large quantity of water; we, therefore, recommend using a floor cloth that has been properly wrung. Routine cleaning must be carried out using purpose made floor cloths, lukewarm water, and detergent, reducing the amount of water used.

Stains can still be removed using concentrated products directly on the stains.

Size	Thickness	SQM/Box	Pieces/Box	KG/Box (Aprox)	Box/Pallet	KG/Pallet	SQM/Pallet
20x120 cm	11.5 mm	0.96	4	26	84	2021	80.64
60x120 cm Polished	11.5 mm	1.44	2	38.2	60	2292	86.4
60x120 cm Matte	11.5 mm	1.44	2	37.5	60	2250	86.4
100x100 cm	10 mm	2	2	46	42	1930	84

Size	Thickness	SQM/Box	Pieces/Box	KG/Box (Aprox)	Box/Pallet	KG/Pallet	SQM/Pallet
80x160 cm	9 mm	1.28	-	27.6	50	1380	64
120x240 cm	9.5 mm	2.88	-	61.33	36	2650	103.68
120x280 cm	9.5 mm	3.36	-	71.55	36	2910	120.96
160x320 cm	9.5 mm	5.12	-	109	24	3000	122.88







12/10271

CE marking is an administrative marking that indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area.



ISO 9001 is the international standard for quality management system



European standard that defines terms and specifications of ceramic tiles



Seramik Araştırma Merkezi Turkish Ceramic Research Center Standard testing laboratory

(method A) or dry-pressing (method B), and by their water absorption level (see 3.9 and Table 1). The groups do not presuppose the usage of the products. The requirements for each product group shall be as given in Annexes A to L.

Table 1 - Classification of ceramic tiles with respect to water absorption and shaping

		Water Abs	sorption (E _b)	
Shaping	Group I E _b ≤ 3%	Group II _a 3% < E _b ≤ 6%	Group II _b 6% < E _b ≤ 10%	Group III E _b > 10%
Method A Extruded	Group Al E _b ≤ 0.5% (see Annex L)	Group All _{o-1} ^{o)} (see Annex B)	Group All _{b-1} (see Annex D)	Group AIII (see Annex F)
	Group AI _b 0.5% $<$ E _b \le 3% (see Annex A)	Group All _{a-2} ^{a)} (see Annex C)	Group All _{b-2} °) (see Annex E)	Group BIII _b (see Annex K)
Method B Dry-pressed	Group BI E, ≤ 0.5% (see Annex G)	Group BII _a (see Annex I)	Group BII _b (see Annex J)	
	Group BI_b 0.5% < $E_b \le 3\%$ (see Annex H)			

a) Groups All_o and All_o are divided into two parts (parts 1 and 2) with different product specifications. Part 1 covers most of the tiles in the group; part 2 covers certain specific products, which are manufactured under different names (e.g. terre cuite in France and Belgium, cotton in Italy, and baldosin Catalan in Spain).

Table 2 - Characteristic of Ceramic Tiles Required for Different Applications

	CHARACTERISTICS®)	FLOO	RINGS	WA	LLS	TEST METHOD
A)	DIMENSIONS AND SURFACE QUALITY	INTERIOR	EXTERIOR	INTERIOR	EXTERIOR	REFERENCE
A.1	Length and Width (cm)	Х	×	×	×	EN ISO 10545-2
A.2	Thickness	Х	×	×	×	EN ISO 10545-2
A-3	Straightness of Sides (i.e. Facial Sides) ⁽⁵⁾	Х	×	×	×	EN ISO 10545-2
A.4	Rectangularity ^{b)}	Х	×	×	×	EN ISO 10545-2
A.5	Surface Flatness	Х	×	×	×	EN ISO 10545-2
A.6	Surface Quality	X	×	×	×	EN ISO 10545-2
B)	PHYSICAL PROPERTIES	INTERIOR	EXTERIOR	INTERIOR	EXTERIOR	REFERENCE
B.1	Water Absorption	Х	×	×	×	EN ISO 10545-3
B.2	Breaking Strength ^{c)}	Х	X	X	X	EN ISO 10545-4
B.3	Flexural Tensile Strenght ^{d)} or Modules of Rupture ^{d)}	Х	×	×	×	EN ISO 10545-4
В.4 а	Resistance to Deep Abrasion - Unglazed Tiles ^{d)}	Х	×			EN ISO 10545-6
B.4 b	Resistance to Surface Abrasion - Glazed Tiles ^{c)}	×	x			EN ISO 10545-7
B.5	Leaner Thermal Expansion ⁹⁾	Х	×	×	×	EN ISO 10545-8
B.6	Resistance to Thermal Shock ^{r)}	Х	×	×	×	EN ISO 10545-9
B.7	Resistance to Crazing ⁹⁾	Х	×	×	×	EN ISO 10545-11
B.8	Freeze-Thaw Resistance ⁽⁾		×		×	EN ISO 1015-12
В9	Slipperiness ¹⁾	Х	X			FprCEN/TS 16165:2011 [®]
B.10 a	Bond Strength / Adhesion ^{k)} - Cementitious Adhesives			×	×	EN 12004:2007, 4.1
B.10 b	Bond Strength / Adhesion ^{k)} - Dispersion Adhesives			×	×	EN 12004:2007, 4.2
B.10 c	Bond Strength / Adhesion ^{k)} - Reaction Resin Adhesives			×	×	EN 12004:2007, 4.3
B-10 d	Bond Strength / Adhesion ^{k)} - Mortar			×	×	EN ISO 10545-12
B.11	Moisture Expansion ⁰	Х	×	×	×	EN ISO 10545-10
B.12	Small Color Differences ^{m)}	X	×	×	×	EN ISO 10545-16
B.13	Impact Resistance ⁿ⁾	Χ	×			EN ISO 10545-5
B.14	Reaction to Fire®	×		×	×	WT
B.15	Tactility ^{e)}	Х	×			CEN TS 152090
C)	CHEMICAL PROPERTIES	INTERIOR	EXTERIOR	INTERIOR	EXTERIOR	REFERENCE
C1a	Resistance to Staining - Glazed Tiles ^{q)}	×	×	×	×	EN ISO 10545-14
C.1 b	Resistance to Staining - Unglazed Tiles ^{q)}	×	×	×	×	EN ISO 10545-14
C.2 a	Resistance to Acids and Alkalis of Low Concentration ⁽⁾	Х	×	×	×	EN ISO 10545-13
C.2 b	Resistance to Acids and Alkalis of High Concentration ⁽²⁾	X	X	X	X	EN ISO 10545-13
C 2 c	Resistance to Household Cleaning Agents and Swimming Pool Chemicals ⁹	×	Х	X	Х	EN ISO 10545-13
C.3 a	Release of Cadmium - Glazed Tiles ^{t)}	X	×	_ X	x	EN ISO 10545-15
С3Ь	Release of Lead - Glazed Tiles ^{t)}	X	X	X	X	EN ISO 10545-15
C.3 c	Release of Other Dangerous Substances ^{s)}	X	X	Х	Х	As Relevant

b) Group BIII covers glazed ceramic tiles only. There is no quantity of dry-pressed unglazed tiles produced with water absorption greater than 10% that is not covered by this product group.

- a Requirements for these characteristics are given in Annex A to L.
- b Not applicable for ceramic tiles having curved shapes.
- c For floorings only.
- d For walls only.
- e See N.2.2.
- f For ceramic tiles which intended use is subject to localized thermal shock
- g For glazed ceramic tiles only.
- h For ceramic tiles that are intended to be used where frost may apply.
- i For floorings on pedestrian circulation areas (where required are regulation).
- j Unless a different test method is required by national regulations in the market of the relevant Member State(s) for the intended use, in which case the test method and results shall be declared as given therein.
- k For walls when performing the test with actual ceramic tiles and suitable adhesive(s) or mortar only.
- I See N.2.3.
- m See N.2.6.
- n See N.2.1.
- o For ceramic tiles intended to be used for internal floorings and for internal and external walls only.
- p For tactile paving surface only i.e. when required for blind or vision impaired persons.
- a See N.2.5.
- r See N.2.4.
- s When relevant, see Notes 1 and 2 in ZA.1 for the release of other dangerous substances, if any.
- t For glazed ceramic tiles only, when intended to be used on worktops and on wall surfaces where food preparation takes place and food may be in direct contact with the glazed tile surface. As indicative limits, reference could be made to Direct 31/2005/CE.

NOTE 1 Characteristics given in this table in "plain" text are relevant to all intended uses, while those in "italics" are additionally relevant for the specific intended use(s) only.

NOTE 2 Characteristics, given in this table in "bold" text, are the mandated essential characteristics or the corresponding proxy characteristics (for CE marketing, see Annex ZA) and those in "normal" text, the voluntary characteristics (not for CE marketing).

ANNEX G EN 14411 (Normative)

Requirements for Dry-pressed Ceramic Tiles With Low Water Absorption of GROUP Bl_g ($E_b \le 0.5\%$)

Requirements for Dimension and Surface Quality and for Physical and Chemical Properties of this Group of Ceramic Tiles Shall be in Accordance With Table G.1

Table G.1 - Requirements for Dry-pressed Ceramic Tiles with Low Water Absorption, GROUP Bl_a ($E_b \le 0.5\%$)

	Requireme	ents for Nomi	nal Size N		
CHARACTERISTICS	7 cm< N < 15 cm	N≥	15 cm	Test Method	
	(mm)	%	(mm)		
A) DIMENSIONS AND SURFACE QUALITY					
A.1 LENGTH AND WIDTH					
The Work Size Sall be Chosen as Follows for:					
a) Modular Tiles:	In order to allow a n 5 mm	-			
b) Non-modular Tiles:	So that the differen size is not more than	-			
The Permissible Deviation of the Average Size for the Each Tile (2 or 4 Sides) From the Work Size (W)	±0.9 mm	±0.6%	±2.0 mm	EN ISO 10545-2	
A.2 THICKNESS	'				
a) The Thickness Shall be specified	Declared thickness		-		
b) The Permissible Deviation, of the Average Thickness of Each Tile from the Work Size Thickness	±0.5 mm	±5%	±0.5 mm	EN ISO 10545-2	
A.3 STRAIGHTNESS OF SIDES ^b (Facial Sides)					
The Maximum Permissible Deviation from Straightness, Related to the Corresponding Wok Size	±0.75 mm	±0.5%	±1.5 mm	EN ISO 10545-2	
A.4 RECTANGULARITY ^b					
The Maximum Permissible Deviation from Rectangularity, Related to the Corresponding Work Size	±0.75 mm	±0.5%	±2 mm	EN ISO 10545-2	
A.5 SURFACE FLATNESS					
The Maximum Permissible Deviation from Flatness					
a) Center Curvature, Related to Diagonal Calculated from Work Size	±0.75 mm	±0.5%	±2 mm	EN ISO 10545-2	
b) Edge Curvature, Related to the Corresponding Work Size	±0.75 mm	±0.5%	±2 mm	EN ISO 10545-2	
c) Warpage, Related to Diagonal Calculated from the Work Size	±0.75 mm	±0.5%	±2 mm	EN ISO 10545-2	
A.6 SURFACE QUALITY ^c	A minimum of 95% of defects that would it area of tiles			EN ISO 10545-2	
B) PHYSICAL PROPERTIES					
B.1 WATER ABSORPTION (IN % BY MASS)	Eb≤0.5 Individual maximum 0.6%			EN ISO 10545-3	
B.2 BREAKING STRENGTH, FOR:					
a) Thickness ≥ 7.5 mm	Not less than 1300 N			EN ISO 10545-4	
b) Thickness < 7.5 mm	Not less than 700 N	I		EN ISO 10545-4	
B.3 FLEXURAL TENSILE STRENGTH OR MODULUS OF RUPTURE ^d	Minimum 35 N/mm² Individual minimum			EN ISO 10545-4	

Table G.1 - Continued

	Requireme	nts for Non	ninal Size N		
CHARACTERISTICS	7 cm< N < 15 cm	N	> 15 cm	Test Method	
	(mm)	%	(mm)		
B) PHYSICAL PROPERTIES					
B.4 ABRASION RESISTANCE					
a) Resistance to Deep Abrasion of Unglazed Tiles: Removed Volume	Maximum 175 mm³			EN ISO 10545-6	
b) Resistance to Surface Abrasion of Glazed Tiles Intended for Use on Floors ^e	Abrasion class and c	Abrasion class and cycles passed			
B.5 COEFFICIENT OF LINEAR THERMAL EXPANSION					
- From Ambient Temperature to 100 °C	Declared value ^f			EN ISO 10545-8	
B.6 THERMAL SHOCK RESISTANCE	Pass according to EN ISO 10545-19		EN ISO 10545-9		
B.7 CRAZING RESISTANCE: Glazed Tilesh	Pass according to EN	ss according to EN ISO 10545-19		EN ISO 10545-11 ^h	
B.8 FROST RESISTANCE	Pass according to EN	I ISO 10545 - 19		EN ISO 10545-12	
B.9 SLIPPERINESS	Declared value(s) ^g			PrCEN/TS 16165:2011 [†]	
B.10 BOND STRENGHT / ADHESION ⁱ , FOR:					
a) Cementitious Adhesives ^k	Declared value(s)			EN 12004:2007 , 4.1	
b) Dispersion Adhesives ^k	Declared value(s)			EN 12004:2007 , 4.2	
c) Reaction Resin Adhesives ^k	Declared value(s)			EN 12004:2007 , 4.3	
a) Mortar	Declared value(s)			EN 1015-12 ¹	
B.11 MOISTURE EXPANSION (IN mm/m)	Declared value ^f			EN ISO 10545-10	
B.12 SMALL COLOR DIFFERENCES FOR:	<u>'</u>				
a) Glazed Tiles	ΔΕ<0.75			EN ISO 10545-16	
b) Unglazed Tiles	ΔΕ<1.0			EN ISO 10545-16	
B.13 IMPACT RESISTANCE, as:	<u>'</u>			'	
- Coefficient of Restitution (COR)	Declared value ^f			EN ISO 10545-5	
B.14 REACTION TO FIRE	(Class A1 or A1 _{FL}) ^m			-	
B.15 TACTILITY ⁿ	Declared surface des	criptiong		CEN/TS 15209 ⁱ	
C) CHEMICAL PROPERTIES					
C.1 RESISTANCE TO STAINING, FOR:					
a) Glazed Tiles	Minimum calss 3			EN ISO 10545-14	
b) Unglazed Tiles	Declared value ^f			EN ISO 10545-14	
C.2 RESISTANCE TO CHEMICAL					
a) Resistance to Low Concentration of Acids and Alkalis	Declared value ^f			EN ISO 10545-13	
b) Resistance to High Concentration of Acids and Alkalis	Declared value ^f			EN ISO 10545-13	
c) Resistance to Household Chemicals and Swimming Pool Salts	Minimum calss B			EN ISO 10545-13	
C.3 RELEASE OF DANGEROUS SUBSTANCES					
a) Cadmium (in mg/dm²)	Declared value ⁹			EN ISO 10545-15	
b) Lead (in mg/dm²)	Declared value ⁹			EN ISO 10545-15	
c) Other Dangerous Substances°	Declared value			As Relevant	

- a Similar joint widths may be used to apply to the traditional systems based on non-metric sizes.
- b Not applicable for tiles having curved shapes.
- c Because of firing, a slight variation from the standard color is unavoidable. This does not apply to intentional irregularities of color variation of the face of tiles(which can be unglazed, glazed, or partly glazed) or to the color variation over a tile area which is characteristic of the given tile and desirable. Spots or colored dots which are introduced for decorative purposes are not considered a defect.
- d Not applicable to ceramic tiles with breaking strength > 3000 N
- e Where required, the abrasion class resistance according to Annex M may be declared.
- f See Annex N additional information on applicability.
- g See table 2 for uses where it is applicable.
- h Certain decorative effects may have a tendency to craze. They are to be identified by the manufacturer, in which case the crazing test given in EN ISO 11-10545 is not applicable.
- i Unless a different test method is required by national regulations in the market of the relevant member state(s) for the intended use, in which case the test method and result shall be declared as given therein (as long as consolidated European test method is not available).
- j For intended uses subject to requirements against accidental fall of the object on to transit areas only. Tests are to be performed using the actual tiles and suitable adhesive and/or mortar.
- k For the types of adhesives, defined in EN 12004:2007 only.
- I The proposed test methods are intended to determine the adhesion strength of the adhesive and have not been developed to determine ceramic the characteristics. Thus, there might be no correlation between the declared bond strength and the performance of the tile in use (other factors proper installation techniques and type of background support will influence the final performance).
- m Ceramics, as a homogeneously distributed material used for ceramic tiles, is considered as a material of known and stable performance with respect to the reaction to fire performance as it does not consist of any organic material. As such it does not contribute to the fire and it may be considered without the need for testing (CWT) as the class A1 material7. The reaction to the fire performance of ceramic tiles may also be classified also as class A1 according to EN ISO 1-13501.
- n For tactile paving surface i.e. when required for blind or vision impaired persons.
- o When relevant, see notes 1 and 2 in ZA.1 for the performance of the product concerning these characteristics, if any to be declared.

CLEANING PRODUCTS

TYPE OF STAINS	D DETERGENTS detergents)		ALKALINE-E – ALKALI (professional o	cid,		ACIDS (muriatic acid phosphoric ac	er)	tine, acetone, e, nitro thinn	SOLVENTS (bleach, turpen trichloroethyler	TYPES OF DETERGENT Where the sale is permitted
Coffee	atin Po l ished	Satin	Matte	Polished	Satin	Matte	Polished	Satin	Matte	SURFACE
Lime scail										TYPE OF STAINS
Tar							•			Coffee
Concrete Image: Concent of the control of				•	•	•				Lime scail
Candle wax Image: Coca Cola Cola Cola Cola Cola Cola Cola Col								•	•	Tar
Coca Cola I				•	•	•				Concrete
Glue Chewing gum Rubber marks from tyres or shoes Grease, Oil Ink Nicotine Felt-tip pen Tomato Resins Rust Nail varnish							•	•	•	Candle wax
Chewing gum Rubber marks from tyres or shoes Grease, Oil Ink Nicotine Felt-tip pen Tomato Resins Rust Nail varnish							•			Coca Cola
Rubber marks from tyres or shoes Grease, Oil Ink Ink Nicotine Felt-tip pen Tomato Resins Rust Nail varnish							•	•	•	Glue
Shoes Grease, Oil Ink <	•	•	•				•	•	•	Chewing gum
Ink Ink <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>•</td> <td>•</td> <td>•</td> <td></td>							•	•	•	
Nicotine Image: Control of the pen of		•	•							Grease, Oil
Felt-tip pen Image: Company of the pen of the pe							•	•	•	Ink
Tomato Image: Company of the company of t							•	•	•	Nicotine
Resins							•	•	•	Felt-tip pen
Rust							•			Tomato
Nail varnish							•	•	•	Resins
				•	•	•				Rust
Circumsta burns							•	•	•	Nail varnish
Cigarette borns				•	•	•				Cigarette burns
Tea • •							•	•		Tea
Wall paint					•		•		•	Wall paint

For information and advice, please contact us directly.

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