

GENERAL CATALOG 2025

PMA
CERAMIC



PISHGAMAN MEMARI ARYA

WE WILL ALWAYS BE THERE, FOR YOU

PISHGAMAN MEMARI ARYA has been established in 2008, started its activities by producing porcelain ceramics in OEM (Original Equipment Manufacturer) under its own brand of PMA.

Believing in the value of investing in HR, all sales forces of the company, are selected among graduated CIVIL ENGINEERS with side operational experiences and have been trained in several different fields. PMA has Enriched its customers need cognition by large and wide connection with the country's be and reliable consultant companies and Architectural offices.

After the recognition of customer needs, most trended designs are selected from well-known Italian design ateliers finalized by high-quality raw materials, machinery, and technology.

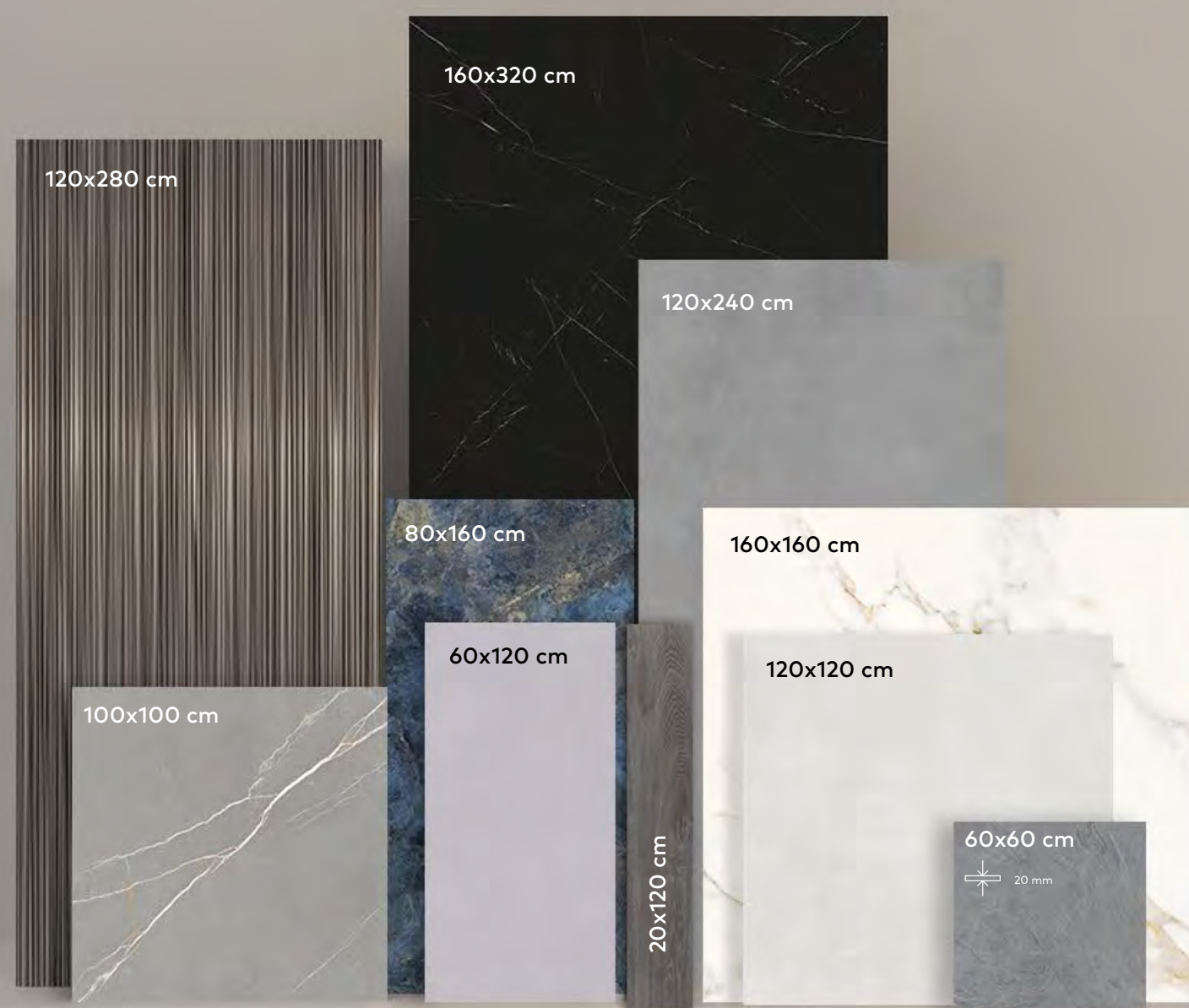
All products are real porcelain, produced as full-body porcelain. Different ranges of porcelain ceramics produced in sizes 20x120,60x120, 80x160, 100x100, 120x240, 120x280, and 160x320 cm, carefully monitored by PMA's QC team. These products are appropriate for different application areas. All

products in PMA obtained ISIRI CERAMICS together with Europe CE. In addition, PMA is sampling randomly among its producers and sending them to different qualified LABs such as Road, Housing & Urban Development Research Center, and SAM Institute Turkey, all reports are recorded.

Product Selection Consulting Services are provided by our Sales Forces, considering Customer's need, 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 whileperiodic visits. PMA has set its mission, based on Training & Learning. In this regard, has organized related seminars and workshops.

Variety of Sizes



To Create an Architectural Dream

PMA celebrates the uniqueness of every architectural narrative. Our porcelain ceramics span a breathtaking spectrum of sizes, ensuring every design ambition materializes. With PMA, embrace boundless possibilities.

The Gold Standard in Diverse Ceramic Portfolios

The Pinnacle of Porcelain Facades in Iran

Finishing

Dive deep into PMA's world where every tactile surface echoes luxury. Whether it's the muted grace of matte, the radiant luster of polished, or the intricate allure of relief – our ceramics elevate sensory experiences.

	P	Polished
	SP	Semi Polished
	M/N	Matte / Natural

Punch Finish

We offer a variety of punch finishes, including wood, stone, and deep punch designs, to give you the natural feel of these materials, while maintaining the durability and qualities of porcelain. To truly appreciate the texture and authenticity, we invite you to touch and feel them for yourself.





PMA's Precision Craft, Cutting Services Beyond Par

Any Shape

Craftsmanship at PMA transcends creation. With our avant-garde cutting services, we promise impeccable precision, translating every architectural vision into tangible reality. At PMA, perfection is the norm.

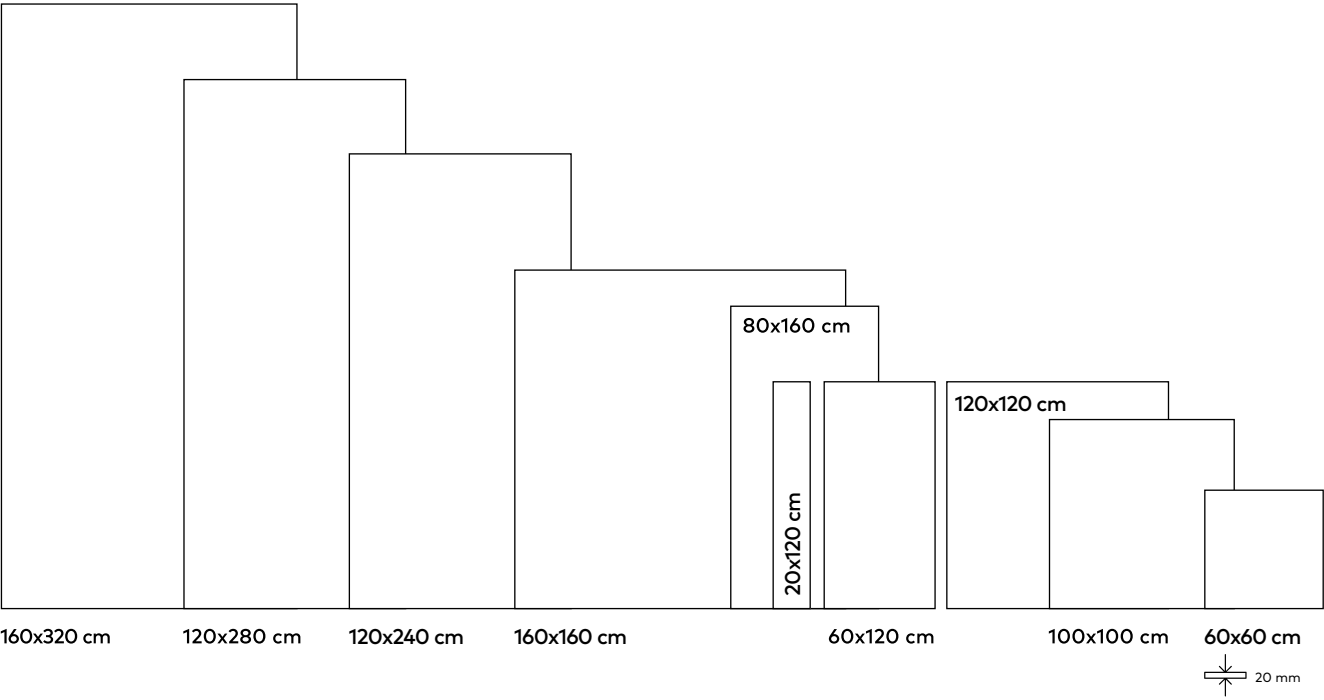
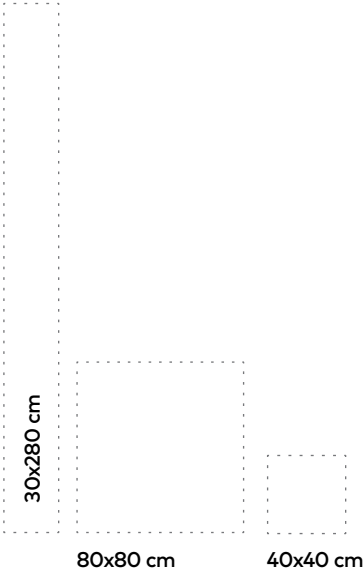
Usage

PMA's ceramic tapestry is not just vast but resplendent in its diversity, showcasing our mastery. Whether it's the commercial core, rejuvenated office spaces, therapeutic hospitals, secure banks, luxurious hotels, or recreational arenas – our footprint is ubiquitous, echoing excellence. At PMA, we don't just shape projects; we create experiences, solidifying our position as the ceramic connoisseur.



By Order

Standard



General Index

Products	20x120 cm	60x60 cm (20mm)	60x120 cm	120x120 cm	80x160 cm	100x100 cm	160x160 cm	120x240 cm	120x280 cm	160x320 cm
Mountain	16								✓	
Metal Wind	23								✓	
Marquina Wind	26								✓	
Pantheon Marble	34		✓		✓	✓			✓	
Calacatta Gold	43		✓	✓	✓	✓	✓	✓	✓	
Elegant Blue	52				✓				✓	
Saint Laurent	59				✓			✓	✓	✓
Statuario Extra	65								✓	
Nero Marquina	70		✓		✓			✓	✓	✓
Elegant Grey	77								✓	
Calacatta Silva	82		✓	✓	✓	✓	✓	✓	✓	✓
Pietra Grey	88		✓							
Natural Concrete	99	✓	✓	✓	✓	✓	✓	✓	✓	✓
Beton Art	137		✓							
Stellar	144								✓	
Travertino	148								✓	
Native	155		✓						✓	
Stonetech	162		✓							
Riven Slate	171	✓							✓	
Lithos	177		✓							
Oxide	188								✓	
Maxiwood	196	✓								
Monocolor Night	205		✓							

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PRODUCTS

A black and white photograph of a workbench. In the foreground, a hammer with a light-colored handle and a dark head lies on a textured surface. Behind it, several chisels with dark handles and metal heads are scattered. A mallet with a light-colored handle is also visible. The background is blurred, showing more tools and a workshop environment. The word "DEEP" is overlaid in large, white, sans-serif capital letters across the center of the image.

DEEP



Mountain

The Chevron pattern has been used in construction since Roman Empire. It gives a sense of strength to the base and surface and that makes it trendy in construction design. Mountain relief which is the modern version of chevron pattern contains some details that perfects the texture and creates balance through variety of thickness and depth. The mono-color development of this product in three tonalities, Silver, Graphite and Coal keeps the simplicity and purity of this product while making the shining glitters more vivid and distinctive. This features also demonstrate the depth in this relief which is the especial characteristic of this collection.



Wall: Graphite Mountain and Silver Mountain
Galaxy Relief — 120x280 cm





Wall: Coal Mountain Galaxy Relief — 120x280 cm



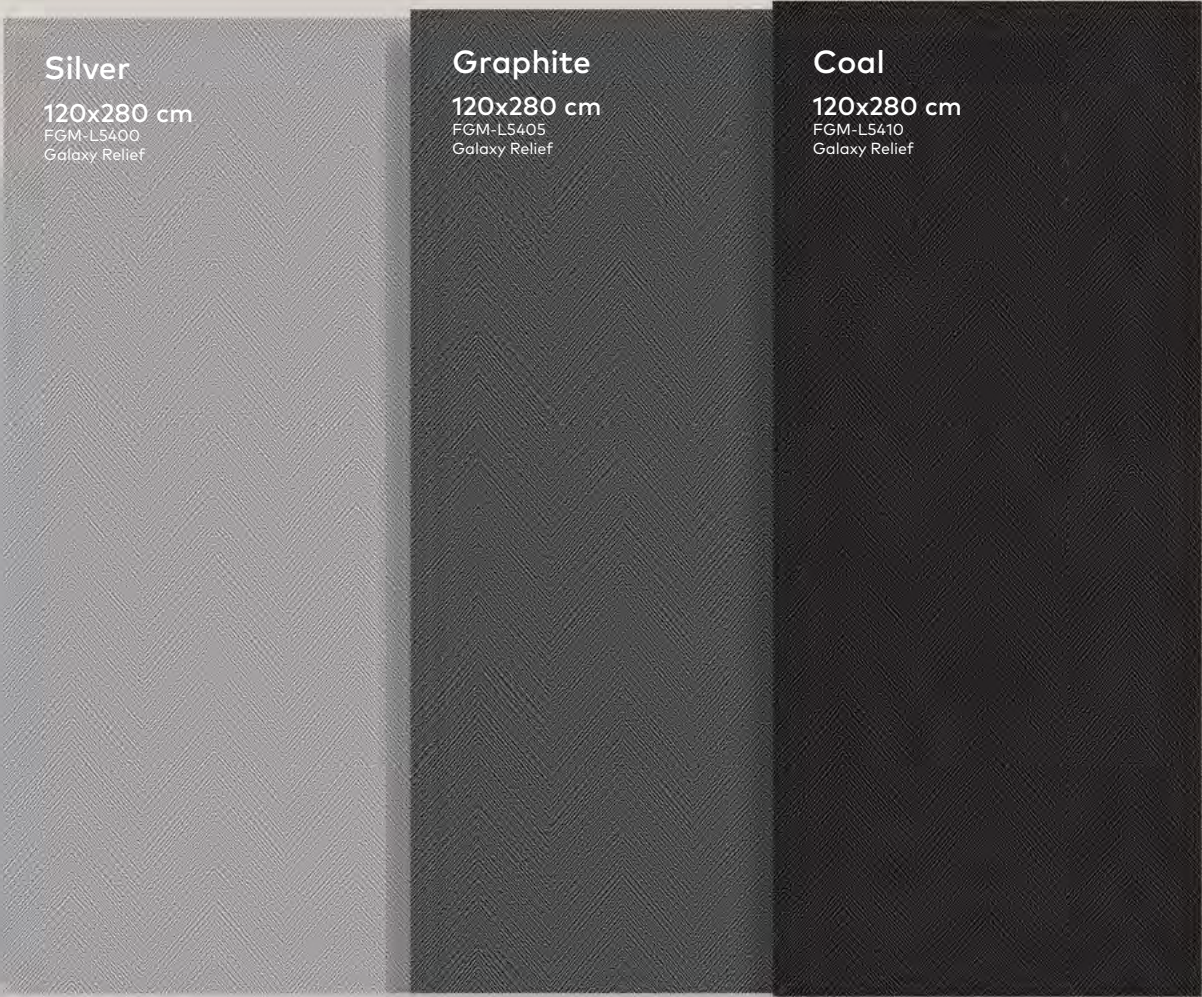
Wall: Silver Mountian Galaxy Relief — 120x280 cm



Mountain



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





Wall: Metal Wind Relief — 120x280 cm



Metal Wind

Metal characteristics such as radiance and resistance evoke a sense of strength and luxury and metallic surface creates a subtle shine all over the space. The striped pattern of Metal's punch relief is trendy, elegant and modern. The creativity in this design is provided by the combination of the wavy lines in the relief with the dancing reflection of light on the uneven surface.



Wall: Metal Wind Relief — 120x280 cm

Metal Wind

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





Marquina Wind

Marquina Wind design is inspired by Nero Marquina marble originally from Spain, that is one of the most popular black marbles in ceramic industry. The veins in this elegant design are various in thickness which creates the balance and beauty. The deep black in this design captures the bold character of Marquina. Wind relief adds up to the advantages of this classic fashionable marble by balancing the intense dark tone through the movement and reflection of the light.



Wall: Marquina Wind Relief — 120x280 cm



Wall: Marquina Wind Relief — 120x280 cm

Marquina Wind

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



120x280 cm
FGM-L5430
Relief | 5 Faces



Design Alcove

A Confluence of
Global Aesthetics and
Indigenous Artistry

PMA's Design Studio is a sanctuary where global trends harmonize with indigenous creativity. Home to passionate virtuosos, we ensure each creation is an epitome of timeless elegance and modern finesse. At PMA's Design Studio, the future of ceramics is produced today.

MARBLE



Pantheon Marble

Pantheon Marble has an outstanding styling. Its grey surface embraces pure white veining in detailed smooth base texture with disperse splashes and slight movements of taupe veins that increases the beauty and enhances the grace of Pantheon Marble's design. Pantheon Marble's minimal and modern style gives you the chance of experiencing elegance and luminosity.



Facade: Pantheon Marble Light Grey Matte — 60x120 cm





Floor: Pantheon Marble Light Grey Matte — 100x100 cm





Wall: Pantheon Marble Grey Natural — 120x280 cm
Floor: Maxiwood Walnut Relief — 20x120 cm
Counter: Pantheon Marble Grey Matte



Floor: Pantheon Marble Grey Matte — 120x280 cm
Wall: Pantheon Marble Grey Matte — 120x280 cm



Pantheon Marble

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





Floor: Calacatta Gold Polished — 120x280 cm



Calacatta Gold

Calacatta Gold marble tile is a treat to the eyes. Its creamy white background is gently infused with deep grey veining and the occasional ribbons of gold demonstrate a striking piece. The marble's natural and unlimited variation creates a luxurious artwork in every piece.



Wall: Calacatta Gold Polished — 80x160 cm
Floor: Calacatta Gold Polished — 80x160 cm



Floor: Calacatta Gold Polished — 160x160 cm





Wall: Calacatta Gold and Saint Laurent Polished — 120x280 cm
 Floor: Calacatta Gold Polished — 100x100 cm

Calacatta Gold

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



Novelty





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

Calacatta Gold

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





Elegant Blue

Elegant Blue with its unique design embodies extraordinary charm of precious gems. Appropriate for both classic and contemporary area. Its unique color, sophisticated plays of golden veins and iridescent reflections brings dynamic to any space. Elegant Blue represents a cobalt sea split by golden waves.



Wall: Elegant Blue Polished — 120x280 cm
Floor: Maxiwood Walnut Relief — 20x120 cm





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

Elegant Blue

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

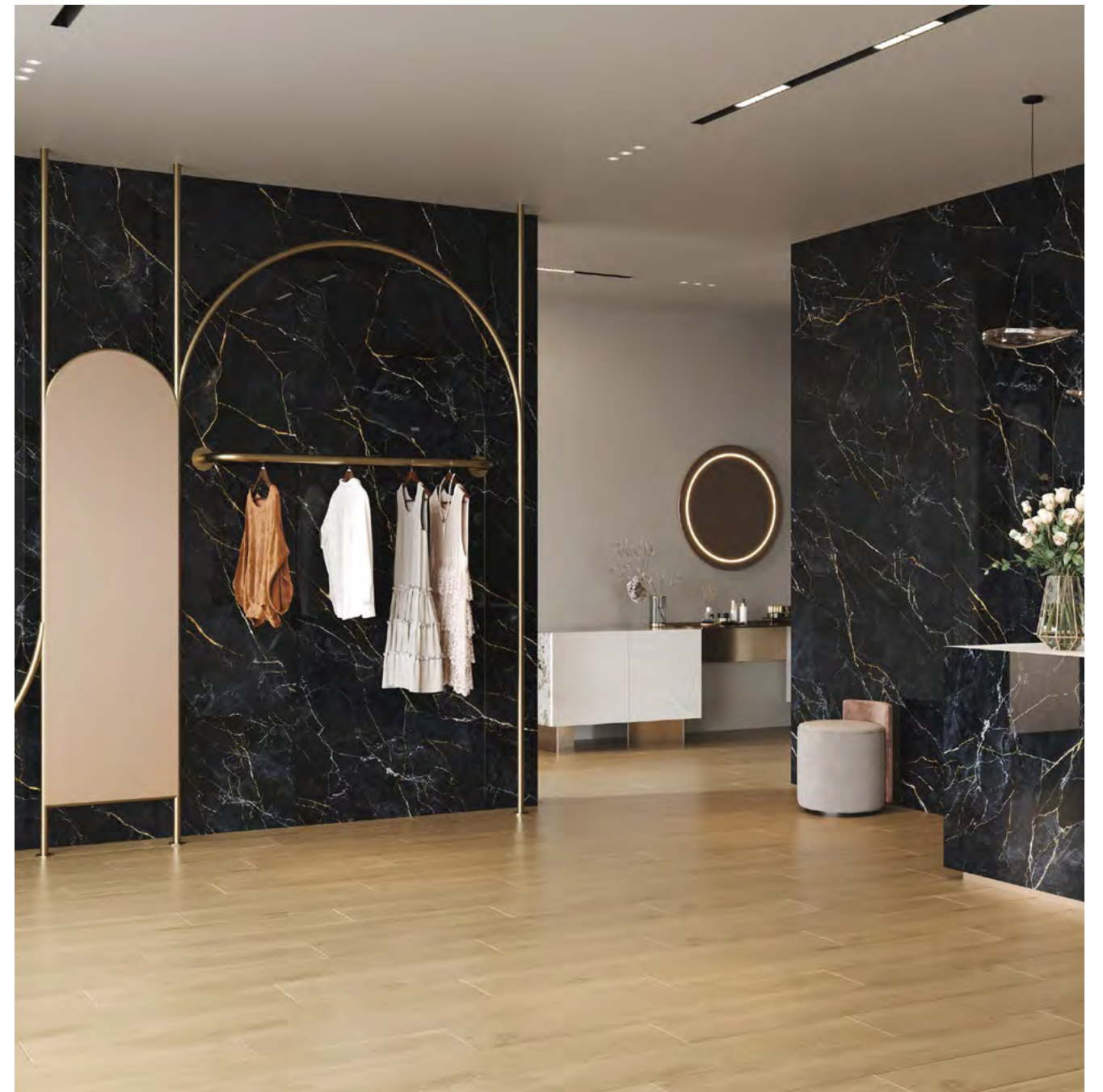


120x280 cm
FGPB-LS165
Polished | 4 Faces

80x160 cm
FGPB-CS165
Polished | 8 Faces



Wall: Saint Laurent Polished — 120x280 cm
Floor: Maxiwood Walnut Relief — 20x120 cm



Saint Laurent

Saint Laurent Marble with black background covered by white and golden veins is one of the most beautiful marble effect tiles. The combination of black, white, and gold creates a unique look for unique designs. Infuse depth and luxury into your home with PMA's daring Marble effect floor and wall tiles.



Wall: Saint Laurent Polished — 120x280 cm



Wall: Saint Laurent Polished — 120x280

Saint Laurent

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





Statuario Extra

Statuario Extra marble is one of the most renowned and charming marbles, enriched with dark and grey veins and thinner patterns. Its clean white background contrasted with grey veining doubles its beauty. Statuario Extra with dramatic, artistic, and large-scale singular vein patterns brings a refined Italian design touch to your architectural projects.



Wall: Statuario Extra Polished — 120x280 cm
Floor: Natural Concrete Light Grey Soft Matte — 120x280 cm
Wash Basin: Statuario Extra Polished / Mirror

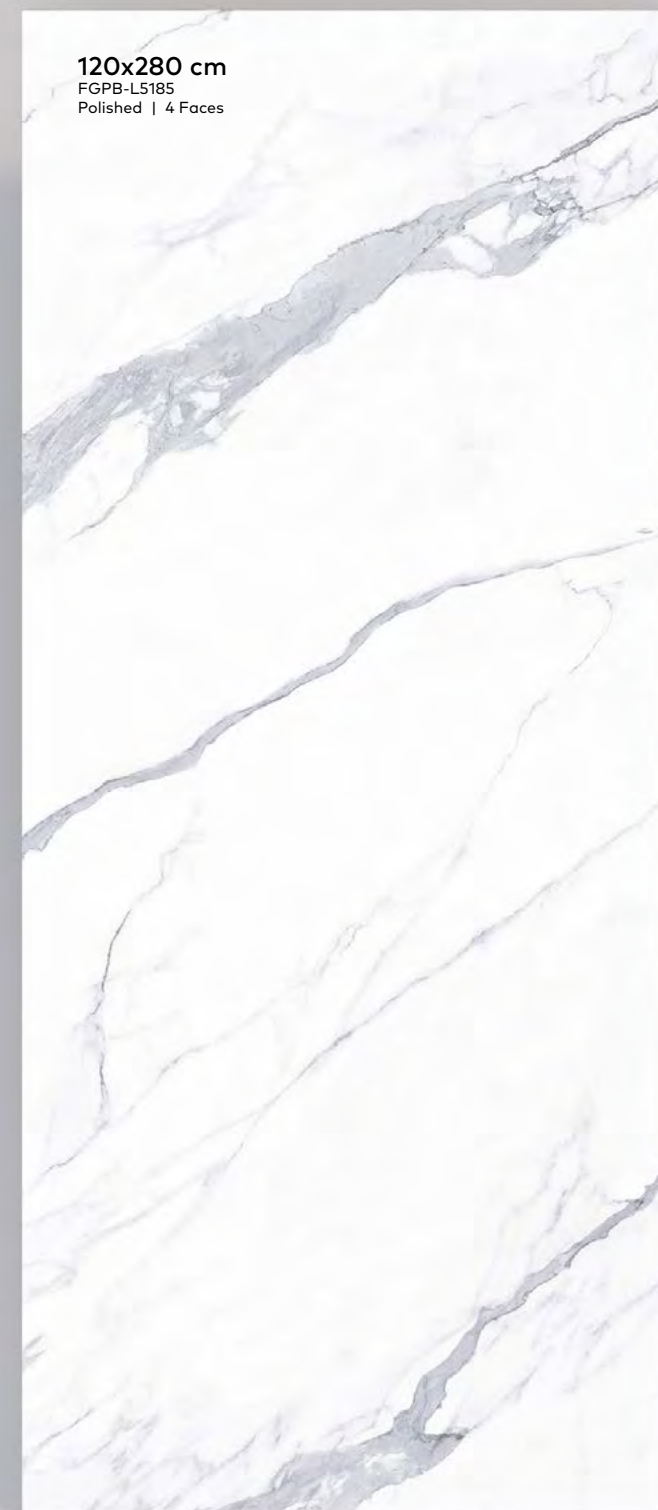




Wall: Statuario Extra Polished — 120x280 cm

Statuario Extra

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



120x280 cm
FGPB-LS185
Polished | 4 Faces



Nero Marquina

Nero Marquina, has the intense elegance of black marble. With its ultra-thin white veins running along an extreme black surface, Nero Marquina by PMA is a full body porcelain slab suitable for ultra –sophisticated settings. Its visual perfection provides a unique visual impact.



Floor: Nero Marquina Polished — 120x280 cm





Floor: Nero Marquina Matte — 60x120 cm

Nero Marquina

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





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



Elegant Grey

Elegant Grey Marble is a striking deep grey marble with distinctive white veining. The most beautiful sought after marble inspired porcelain tile boasts prominent veins, blooms, and subtle variations that you find in any natural design product. Elegant Grey marble tiles are perfectly combined with a wide range of colors based on it's nude theme of color.





Elegant Grey

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





Calacatta Silva

Calacatta Silva has the beauty of natural marble. Thanks to its porcelain character this product is suitable for private spaces to commercial world and helps architects to create a combination of modernity and practicality.



Floor: Calacatta Silva Polished — 60x120 cm



Floor: Calacatta Silva Natural — 100x100 cm



Floor: Calacatta Silva Natural — 120x280 cm
Wall: Calacatta Silva Polished — 120x280 cm

Calacatta Silva

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



Novelty



Pietra Grey

The sophisticated grey background color runs through with fine, candid grains that add a harmonious visual effect to Pietra Grey porcelain slabs. An unmistakable style, superb production and high performance make Pietra Grey an irreplaceable surface for enhancing any architecture or interior design project.



Floor: Pietra Grey Polished — 60x120 cm
Wall: Calacatta White Polished — 60x120 cm



Floor: Pietra Grey Polished — 60x120 cm



Floor: Pietra Grey Polished — 60x120 cm



Pietra Grey

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

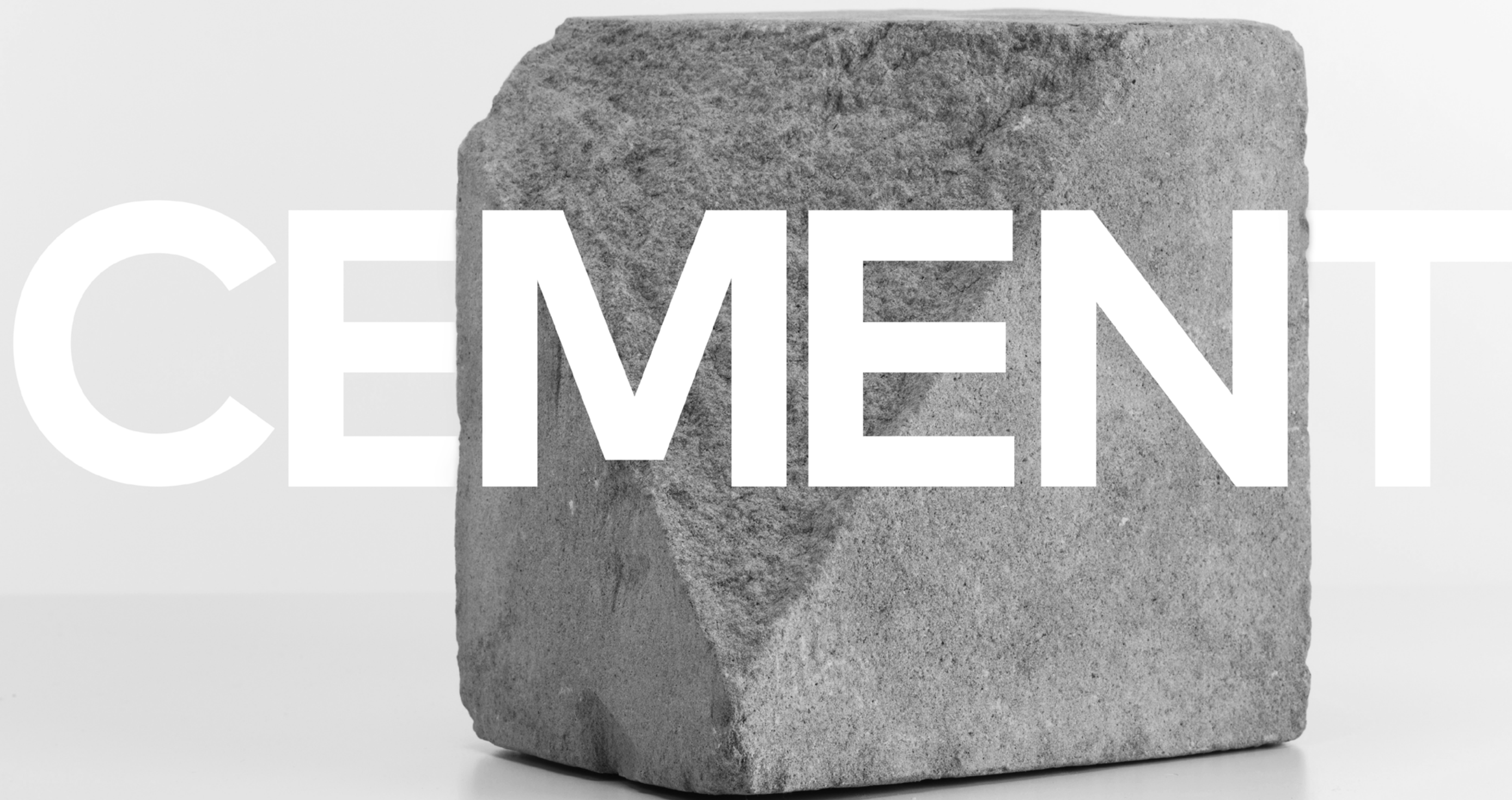


Soaring with PMA

The Pinnacle of Porcelain Facades in Iran

When it comes to pioneering porcelain facades, PMA doesn't merely lead – they redefine excellence, soaring above all. As Iran's foremost trailblazer in ceramic facades, PMA has transformed architectural dreams into tactile realities. Boasting an illustrious legacy of 4 million square meters of porcelain ceramics across 1100 iconic facade endeavors, PMA is not just about shielding buildings but sculpting skylines. Embark on a journey with PMA – where innovations take wing.







Natural Concrete

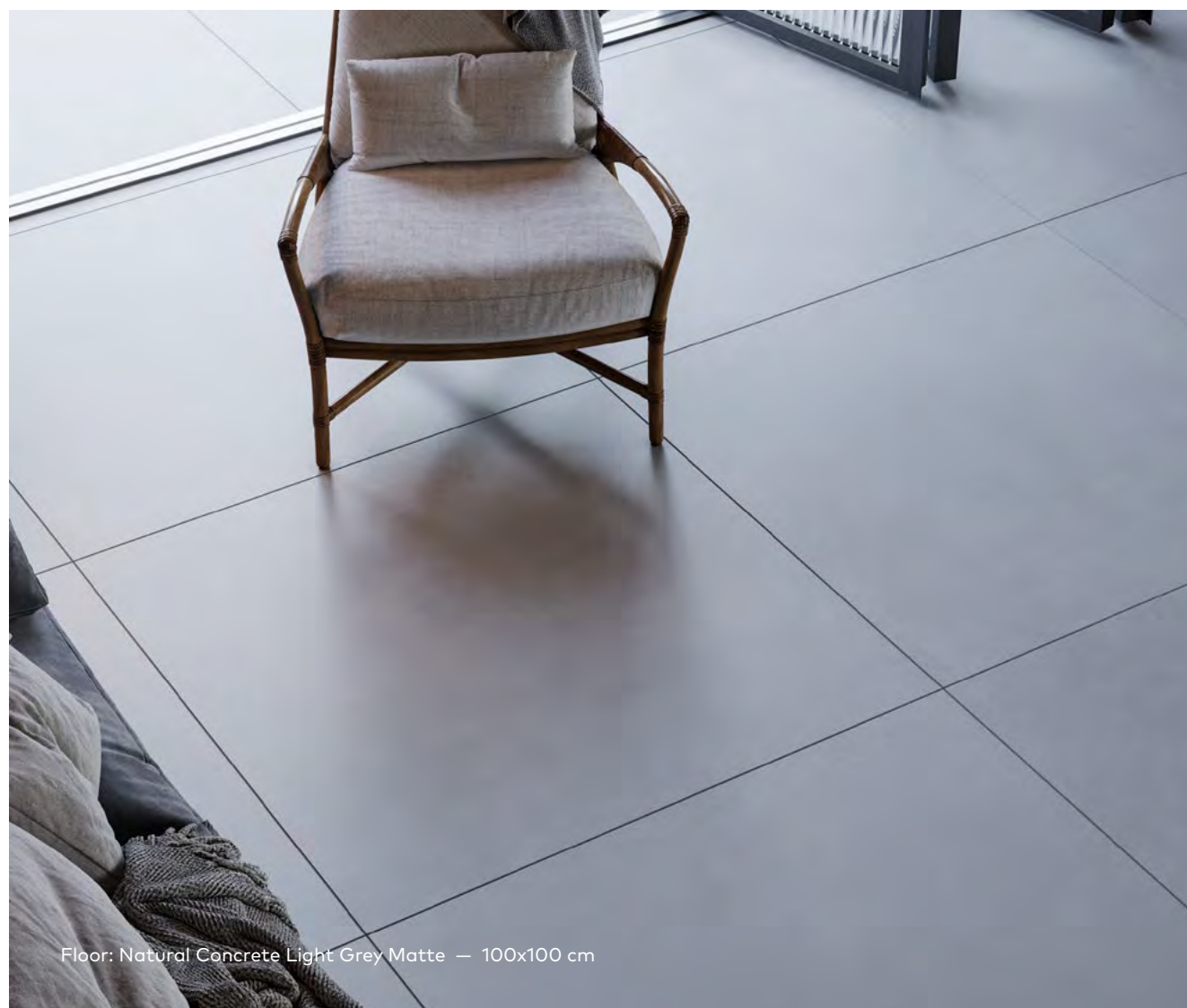
A concrete-effect collection which combines all the advantages of ceramic tiles with a perfect look to create a strong contemporary allure. Thanks to natural textures and neutral colors, concrete effect tiles are the perfect solution to a contemporary and minimalism style of design. Versatile collections to use in residential contexts and also administrative and industrial projects for indoor and outdoor spaces.



Wall: Natural Concrete Light Grey & Grey Soft Matte — 120x280 cm
 And Grace Polished — 120x280 cm
 Floor: Natural Concrete Light Grey Soft Matte — 120x280 cm

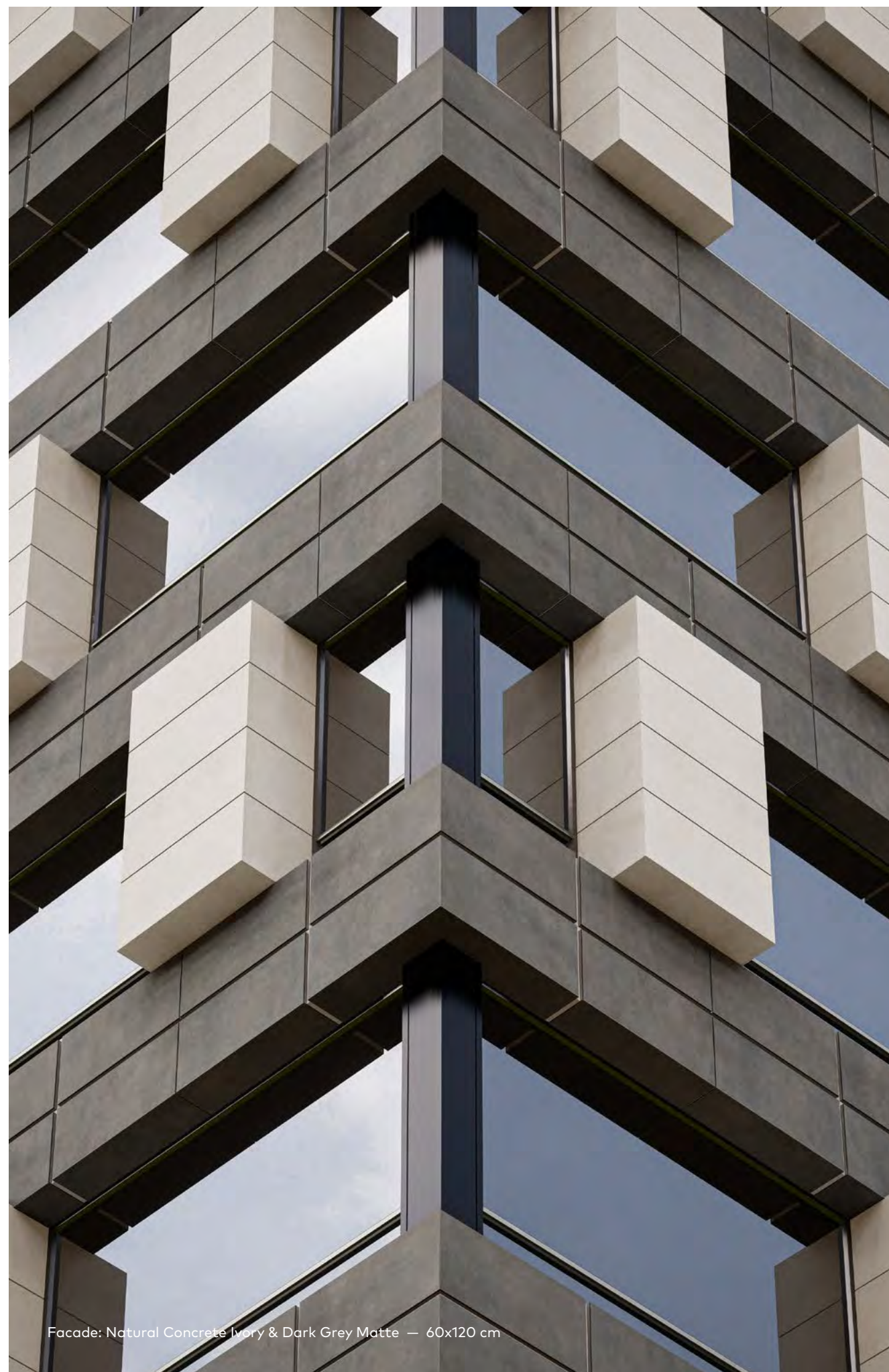
Wash Basin: Natural Concrete Dark Grey Soft Matte & Grace Polished





Floor: Natural Concrete Light Grey Matte — 100x100 cm





Facade: Natural Concrete Ivory & Dark Grey Matte — 60x120 cm



Wall: Natural Concrete Light Grey Soft Matte — 120x280 cm
Floor: Natural Concrete Light Grey Soft Matte — 120x280 cm

Bathtub and Wash Basin: Saint Laurent Polished





Natural Concrete

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

Novelty



Natural Concrete

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



Novelty





Natural Concrete

Novelty



Natural Concrete



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







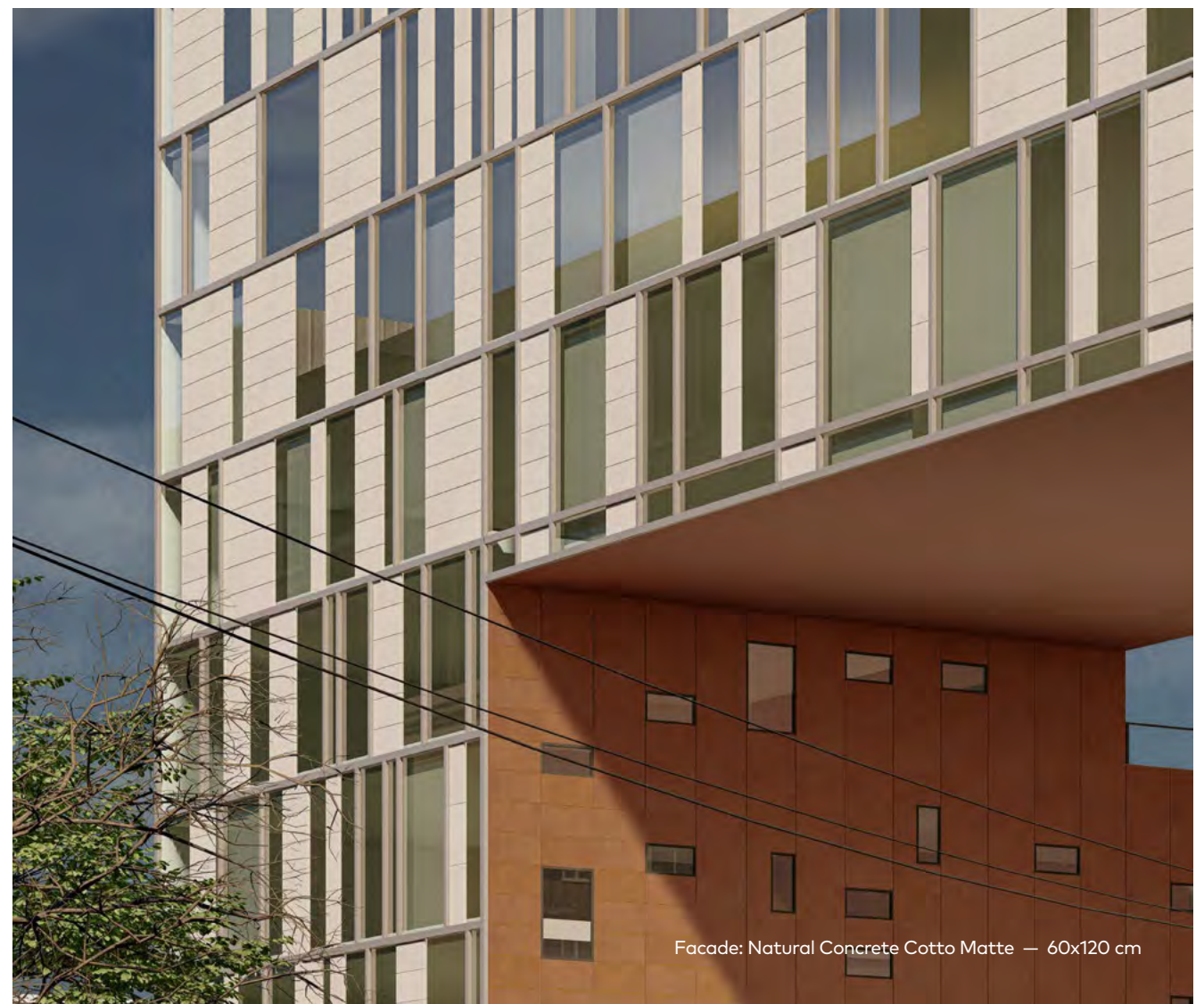
Floor: Natural Concrete Ivory Matte — 60x120 cm
Wall: Natural Concrete Red Matte — 60x120 cm
Wash Basin: Natural Concrete Ash Matte
Box: Natural Concrete Red Matte







Wall: Natural Concrete Green and Ivory Matte — 60x120 cm
Floor: Natural Concrete Ivory Matte — 60x120 cm







Wall: Natural Concrete Turquoise and Ivory Matte — 60x120 cm
 Floor: Natural Concrete Ivory Matte — 60x120 cm

Natural Concrete

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



Cotto	Red	Blue	Turquoise	Green	Yellow
60x120 cm FGM-R5265 Matte 8 Faces	60x120 cm FGM-R5270 Matte 8 Faces	60x120 cm FGM-R5275 Matte 8 Faces	60x120 cm FGM-R5280 Matte 8 Faces	60x120 cm FGM-R5285 Matte 8 Faces	60x120 cm FGM-R5290 Matte 8 Faces



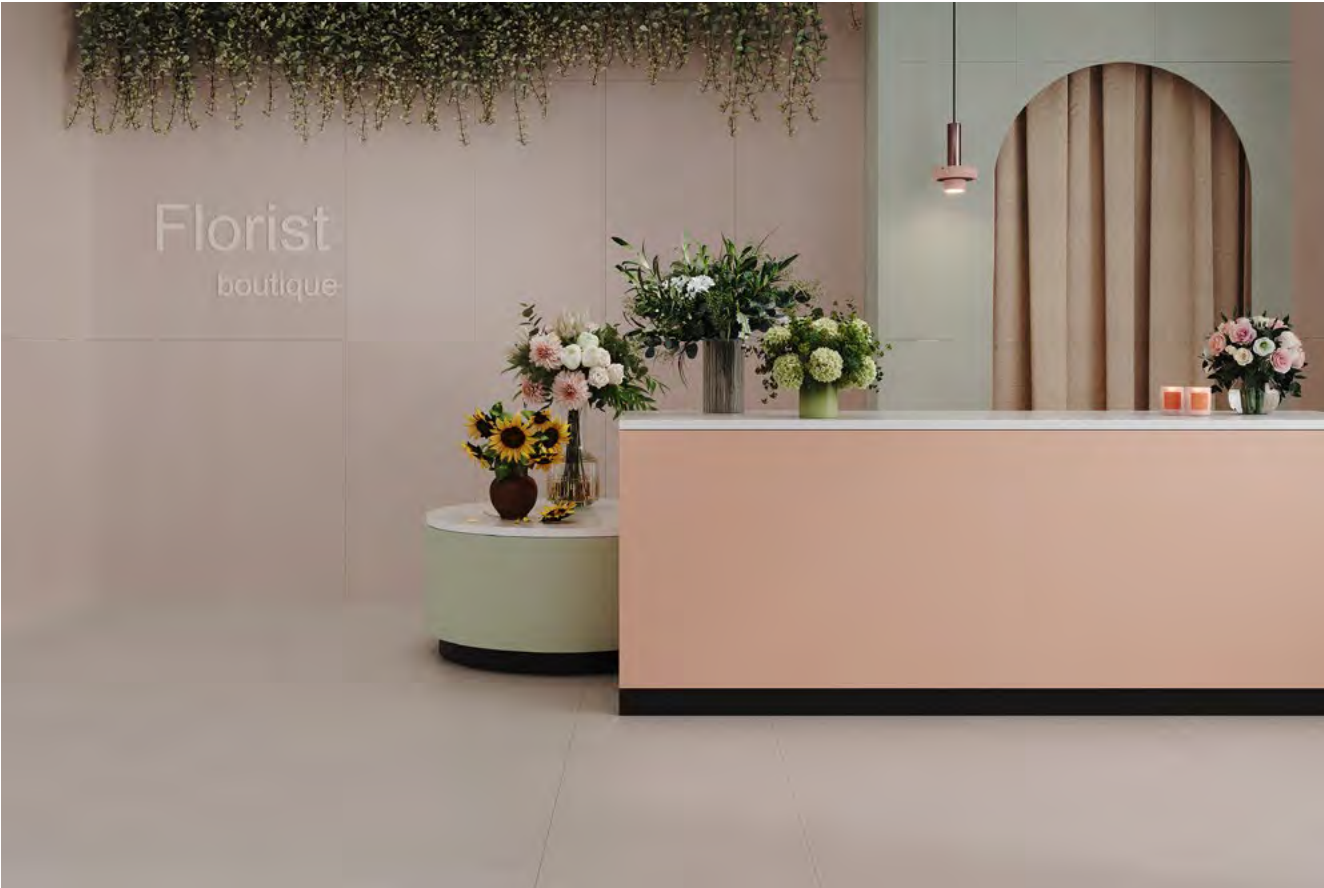




Wall: Natural Concrete Garland Matte — 60x120 cm
Floor: Natural Concrete Desert Matte — 60x120 cm



Wall: Natural Concrete Rose Blush Matte — 60x120 cm
 Floor: Natural Concrete Desert Matte — 60x120 cm



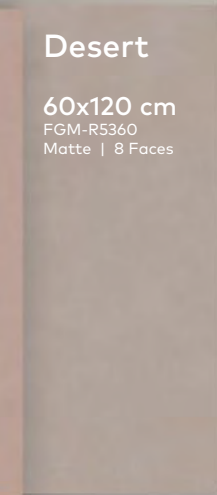
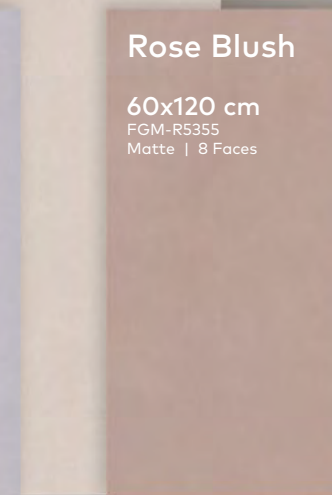
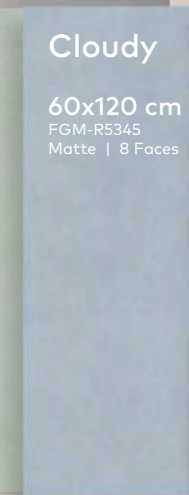


Natural Concrete

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



Novelty





Facade: Beton Art Smoke Matte — 60x120 cm



Beton Art

The interpreter of an essential but sophisticated style that stands out for the possibility of multiple combinations of cement effects designed to create integration, key element of the most attractive combination of concrete surface.



Floor: Beton Art Smoke Matte — 60x120 cm

Beton Art

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



Grey

60x120 cm
FGM-R780
Matte | 5 Faces



Smoke

60x120 cm
FGM-R785
Matte | 5 Faces

Elevating Standards, Crafting Excellence

In an epoch where global standards benchmark quality, PMA endeavors to transcend. Anchored by our avant-garde quality control lab, each ceramic piece evolves into a paragon of perfection. Our alliance with the standards organization amplifies our commitment. At PMA, we don't chase standards; we generate them.



ISO 9001

ISO 9001 is the international standard for quality management system



8906997838

Institute of Standards and Industrial Research of Iran



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.



EN 14411

European standard that defines terms and specifications of ceramic tiles



SAM

Seramik Araştırma Merkezi
Turkish Ceramic Research Center
Standard testing laboratory



Ministry of Road & Urban Development
Road, Housing & Urban Development Research Center



A black and white photograph of large, rugged rocks. The word "STONE" is overlaid in large, white, sans-serif capital letters. The rocks are dark and textured, with sharp edges and deep shadows. The background is a light, uniform gray.

STONE



Stellar

Imagine a night sky captured in a surface, where the deep black surface shimmers with the subtle brilliance of distant stars. The polished surface reflects light in a way that feels almost otherworldly, casting a warm glow that brings a touch of luxury to any space. This design envelops your interior in a sense of mystery and allure, as if each tiny glimmer holds a secret, waiting to be discovered. It's an invitation to experience elegance at its most profound.



Counter: Stellar Polished — 120x280 cm
Wall: Natural Concrete Ash Soft Matte — 120x280 cm



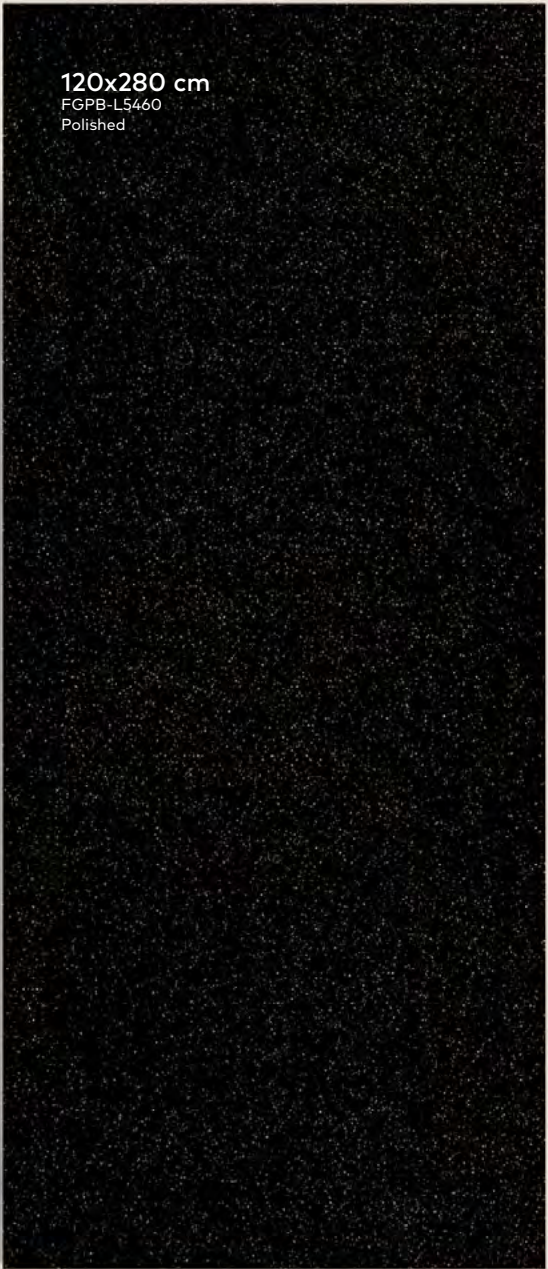
Wall: Stellar Polished — 120x280 cm

Stellar



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

Novelty



Travertino

Travertino invites you to step into tranquility, where the aesthetics of travertino provides you an experiencing a highly contemporary moment. Travertino brings an earthy touch to any space and combines the traditional charm of stone with the characteristics of porcelain slabs. Travertino is a suitable substrate for taking inspiration for those seeking a classic look with a chic twist.



Wall: Travertino Natural — 120x280 cm
Floor: Travertino Natural — 120x280 cm



Wall: Travertino Natural — 120x280 cm
Floor: Travertino Natural — 120x280 cm





Floor: Travertino Natural — 120x280 cm

Travertino

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



120x280 cm
FGM-L5035
Natural | 5 Faces

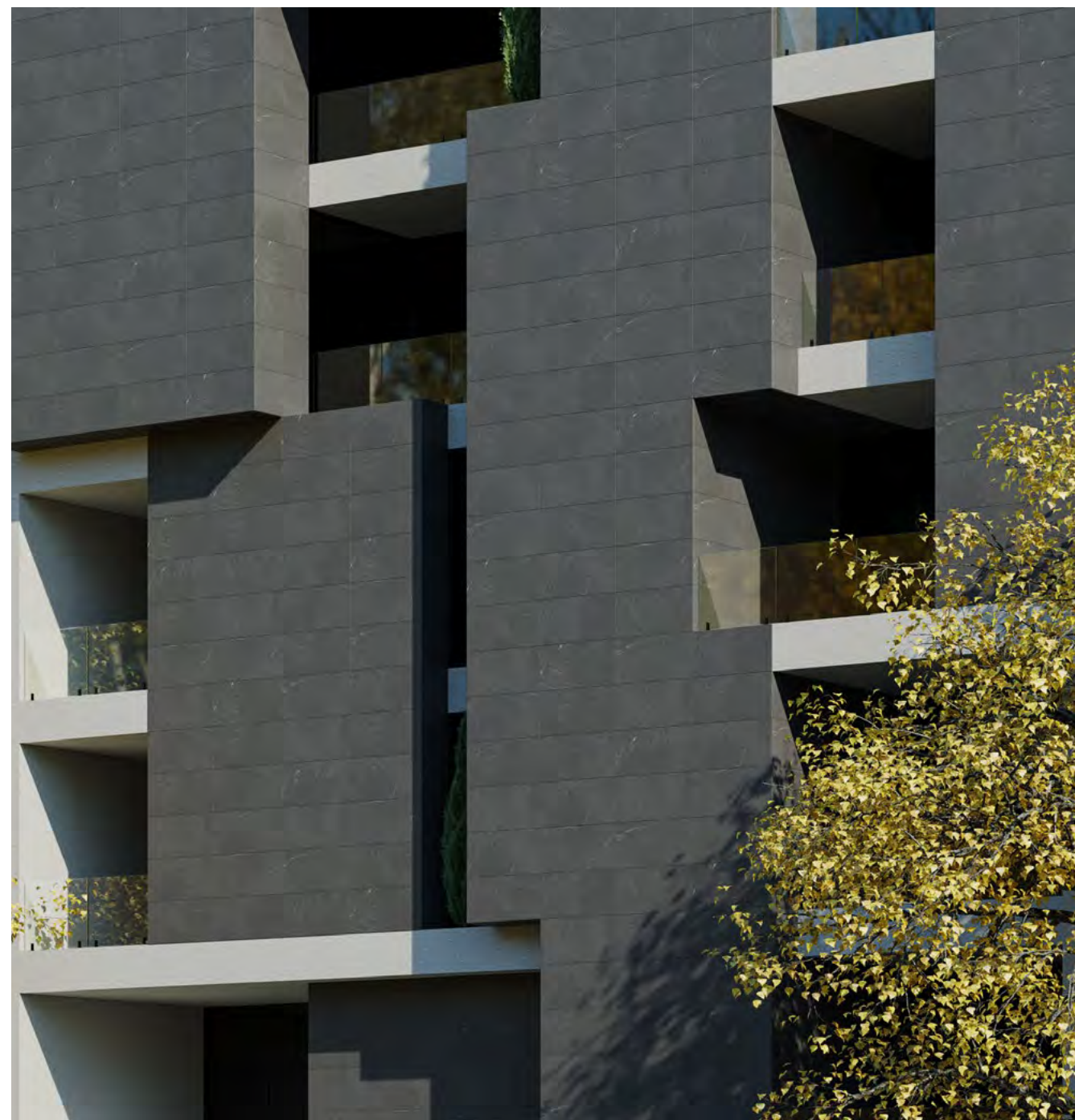


Native

Native is an elegant slate with delicate and light veins that are deeply interwoven to create a subtle and sophisticated pattern. Native's relief texture evokes a modern interpretation of natural stone in a way that its low contrast and homogenous theme make it a perfect backdrop for any design style. It is time to upgrade your space with the natural beauty of Native and experience the durability of porcelain with a touch of natural stone charm.



Floor: Native Black Relief — 60x120 cm
Floor: Native Black Relief — 60x120 cm



Facade: Native Grey Relief — 60x120 cm



Floor: Native Grey Relief — 60x120 cm

Native

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





Stonetech

Stonetech is «monolithic»; it indicates harmony despite being unified. Stonetech comes with a natural stone relief that is soft to touch, yet express a fine natural stone look surface. Parallel details with a sufficient amount of monotone surface make this design fashionable yet suitable for facade and outdoor applications.



Facade: Stonetech Coal Grey Relief — 60x120 cm





Lets Take
A Coffee

Wall: Stonetech Light Grey Relief — 60x120 cm
Floor: Stonetech Grey Relief — 60x120 cm



Wall: Stonetech Soil Grey Relief — 60x120 cm
Floor: Stonetech Coal Grey Relief — 60x120 cm





Riven Slate

Riven Slate is a mesmerizing creation inspired by volcanic rocks found in the east. It beautifully combines the elements of earth and water, as the magma of volcanoes meets cold waters to form captivating rock formations. This unique design is widely favored in contemporary and modern architecture, particularly for large surfaces. With its sophisticated blend of intense greys and neutral tones, Riven Slate effortlessly infuses any space with a minimal and modern style. The product's relief surface further enhances its appeal, adding depth and texture to its timeless charm and layered structure.



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



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

Riven Slate

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





Facade: Lithos Soft Grey and grey Matte — 60x120 cm



Lithos

Lithos combines the characteristics of different European lime stones to bring a feeling of soft delicate surface, yet present a rough sturdy structure. The series is suitable for any type of usage.



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





Floor: Lithos Grey Matte — 60x120 cm

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

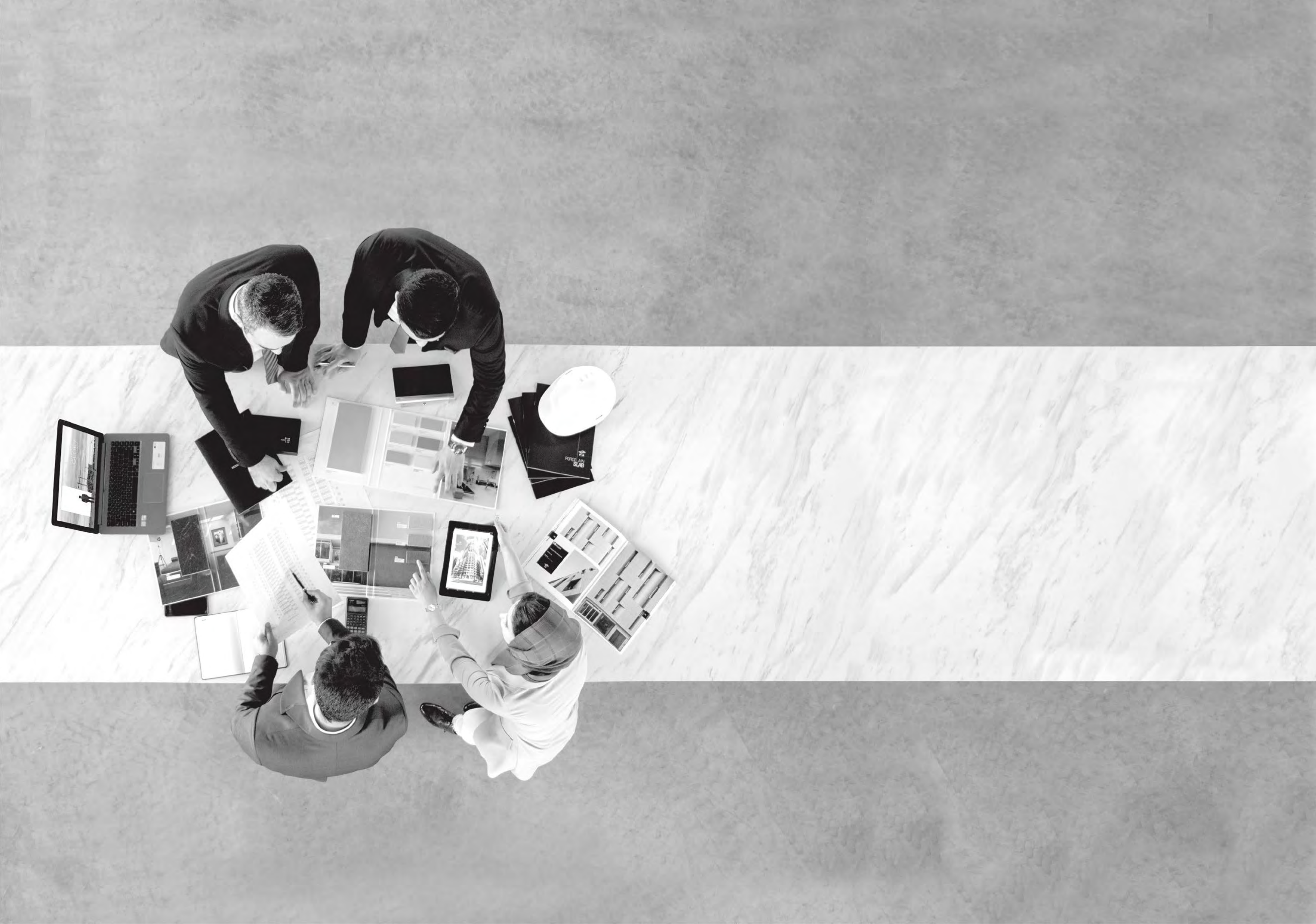


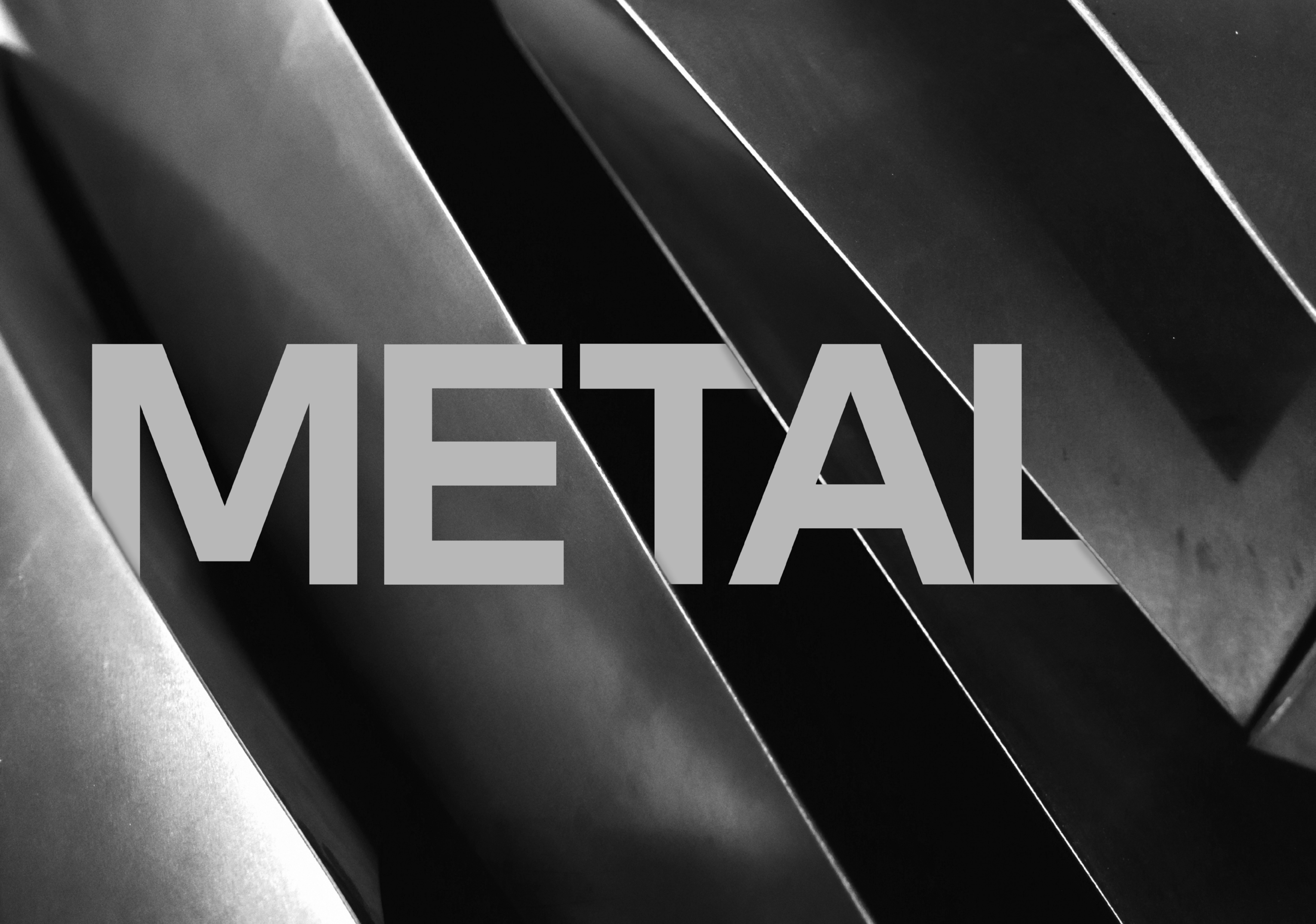
Lithos



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







METAL



Oxide

Oxide is a remarkable slab that stands out with its unique and captivating design. With fabulous decorations and metal reflections, it offers the perfect opportunity to create dramatic and industrial spaces. Its intriguing mix of corten brown hues, light shades transitioning towards light grey, and a captivating matte metallic aesthetic that adds a touch of interest to any room. Oxide's noticeable oxidized appearance and warm colors instantly infuse character into your space. Combining the beauty of metal with the exceptional performance of ceramic in terms of resistance and ease of maintenance, Oxide is truly a remarkable choice.





Oxide



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





Complementary product portfolio

In the ceramic realm, PMA sprawls as a masterpiece. Beyond porcelain ceramics, our offerings resonate with the brand's touch of quality and innovation. Whether it's foundational construction chemicals, exquisite furniture, or precision cutting – PMA promises excellence.

WOOD





Maxiwood

Maxiwood is a great mix of warmth and elegance which is perfectly in harmony with the latest innovative trends. Maxiwood surface is enhanced by relief punch that gives natural touch with new emotion of wooden material character and personality to every setting. Thanks to the stable nature of porcelain, Maxiwood is able to tackle every condition and offers new uses of wood for floors and walls in residential and commercial spaces.



Wall: Maxiwood Platinum Relief — 20x120 cm
Floor: Maxiwood Walnut Relief — 20x120 cm



Floor: Maxiwood Almond Relief — 20x120 cm



Floor: Maxiwood Almond Relief — 20x120 cm

Maxiwood

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



MONO
COLOR





Facade: Monocolor White Matte — 60x120 cm



Monocolor Night

A perfect synthesis of technology, simplicity and pureness, living all in full colors. From light of white to darkness of black with combination of joyful day colors. Monocolor series of PMA make architects dream come true by offering them a range of selected colors to create genial, flawless and solid spaces.



Facade: Monocolor White and
Monocolor Black Matte — 60x120 cm



Facade: Monocolor White Matte — 60x120 cm

Monocolor Night

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



White

60x120 cm
GM-R9305
Matte

Light Grey

60x120 cm
GM-R9380
Matte

Dark Grey

60x120 cm
GM-R9385
Matte

Black

60x120 cm
GM-R9388
Matte

Crafting Iconic Facades & Beyond

In the architectural sonnet, a facade is the chorus. PMA ceramics are not just crafted for beauty but curated for an everlasting imprint. From bustling commercial hubs to serene hospitals, our ceramics are a symphony of design and durability.



TECHNICAL
INFORMATION

Technical Characteristics

CHARACTERISTICS	Annex G Group Bla		Test Method	PMA Test Result
	Requirments for normal size n >15cm			
DIMENSIONS AND SURFACE QUALITY				
Length and width (cm)	±0.6%	max ±2mm	EN ISO 10545-2	Affirmative
Thickness	+5%	max ±0.5mm	EN ISO 10545-2	Affirmative
Rectangularity	±0.5%	max ±2mm	EN ISO 10545-2	Affirmative
Straightness of sides	±0.5%	max ±1.5mm	EN ISO 10545-2	Affirmative
Length and width (cm)	N >15cm ±0.6%	max ±2mm	EN ISO 10545-2	Affirmative
Thickness	±5%	max ±0.5mm	EN ISO 10545-2	Affirmative
Rectangularity	±0.5%	max ±2mm	EN ISO 10545-2	Affirmative
Straightness of sides	±0.5%	max ±1.5mm	EN ISO 10545-2	Affirmative
Surface flatness	±0.5%	max ±2mm	EN ISO 10545-2	Affirmative
SURFACE FLATNESS				
a) Center curvature ,related to diagonal calculated from the work sizes	+0.5%	max ±2mm	EN ISO 10545-2	Affirmative
b) Edge curvature, related to the corresponding work size	±0.5%	max ±2mm	EN ISO 10545-2	Affirmative
c) Warpage, related to diagonal calculated from the work size	±0.5%	max ±2mm	EN ISO 10545-2	Affirmative
PHYSICAL PROPERTIES				
Water absorption (in %by mass)	E <0.5%	Individual Maximum 0.6%	EN ISO 10545-3	Affirmative
BREAKING STRENGTH (N)for Thickness ≥7.5mm	Not Less Than 1300N		EN ISO 10545-4	Affirmative
Flexural tensile strength or Modulus of rupture (N /mm²)	Minimum 35N /mm² Individual Minimum 32N /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		EN ISO 10545-6	Affirmative
Resistance to surface abrasion of glazed tiles intended for use on floors	Abrasion class and cycles 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 ISO 10545-1		EN ISO 10545-9	Affirmative

CHARACTERISTICS	Annex G Group Bla	Test Method	PMA Test Result
	Requirments for normal size n >15cm		
CHEMICAL PROPERTIES			
Resistance to the low concentration of acids & alkanes	Declared Value	EN ISO 10545-13	Affirmative
Resistance to the high concentration of acids & alkanes	Declared Value		Affirmative
Resistance to household chemicals & swimming pool salts	Minimum Class B		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	EN ISO 10545-13	Affirmative
Resistance to the high concentration of acids & alkalis	Declared value		Affirmative
Resistance to household chemicals & swimming Pool Salts	Minimum class B		Affirmative

Technical Characteristics

WATER ABSORPTION

ISO 10545-3

The water absorption of IMPERIO 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). The IMPERIO 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. The IMPERIO 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 <6° 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 E5

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

» Class E4

The stain is removed using a weak neutral detergent and a non-abrasive sponge.

» Class E3

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

» Class E2

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

» Class E1

The stain cannot be removed.

CHARACTERISTICS OF THE IMPERIO SLABS

The IMPERIO 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 IMPERIO 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, IMPERIO 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 IMPERIO technical manual.

FITTING

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°C and 30/35°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 IMPERIO 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 IMPERIO 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. It is preferable to try cleaning a small part of the surface first; if the results are good, the entire surface can then be cleaned. 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, IMPERIO recommends 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 IMPERIO slabs, 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, IMPERIO would like to point out that hydrofluoric acid (HF) and its derivatives cause irrevocable damage to its products. For routine cleaning operations, IMPERIO recommends 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.

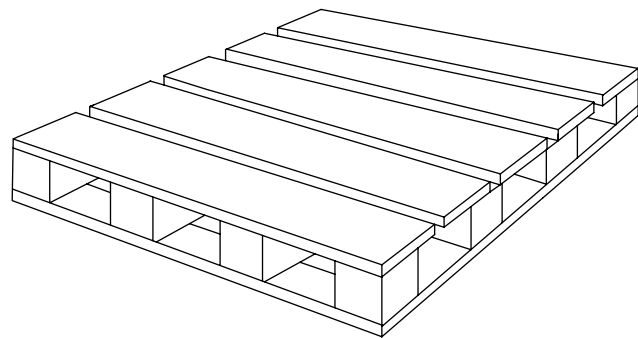
EXTRAORDINARY CLEANING

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.

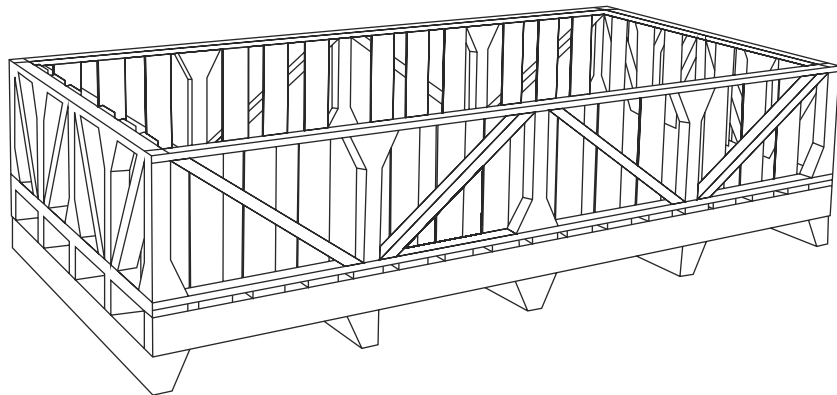
RAISED FLOORINGS

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.

Packing



Size (cm)	Thickness (mm)	Weight Pallet	Sqm Box	Pieces Box	Kg Box	Box Pallet	Sqm Pallet
60x120 Polished	11	2,292	1.44	2	38.2	60	86.4
60x120 Matte	11	2,250	1.44	2	37.5	60	86.4
60x120	9	2,160	1.44	2	30	72	103.68
20x120	11.5	2,021	0.96	4	26	84	80.64
60x60	20	1,241.6	0.72	2	31.04	40	28.8
100x100	10	2,208	2	2	46	48	96



Size (cm)	Thickness (mm)	Weight Pallet	Sqm Box	Pieces Box	Kg Box	Box Pallet	Sqm Pallet
80x160	9	1,370	1.28	-	27.4	50	64
120x120	9	1,530	1.44	-	32.5	45	64.8
120x240	9	2,354	2.88	-	62	36	103.68
120x280	9	2,730	3.36	-	72	36	120.96
120x280	6	2,208	3.36	-	48	46	154.56
160x320	9	2,600	5.12	-	110	22	112.64

Technical Details

Table -2 Characteristic of Ceramic Tiles Required for Different Applications

CHARACTERISTICS ^{a)}		FLOORINGS		WALLS		TEST METHOD
A)	DIMENSIONS AND SURFACE QUALITY	INTERIOR	EXTERIOR	INTERIOR	EXTERIOR	REFERENCE
A.1	Length and Width (cm)	X	X	X	X	EN ISO 10545-2
A.2	Thickness	X	X	X	X	EN ISO 10545-2
A.3	Straightness of Sides (i.e. Facial Sides) ^{b)}	X	X	X	X	EN ISO 10545-2
A.4	Rectangularity ^{b)}	X	X	X	X	EN ISO 10545-2
A.5	Surface Flatness	X	X	X	X	EN ISO 10545-2
A.6	Surface Quality	X	X	X	X	EN ISO 10545-2
B)	PHYSICAL PROPERTIES	INTERIOR	EXTERIOR	INTERIOR	EXTERIOR	REFERENCE
B.1	Water Absorption	X	X	X	X	EN ISO 10545-3
B.2	Breaking Strength ^{c)}	X	X	X	X	EN ISO 10545-4
B.3	Flexural Tensile Strenght ^{d)} or Modules of Ruptured ^{d)}	X	X	X	X	EN ISO 10545-4
B.4 a	Resistance to Deep Abrasion -Unglazed Tiles ^{d)}	X	X			EN ISO 10545-6
B.4 b	Resistance to Surface Abrasion -Glazed Tiles ^{c)}	X	X			EN ISO 10545-7
B.5	Leaner Thermal Expansion ^{g)}	X	X	X	X	EN ISO 10545-8
B.6	Resistance to Thermal Shock ^{f)}	X	X	X	X	EN ISO 10545-9
B.7	Resistance to Crazing ^{g)}	X	X	X	X	EN ISO 10545-11
B.8	Freeze -Thaw Resistance ^{h)}		X		X	EN ISO 1015-12
B.9	Slipperiness	X	X			FprCEN /TS 16165:2011 ^{l)}

CHARACTERISTICS ^{a)}		FLOORINGS		WALLS		TEST METHOD
B.10 a	Bond Strength / Adhesion ^{k)} - Cementitious Adhesives			X	X	EN 12004:2007,4.1
B.10 b	Bond Strength / Adhesion ^{k)} - Dispersion Adhesives			X	X	EN 12004:2007,4.2
B.10 c	Bond Strength / Adhesion ^{k)} - Reaction Resin Adhesives			X	X	EN 12004:2007,4.3
B.10 d	Bond Strength / Adhesion ^{k)} - Mortar			X	X	EN ISO 10545-12
B.11	Moisture Expansion ^{h)}	X	X	X	X	EN ISO 10545-10
B.12	Small Color Differences ^{m)}	X	X	X	X	EN ISO 10545-16
B.13	Impact Resistance ⁿ⁾	X	X			EN ISO 10545-5
B.14	Reaction to Fire ^{o)}	X		X	X	WT
B.15	Tactility ^{p)}	X	X			CEN TS 15209)
C)	CHEMICAL PROPERTIES	INTERIOR	EXTERIOR	INTERIOR	EXTERIOR	REFERENCE
C.1 a	Resistance to Staining -Glazed Tiles ^{q)}	X	X	X	X	EN ISO 10545-14
C.1 b	Resistance to Staining -Unglazed Tiles ^{q)}	X	X	X	X	EN ISO 10545-14
C.2 a	Resistance to Acids and Alkalis of Low Concentration ^{r)}	X	X	X	X	EN ISO 10545-13
C.2 b	Resistance to Acids and Alkalis of High Concentration ^{r)}	X	X	X	X	EN ISO 10545-13
C.2 c	Resistance to Household Cleaning Agents and Swimming Pool Chemicals ^{r)}	X	X	X	X	EN ISO 10545-13
C.3 a	Release of Cadmium -Glazed Tilest ^{s)}	X	X	X	X	EN ISO 10545-15
C.3 b	Release of Lead -Glazed Tilest ^{s)}	X	X	X	X	EN ISO 10545-15
C.3 c	Release of Other Dangerous Substances ^{s)}	X	X	X	X	As Relevant

Ceramic tiles shall be classified into groups according to two parameters: by their method of manufacture (also referred to "shaping") that is, extrusion (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

Shaping	Water Absorption (E _b)			
	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 AI _a E _b ≤ 0.5% (see Annex L)	Group AII _{a-1} ^{a)} (see Annex B)	Group AII _{b-1} ^{a)} (see Annex D)	Group AIII (see Annex F)
	Group AI _b 0.5% < E ≤ 3% (see Annex A)	Group AII _{a-2} ^{a)} (see Annex C)	Group AII _{b-2} ^{a)} (see Annex E)	Group BIII _b (see Annex K)
Method B Dry-pressed	Group BI _a E _b ≤ 0.5% (see Annex G)	Group BII _a (see Annex I)	Group BII _b (see Annex J)	
	Group BI _b 0.5% < E _b ≤ 3% (see Annex H)			

a) Groups AII and AII_b 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).

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.
- l 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.
- q 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 2005/31/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).

Requirements for Dry-pressed Ceramic Tiles With Low Water Absorption of GROUP BI_a (E_b ≤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 BI_a (E_b ≤0.5%)

CHARACTERISTICS	Requirements for Nominal Size N			Test Method
	7 cm< N <15 cm	N ≥ 15 cm		
	(mm)	%	(mm)	
A) DIMENSIONS AND SURFACE QUALITY				
A.1 LENGTH AND WIDTH				
The Work Size Shall be Chosen as Follows for :				
a) Modular Tiles :	In order to allow a nominal joint width of between 2 and 5mm			-
b) Non -modular Tiles :	So that the difference between the work size and normal size is not more than 2% (max 0.5mm)			-
The Permissible Deviation of the Average Size for the Each Tile (2 or 4Sides) 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 (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				

CHARACTERISTICS	Requirements for Nominal Size N			Test Method
	7 cm< N <15 cm	N ≥ 15 cm		
	(mm)	%	(mm)	
b) Edge Curvature, Related to the Corresponding Work Size	+0.75 mm	±0.5%	+2 mm	EN ISO 10545-2
B) PHYSICAL PROPERTIES				
B.1 WATER ABSORPTION (IN %BY MASS)	E _b ≤ 0.5 Individual maximum 0.6%			EN ISO 10545-3
B.2 BREAKING STRENGTH, FOR :				
a) Thickness ≥ 7.5mm	Not less than 1300N			EN ISO 10545-4
b) Thickness < 7.5mm	Not less than 700N			EN ISO 10545-4
B.3 FLEXURAL TENSILE STRENGTH OR MODULUS OF RUPTURE ^d	Minimum 35N /mm ² Individual minimum 32N / mm ²			EN ISO 10545-4
B)PHYSICAL PROPERTIES				
B.4 ABRASION RESISTANCE				
a) Resistance to Deep Abrasion of Unglazed Tiles : Removed Volume	Maximum 175 mm ³			EN ISO 10545-6
b) Resistance to Surface Abrasion of Glazed Tiles Intended for Use on Floors ^e	Abrasion class and cycles passed			EN ISO 10545-7
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 10545-1 ^g			EN ISO 10545-9
B.7 CRAZING RESISTANCE: Glazed Tiles ^h	Pass according to EN ISO 10545-1 ^g			EN ISO 10545-11 ^h
B.8 FROST RESISTANCE	Pass according to EN ISO 10545-1 ^g			EN ISO 10545-12
B.9 SLIPPERINESS	Declared value (s) ^g			PrCEN /TS 16165:2011 ⁱ
B.10 BOND STRENGHT / ADHESION ^j , FOR :				
a) Cementitious Adhesives ^k	Declared value (s)			EN 12004:2007,4.1 ^l

CHARACTERISTICS	Requirements for Nominal Size N			Test Method
	7 cm< N <15 cm	N ≥ 15 cm		
	(mm)	%	(mm)	
b) Dispersion Adhesives ^k	Declared value (s)			EN 12004:2007,4.2 ^j
a) Glazed Tiles	ΔE<0.75			EN ISO 10545-16
b) Unglazed Tiles	ΔE <1.0			EN ISO 10545-16
B.13 IMPACT RESISTANCE, as:				
- 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 description ^g			CEN /TS 15209 ^g
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 ^g			EN ISO 10545-15
b) Lead (in mg /dm²)	Declared value ^g			EN ISO 10545-15
c) Other Dangerous Substances ^o	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.
- l 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 AT material7. The reaction to the fire performance of ceramic tiles may also be classified also as class AT 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.

Symbology

 Chemical resistance

 Frost resistance

 Stain resistance

 Deep abrasion resistance

 Thermal shock

 Breaking strength

 Low water absorption

SHADE VARIATION

V1Uniform appearance

V2Slight variation

V3Moderate variation

V4Random variation

Cleaning Products

TYPES OF DETERGENT Where the sale is permitted	SOLVENTS (bleach, turpentine, acetone, trichloroethylene, nitro thinner)			ACIDS (muriatic acid ,hydrochloric acid, phosphoric acid)			ALKALINE -BASED DETERGENTS (professional alkaline detergents)		
SURFACE	Matte	Satin	Polished	Matte	Satin	Polished	Matte	Satin	Polished
TYPE OF STAINS									
Coffee			■						
Lime scail				■	■	■			
Tar	■	■							
Concrete				■	■	■			
Candle wax	■	■	■						
Coca Cola			■						
Glue	■	■	■						
Chewing gum	■	■	■				■	■	
Rubber marks from tyres or shoes	■	■	■						
Grease ,Oil							■	■	■
Ink	■	■	■						
Nicotine	■	■	■						
Felt -tip pen	■	■	■						
Tomato			■						
Resins	■	■	■						
Rust				■	■	■			
Nail varnish	■	■	■						
Cigarette burns				■	■	■			
Tea		■	■						
Wall point	■	■	■	■	■	■			

For information and advice, please contact PMA directly.



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