

NOVELTY CATALOG 2026



PISHGAMAN MEMARI ARYA

WE WILL ALWAYS BE THERE, FOR YOU

Founded in 2008, Pishgaman Memari Arya (PMA) has grown into a leading producer of premium full-body porcelain ceramics. Today, under its unified global identity PMA | IMPERIO, the company combines Iranian manufacturing expertise with European design excellence.

With its strategic office in Castellón, Spain, PMA | IMPERIO ensures direct access to top-quality raw materials and closer ties to the European export market. Inspired by renowned Italian and Spanish design studios, our collections embody luxury, elegance, and modernity, tailored for residences, villas, hotels, and exclusive projects worldwide.

Our wide range of sizes from 20×120 up to 160×320 cm meets diverse applications, all certified with European standards and regularly tested in accredited international laboratories. Beyond product quality, PMA | IMPERIO is committed to customer experience. An skilled civil engineers team provides personalized consulting, technical support, and on-site services to ensure the best outcome for every project. Through continuous training, seminars, and workshops, we strengthen the connection between design innovation and practical application.

PMA | IMPERIO: for those who seek originality, glamour and timeless sophistication.



Variety of Sizes

To Create an Architectural Dream

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

The following sizes are available according to your order: $40\times40 - 60\times60 - 150\times150 - 160\times160 - 150\times300$

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Modern & Luxury

Essence of Modern Opulence

Redefining Elegance and Innovation in Ceramics. At PMA | IMPERIO, we understand that our discerning clientele seeks more than just functionality in ceramics; they desire a blend of luxury and contemporary design that elevates their living spaces. Our exclusive collection embodies this ethos, offering an unparalleled fusion of sophisticated style and cutting-edge innovation. Each piece is crafted with meticulous attention to detail, ensuring not only an aesthetic that resonates with modern luxury but also a quality that stands the test of time. From the sleek contours of our designs to the opulent finishes that characterize our range, PMA | IMPERIO ceramics are a testament to our commitment to excellence in every aspect. Step into a world where elegance meets modernity, and let PMA | IMPERIO transform your spaces into a haven of upscale refinement and contemporary charm.



Products



Cement Effect

Urban Simplicity, Elevated

02 ___

Inspired by the honest texture of cast concrete, the Cement Collection embraces industrial minimalism with an architectural edge. Its matte surfaces and soft tonal shifts reflect the soul of the modern cityscape.

Ideal for contemporary interiors and commercial spaces alike, it offers understated sophistication and resilient performance bringing urban spirit into refined environments.







Eminent

Let's take a closer look at Eminent. This masterpiece combines the raw solidity of cement with the tactile elegance of interwoven threads where the passage of time has softly marked a heritage. Its industrial appearance is layered with a warm touch and gentle look. Through the interaction between delicacy and permanence, Eminent separates itself from conventional concrete designs and proves its potential via its five fantastic colors to match both contemporary and classic compositions.











PMA Chemical
JOINT BAND
Color Suggestion

JB-30

JB-36

JB-10

JB-15

JB-35

Size	Thickness	KG/Pallet	SQM Box	Pieces Box	KG/Box	Box/Pallet	SQM Pallet
120x280 cm	9.5 mm	2,730	3.36	-	72	36	120.96

Product details, including thickness and shade, may vary. For more information, please contact our sales department.

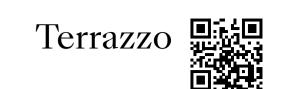


Terrazzo

In a whisper of artistry, a new design emerges from scattered fragments of time. This design brings the memory of heritage stone mixed with various minerals to life. Each of the four Terrazzo tonalities is meticulously set within a field of subtle texture, resulting in a piece that feels both rooted in tradition and distinctly modern. This creation provides a unique and poetic language for design.









Snow

100x100 cm

IM2560W-M

Matte | 10 Faces



Earth

100x100 cm
IM2575W-M
Matte | 10 Faces



PMA Chemical
JOINT BAND
Color Suggestion
JB-5
JB-10
JB-30
JB-35

 Size
 Thickness
 KG/Pallet
 SQM Box
 Pieces Box
 KG/Box
 Box/Pallet
 SQM Pallet

 100x100 cm
 9.5 mm
 2,217
 2.00
 2
 46
 48
 96.00

Product details, including thickness and shade, may vary. For more information, please contact our sales department.



A Resounding Legacy in Iran's ceramic Expanse

In Iran's ceramic domain, PMA | IMPERIO emerges as a beacon of unmatched excellence. With an unparalleled track record in both national and private endeavors, we've adorned a staggering 10 million square meters across 2,500 architectural marvels. In facades alone, our signature graces another 4 million square meters across 1100 landmarks. Beyond numbers, our collaborative journey with 8400+ industry maestros underscore our commitment. For those in quest of ceramic perfection, PMA | IMPERIO is the destination.







Design Alcove

A Confluence of Global Aesthetics and Indigenous Artistry

PMA | IMPERIO'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 | IMPERIO's Design Studio, the future of ceramics is produced today.



Marble Effect

Timeless Elegance, Reinvented

02 ___

Inspired by the grandeur of natural stone, the Marble Collection captures the intricate beauty and luxurious depth of classic marbles reimagined through cutting-edge ceramic innovation. With a refined palette and meticulous veining, each surface tells a story of sophistication and enduring style.

Whether used in modern interiors or timeless architectural spaces, this collection delivers the prestige of marble with the practicality of high-performance porcelain. Ideal for walls and floors, it offers seamless harmony between nature's legacy and contemporary living.



Sovereign Cream

Sovereign Cream owes its elegance to the Pergamon Marble features, originating from Italy. The soft background that exudes purity and depth, makes Sovereign Cream an ideal choice for creating light and airy spaces. The subtle shades, sometimes referred to as honey tones, appear delicately within the texture, adding warmth to the overall design while white veins spreading over the background reveal the hidden grace in the layers of the design.

















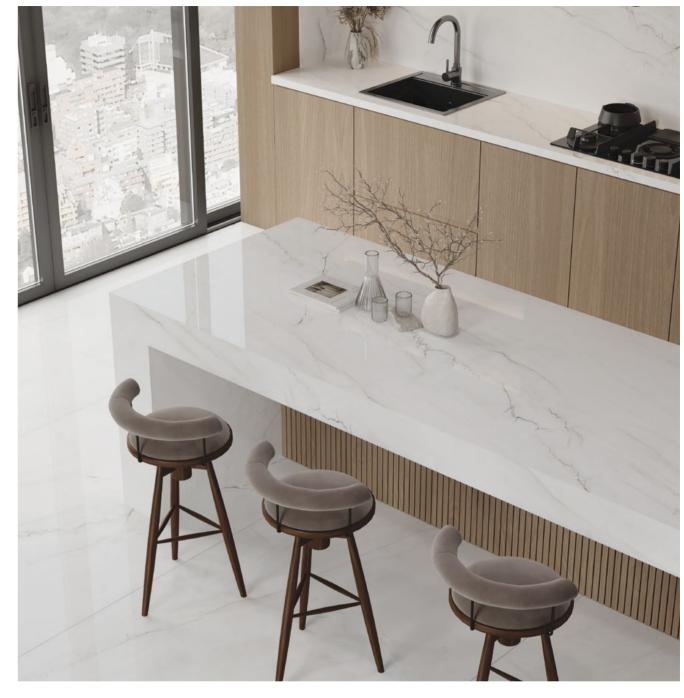
PMA Chemical JOINT BAND Color Suggestion



Size	Thickness	KG/Pallet	SQM Box	Pieces Box	KG/Box	Box/Pallet	SQM Pallet
120x300 cm	9.5 mm	2,950	3.6	-	82	36	129.6
120x280 cm	9.5 mm	2,730	3.36	-	72	36	120.96
100x100 cm	9.5 mm	2,217	2.00	2	46	48	96.00
60x120 cm	11.5 mm	2,250	1.44	2	38	60	86.40

Product details, including thickness and shade, may vary. For more information, please contact our sales department.





Mont Blanc

Mont Blanc is a timeless and elegant design, a study in graceful simplicity that elevates any space with a touch of modern architecture. In this design, the canvas of pure white marble is graced with a dance of delicate veins. These winding veins, like whispers of an ancient story, form an aesthetic composition of Brazilian quartzite. The light sparse background and the flow of the veins make Mont Blanc even more remarkable with either polished or matt finish.









Floor: Level Light Grey Soft Matte | 120x280 cm

Wall: Mont Blanc
Polished | Book Match





Available also in size 120x300 cm FGPB-P5230 | Polished | Book Match

PMA Chemical JOINT BAND Color Suggestion JE

Size	Thickness	KG/Pallet	SQM Box	Pieces Box	KG/Box	Box/Pallet	SQM Pallet
120x300 cm	9.5 mm	2,770	3.60	-	77	36	129.60
120x280 cm	9.5 mm	2,730	3.36	-	72	36	120.96
100x100 cm	9.5 mm	2,217	2.00	2	46	48	96.00
60x120 cm	11.5 mm	2,292	1.44	2	38	60	86.40

Product details, including thickness and shade, may vary. For more information, please contact our sales department.



Soaring with PMA | IMPERIO

The Pinnacle of Porcelain Facades in Iran

When it comes to pioneering porcelain facades, PMA | IMPERIO doesn't merely lead – they redefine excellence, soaring above all. As Iran's foremost trailblazer in ceramic facades, PMA | IMPERIO 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 | IMPERIO is not just about shielding buildings but sculpting skylines. Embark on a journey with PMA | IMPERIO – where innovations take wing.



Cement Effect

Urban Simplicity, Elevated

02

Inspired by the honest texture of cast concrete, the Cement Collection embraces industrial minimalism with an architectural edge. Its matte surfaces and soft tonal shifts reflect the soul of the modern cityscape.

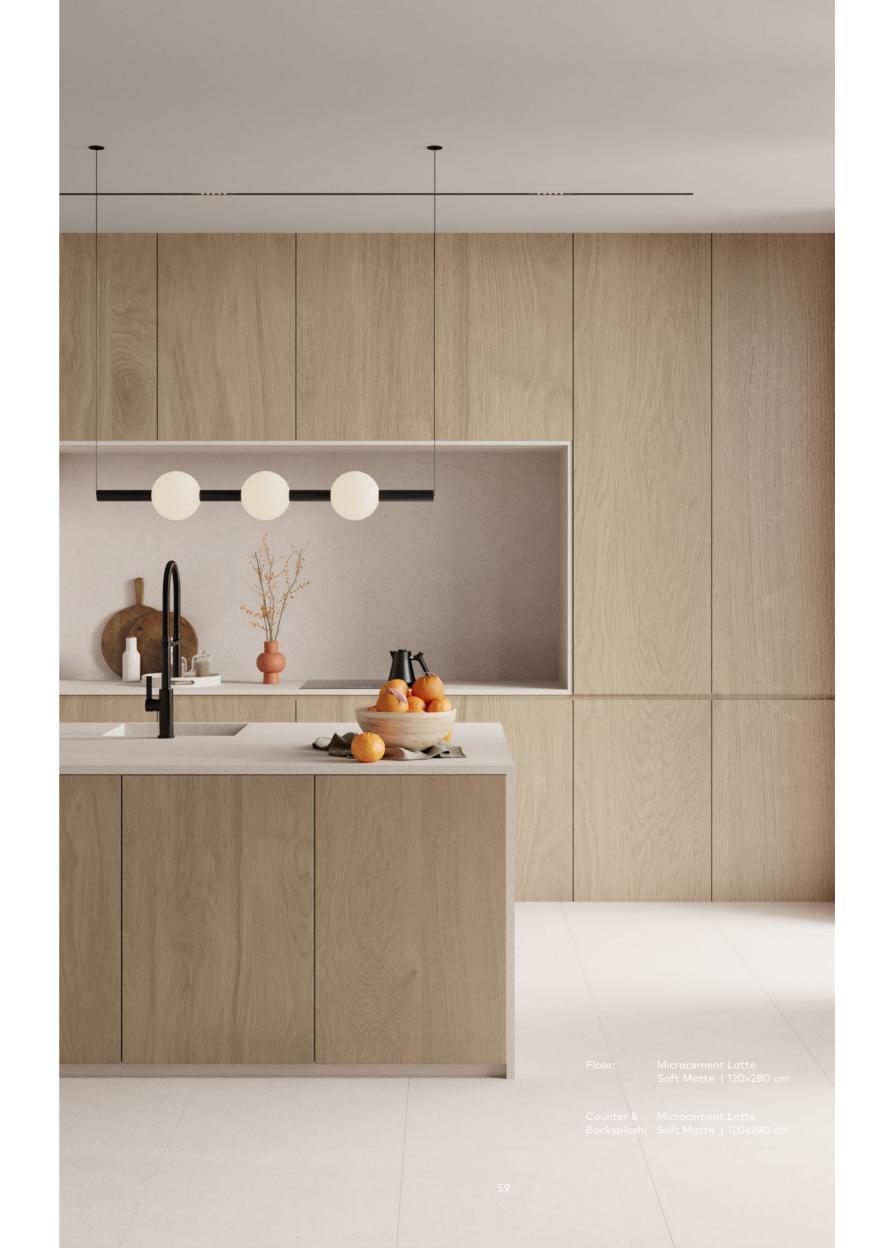
Ideal for contemporary interiors and commercial spaces alike, it offers understated sophistication and resilient performance bringing urban spirit into refined environments.

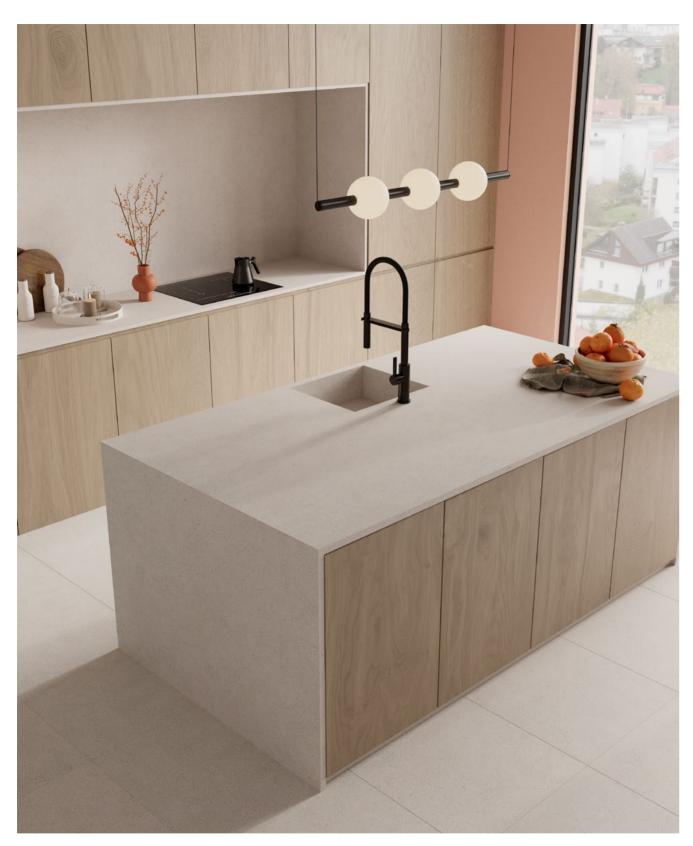




Microcement

Modern simplicity can be achieved through harnessing natural elements. Microcement creates a singular, integrated and homogenous surface which can be seamlessly woven into any stylish architectural design with its diverse six-color palette. Distinguished Elarca punch which evokes elegance in an arced structure is a unique decorative and creative texture that generates a tactile and visual depth.





Floor: Microcement Latte Soft Matte | 120x280 cm Counter & Microcement Latte
Backsplash: Soft Matte | 120x280 cm

Microcement Microcement



PMA Chemical JOINT BAND Color Suggestion



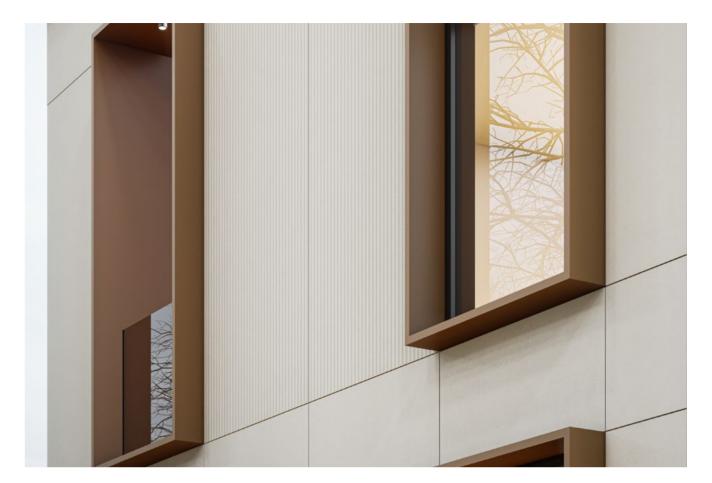




Size	Thickness	KG/Pallet	SQM Box	Pieces Box	KG/Box	Box/Pallet	SQM Pallet
120x280 cm	9.5 mm	2,730	3.36	-	72	36	120.96
60x120 cm	11.5 mm	2,250	1.44	2	38	60	86.40

Product details, including thickness and shade, may vary. For more information, please contact our sales department.



















86.40

PMA Chemical JOINT BAND Color Suggestion

Size

60x120 cm



11.5 mm





KG/Pallet

2,250

SQM Box	Pieces Box	KG/Box	Box/Pallet	SQM Pallet

Product details, including thickness and shade, may vary. For more information, please contact our sales department.



Wall: Microcement Milk Elarca Relief | 120x280 cm

Floor: Microcement Latte Soft Matte | 120x280 cm







70





PMA Chemical JOINT BAND Color Suggestion





Size	Thickness	KG/Pallet	SQM Box	Pieces Box	KG/Box	Box/Pallet	SQM Pallet
120x280 cm	9.5 mm	2,730	3.36	-	72	36	120.96

Product details, including thickness and shade, may vary. For more information, please contact our sales department.



Elevating Standards, Crafting Excellence

In an epoch were global standards benchmark quality, PMA | IMPERIO 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 | IMPERIO, we don't chase standards; we generate them.

STANDARDS







European standard that defines terms and specifications of ceramic tiles ISO 9001 is the international standard for quality management system

Institute of Standards and Industrial Research of Iran

TEST REPORTS



12/10271





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



Laboratorio Cerámico Sebastián Carpi was the first national laboratory tests to be created for the evaluation of the quality of ceramic tiles.



Modena Centro Prove s.r.l. è un laborato
 di prova che opera nel settore delle ano
 chimiche e dei servizi tecnologici.



Stone Effect

Raw Beauty, Refined

04_

Echoing the enduring strength and organic textures of quarried stone, the Stone Collection blends rugged character with contemporary elegance. Its surfaces evoke landscapes shaped by time, offering a grounded, elemental aesthetic.

Perfect for spaces that seek a balance between authenticity and design sophistication, this collection celebrates nature's raw power refined for modern architecture and interior design.



Romano

Romano reveals the aesthetics of travertine which is a trendy deisgn. The delicate signature streaks and tonal gradients, evoke a visual depth. Romano in cream and bone creates a balance between nature's simplicity and modern possibilities.















Romano Para





PMA Chemical JOINT BAND Color Suggestion





Size	Thickness	KG/Pallet	SQM Box	Pieces Box	KG/Box	Box/Pallet	SQM Pallet
120x280 cm	9.5 mm	2,730	3.36	-	72	36	120.96

Product details, including thickness and shade, may vary. For more information, please contact our sales department.





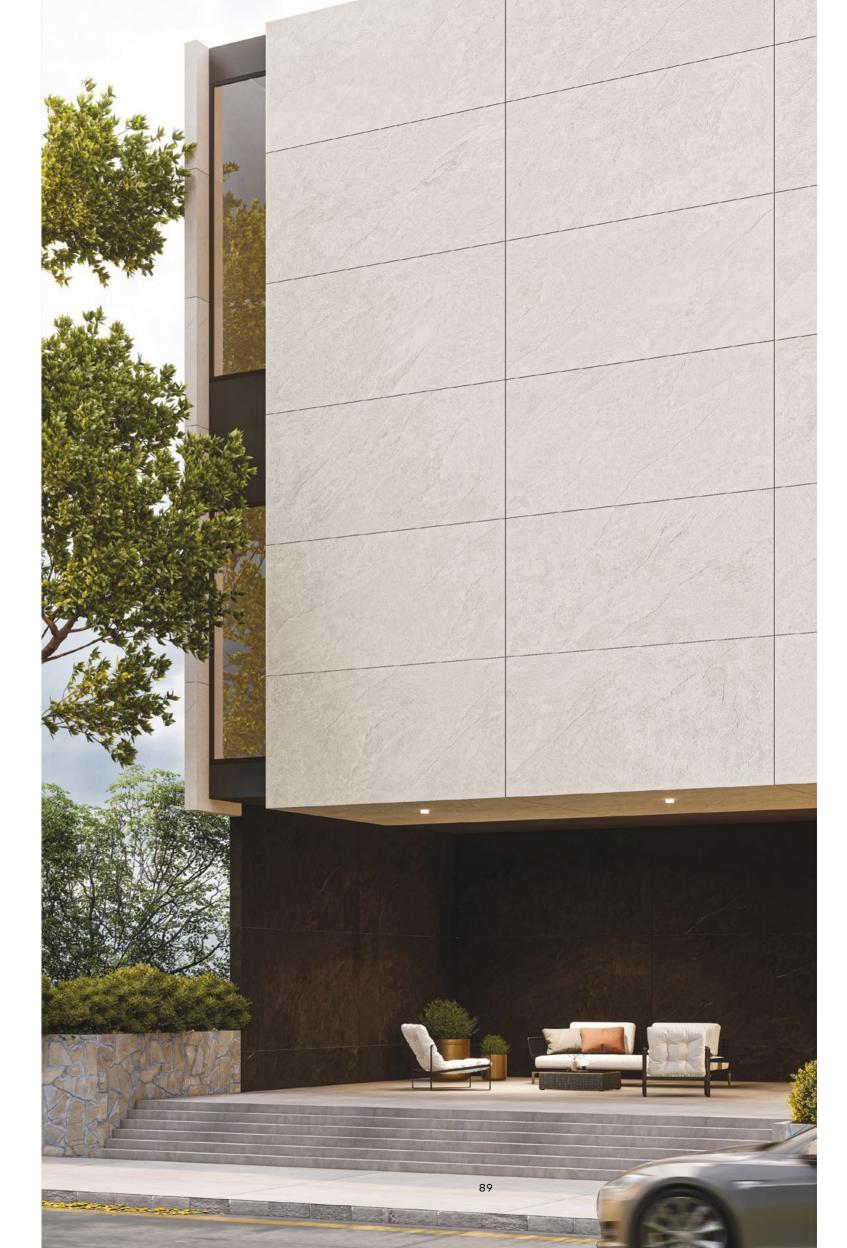
Riven Slate

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.



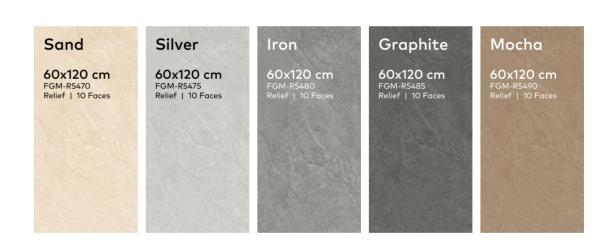












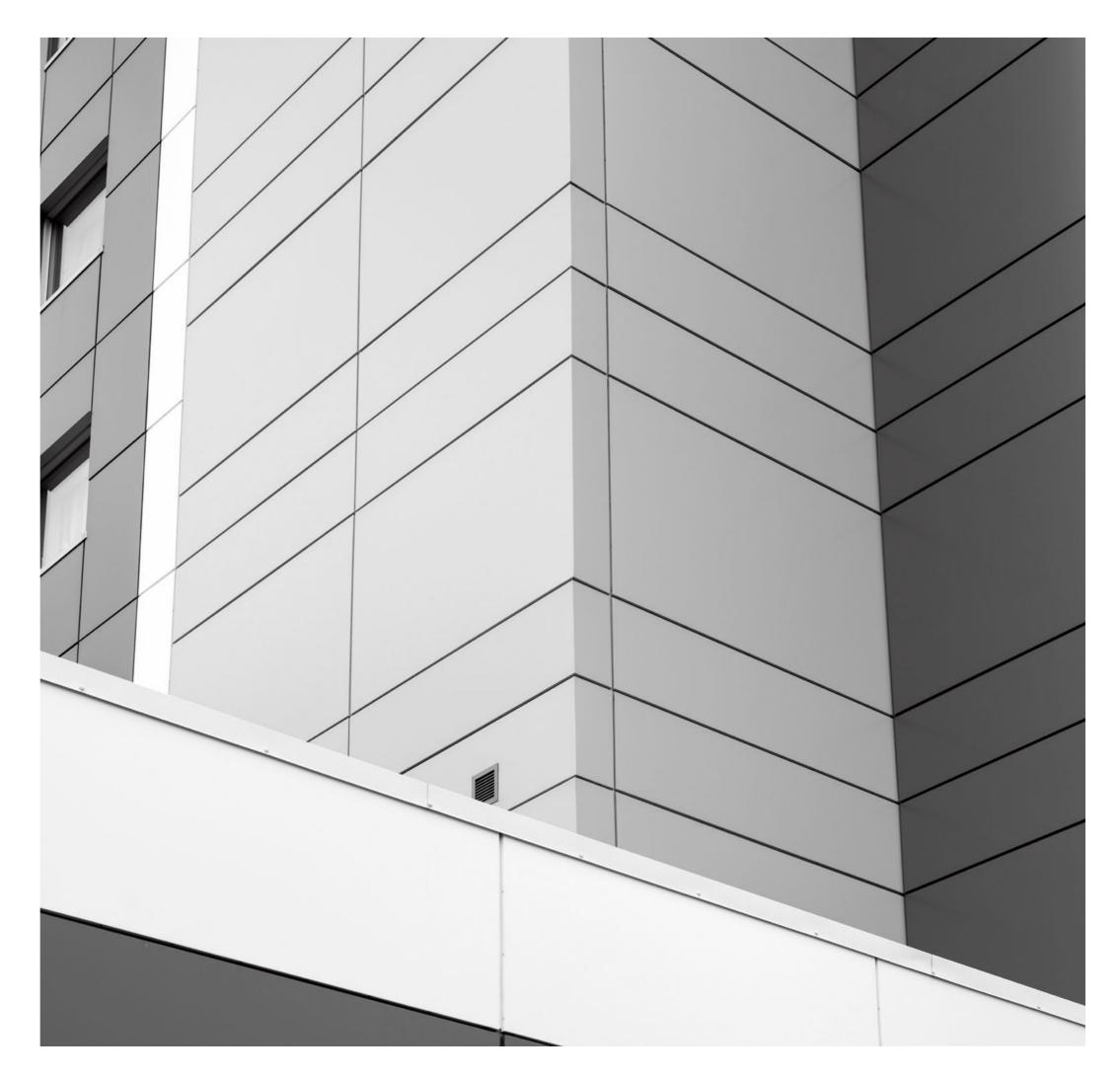


Size	Thickness	KG/Pallet	SQM Box	Pieces Box	KG/Box	Box/Pallet	SQM Pallet
60x120 cm	11.5 mm	2,250	1.44	2	38	60	86.40

Product details, including thickness and shade, may vary. For more information, please contact our sales department.

Crafting Iconic Facades & Beyond

In the architectural sonnet, a facade is the chorus. PMA | IMPERIO 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 Gro		Test Method	PMA IMPERIO Test Result
DIMENSIONS AND SURFACE QUALITY	Requirments for normo	al size n >15cm		
Length and width (cm)	±0.6% mo	ax ±2mm	EN ISO 10545-2	Affirmative
Thickness	5% mo	ax ±0.5mm	EN ISO 10545-2	Affirmative
Rectangularity	±0.5% mo	ax ±2mm	EN ISO 10545-2	Affirmative
Straightness of sides	±0.5% mo	ax ±1.5mm	EN ISO 10545-2	Affirmative
Surface flatness	±0.5% mo	ax ±2mm	EN ISO 10545-2	Affirmative
SURFACE FLATNESS				
a) Center curvature ,related to diagonal calculated from the work sizes	0.50% mo	ax ±2mm	EN ISO 10545-2	Affirmative
b) Edge curvature, related to the corresponding work size	±0.5% mo	ax ±2mm	EN ISO 10545-2	Affirmative
c) Warpage, related to diagonal calculated from the work size	±0.5% mo	ax ±2mm	EN ISO 10545-2	Affirmative
PHYSICAL PROPERTIES				
Water absorption (in %by mass)	E ≤%0.5 Individual M	1aximum %0.6	EN ISO 3-10545	Affirmative
BREAKING STRENGTH (N) for Thickness ≥7.5mm	Not Less Than 1300N		EN ISO 4-10545	Affirmative
Flexural tensile strength or Modulus of rupture (N /mm²)	"Minimum 35N /mm² Individual Minimum 32	!N /mm²"		Affirmative

CHARACTERISTICS	Annex G Group Bla Requirments for normal size n >15cm	Test Method	PMA IMPERIO Test Result
PHYSICAL PROPERTIES			
Impact resistance ,as: Coefficient of restitution (COR)	Declared Value	EN ISO 5-10545	Affirmative
Resistance to deep abrasion of unglazed tiles: Removed value (mm³)	Maximum 175 mm³	EN ISO 6-10545	Affirmative
Resistance to surface abrasion of glazed tiles intended for use on floors	Abrasion class and cycles passed	EN ISO 7-10545	Affirmative
Coefficient of linear thermal expansion	Declared Value	EN ISO 8-10545	Affirmative
Resistance to thermal shock	Pass according to EN ISO 1-10545	EN ISO 9-10545	Affirmative
Frost resistance	Pass according to EN ISO 1-10545	EN ISO 12-10545	Affirmative
CHEMICAL PROPERTIES			
Resistance to the low concentration of acids & alkanes	Declared Value	EN ISO 13-10545	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 (glazed tiles)	Minimum Class 3	EN ISO 14-10545	Affirmative
Resistance to staining (Unglazed tiles)	Declared value	EN ISO 14-10545	Affirmative

Technical Characteristics

WATER ABSORPTION

1SO 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

1SO 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

1SO 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

1SO 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

1SO 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

1SO 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 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 trIM 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

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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, PMA | 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 PMA I 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 auglity). 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 gesthetic 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 PMA | 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 PMA | 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, PMA | 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 PMA | 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, PMA | IMPERIO would like to point out that hydrofluoric acid (HF) and its derivatives cause irrevocable damage to its products. For routine cleaning operations, PMA | 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

99

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.

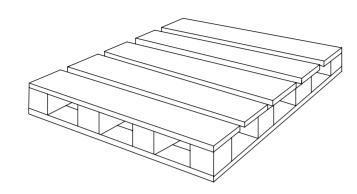
Technical Details

Table -2 Characteristic of Ceramic Tiles Required for Different Applications

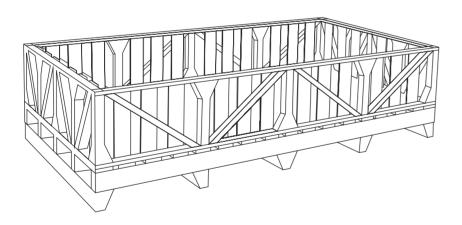
	CHARACTERISTICS [®]		FLOORINGS		LLS	TEST METHOD
A)	DIMENSIONS AND SURFACE QUALITY	INTERIOR	EXTERIOR	INTERIOR	EXTERIOR	REFERENCE
A.1	Length and Width (cm)	Х	х	Х	х	EN ISO 10545-2
A.2	Thickness	х	х	Х	х	EN ISO 10545-2
A.3	Straightness of Sides (i.e. Facial Sides) ^{b)}	Х	Х	Х	Х	EN ISO 10545-2
A.4	Rectangularityb ^{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
В)	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 Tilesd ^{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	Х	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)}	Х	Х	Х	X	EN ISO 10545-11
B.8	Freeze -Thaw Resistanceh ^{h)}		X		X	EN ISO 1015-12
B.9	Slipperiness	х	X			FprCEN /TS 16165:2011 ^D

	CHARACTERISTICS®)	FLOO	RINGS	WA	LLS	TEST METHOD
B.10 a	Bond Strength / Adhesion ^{k)} - Cementitious Adhesives			Х	Х	EN 12004:2007,4.1
B.10 b	Bond Strength / Adhesion ^{k)} - Dispersion Adhesives			Х	Х	EN 12004:2007,4.2
В.10 с	Bond Strength / Adhesion ^{k)} - Reaction Resin Adhesives			Х	Х	EN 12004:2007,4.3
B.10 d	Bond Strength / Adhesion ^{k)} - Mortar			Х	х	EN ISO 10545-12
B.11	Moisture Expansion ⁰	X	х	X	X	EN ISO 10545-10
B.12	Small Color Differences ^{m)}	X	х	X	X	EN ISO 10545-16
B.13	Impact Resistance ⁿ⁾	X	х			EN ISO 10545-5
B.14	Reaction to Fire®	X		X	X	WT
B.15	Tactility ^{p)}	X	х			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')	X	Х	X	х	EN ISO 10545-13
C.2 b	Resistance to Acids and Alkalis of High Concentration')	X	Х	X	х	EN ISO 10545-13
C.2 c	Resistance to Household Cleaning Agents and Swimming Pool Chemicals')	X	х	X	Х	EN ISO 10545-13
С.3 а	Release of Cadmium -Glazed Tilest ^t)	x	х	X	Х	EN ISO 10545-15
C.3 b	Release of Lead -Glazed Tilest*)	х	х	х	Х	EN ISO 10545-15
C.3 c	Release of Other Dangerous Substances ^s)	Х	Х	Х	х	As Relevant

Packing



Size (cm)	Thickness (mm)	Weight Pallet	Sqm Box	Pieces Box	Kg Box	Box Pallet	Sqm Pallet
60x120 Polished	11.5	2,292	1.44	2	38	60	86.40
60x120 Matte	11.5	2,250	1.44	2	38	60	86.40
20x120	11.5	2,021	0.96	4	26	84	80.64
60x60	20	1,242	0.72	2	31	40	28.80
100x100	9.5	2,208	2	2	46	48	96



Size (cm)	Thickness (mm)	Weight Pallet	Sqm Box	Pieces Box	Kg Box	Box Pallet	Sqm Pallet
80x160	9.5	1,370	1.28	-	27	50	64.00
120x120	9.5	1,700	1.44	-	33	50	72.00
120x240	9.5	2,354	2.88	-	62	36	103.68
120x280	9.5	2,730	3.36	-	72	36	120.96
120x300	9.5	2,950	3.60	-	82	36	129.60
160x320	9.5	2,600	5.12	-	110	22	112.64

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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

	Water Absorption (E _b)						
Shaping	Group E _b ≤ 3%	Group II _a 3% < E _b ≤ 6%	Group II _b 6% < E _b ≤ 10%	Group III E _b > 10%			
Method A	Group Al _a $E_b \le 0.5\%$ (see Annex L)	Group All _{o-1} °) (see Annex B)	Group All _{b-1} ^{e)} (see Annex D)	Group Alll (see Annex F)			
Extruded	Group AI_b 0.5% < E ≤ 3% (see Annex A)	Group All _{o-2} o) (see Annex C)	Group All _{b-2} ^{o)} (see Annex E)	Group BIII _b (see Annex K)			
Method B	Group BI E _s ≤ 0.5% (see Annex G)	Group Bll	Group BII _b (see Annex J)				
Dry-pressed	Group Bl _b 0.5% < E _b ≤ 3% (see Annex H)	(see Annex)					

a) Groups All and All, are divided into two parts (parts 1and 2) with different product specifications. Part 1 covers most of the tiles in the group; part 2covers 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.
- $h \quad \text{ For ceramic tiles that are intended to be used where frost may apply.} \\$
- 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.
- $k \quad \text{ For walls when performing the test with actual ceramic tiles and suitable adhesive(s) or mortar only.} \\$
- I See N.2.3.
- m See N.2.6.
- n See N.2.
- $o\quad \text{For ceramic tiles intended to be used for internal floorings and for internal and external walls only.}\\$
- $p \quad \text{For tactile paving surface only i.e. when required for blind or vision impaired persons.} \\$
- 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 marketin

ANNEX G (Normative) EN 14411

Requirements for Dry-pressed Ceramic Tiles With Low Water Absorption of GROUP BI $_{\rm a}$ (E $_{\rm b}$ $\leq 0.5\%$)

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 ($E_b \le 0.5\%$)

	Requirements for Nominal Size N						
CHARACTERISTICS	7 cm< N <15 cm	N ≥ 1	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	ominal joint width of	between 2 and 5mm	-			
b) Non -modular Tiles :		nce between the wor in 2% (max 0.5mm)	k size and normal	-			
The Permissible Deviation of the Average Size for the Each Tile (2 or 4Sides) From the Work Size (W)	+0.11.5 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							
b) Edge Curvature, Related to the Corresponding Work Size	+0.75 mm	±0.5%	+2 mm	EN ISO 10545-2			

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	Requirem			
CHARACTERISTICS	7 cm< N <15 cm	N ≥ 1	5 cm	Test Method
	(mm)	%	(mm)	
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 /mm² Individual minimum 32	2N / mm²		EN ISO 10545-4
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 cyc	cles 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 ⁹		EN ISO 10545-9
B.7 CRAZING RESISTANCE: Glazed Tiles ^h	Pass according to EN	ISO 10545-1 ⁹		EN ISO 10545-11 ^h
B.8 FROST RESISTANCE	Pass according to EN	ISO 10545-1 ⁹		EN ISO 10545-12
B.9 SLIPPERINESS	Declared value (s) ^g			PrCEN /TS 16165:2011 ⁱ
B.10 BOND STRENGHT / ADHESION ⁱ , FOR :				
a) Cementitious Adhesives ^k	Declared value (s)			EN 12004:2007,4.1 ¹
b) Dispersion Adhesives ^k	Declared value (s)			EN 12004:2007,4.2 ¹

	Requireme			
CHARACTERISTICS	7 cm< N <15 cm	N:	≥ 15 cm	Test Method
	(mm)	%	(mm)	
a) Glazed Tiles	ΔΕ<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 ^a	Declared surface desc	ription ^g		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

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- 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.
- 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.
- 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

SHADE VARIATION

SHADE VARIATION

V1 Uniform appearance

V2 Slight variation

V3 Moderate variation

V4 Random variation

