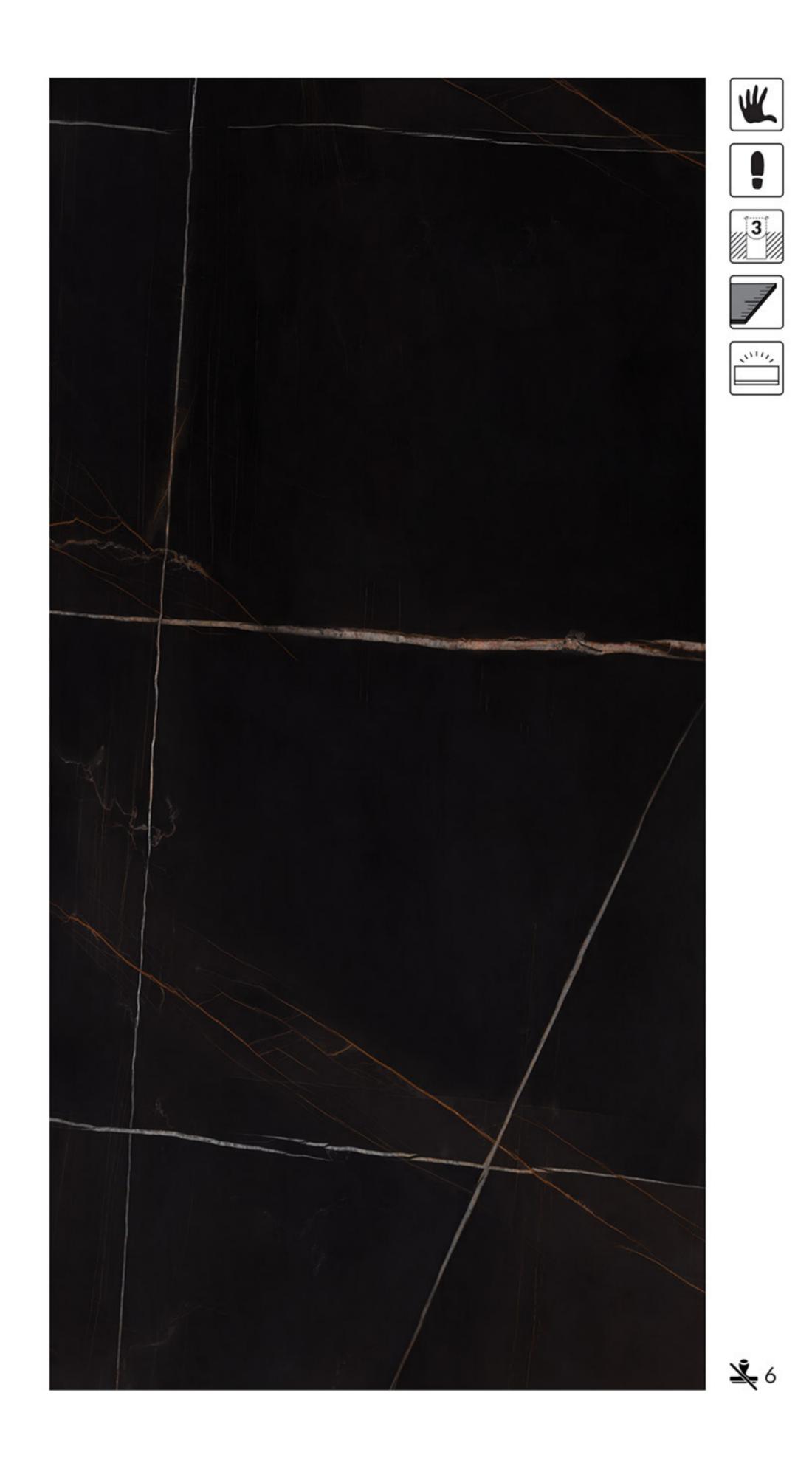




TILE BOOK.24

BCX160 SERIES





WALL >

BAMBOO POLISHED CODE 2400 800x1600 / 32"x64"

FLOOR <u>▼</u>

EVOKE SPECIAL WALNUT RUSTIC MATT CODE 1019 200x1200 / 8"x48"









WALL |

BAMBOO POLISHED CODE 2400 800x1600 / 32"x64"

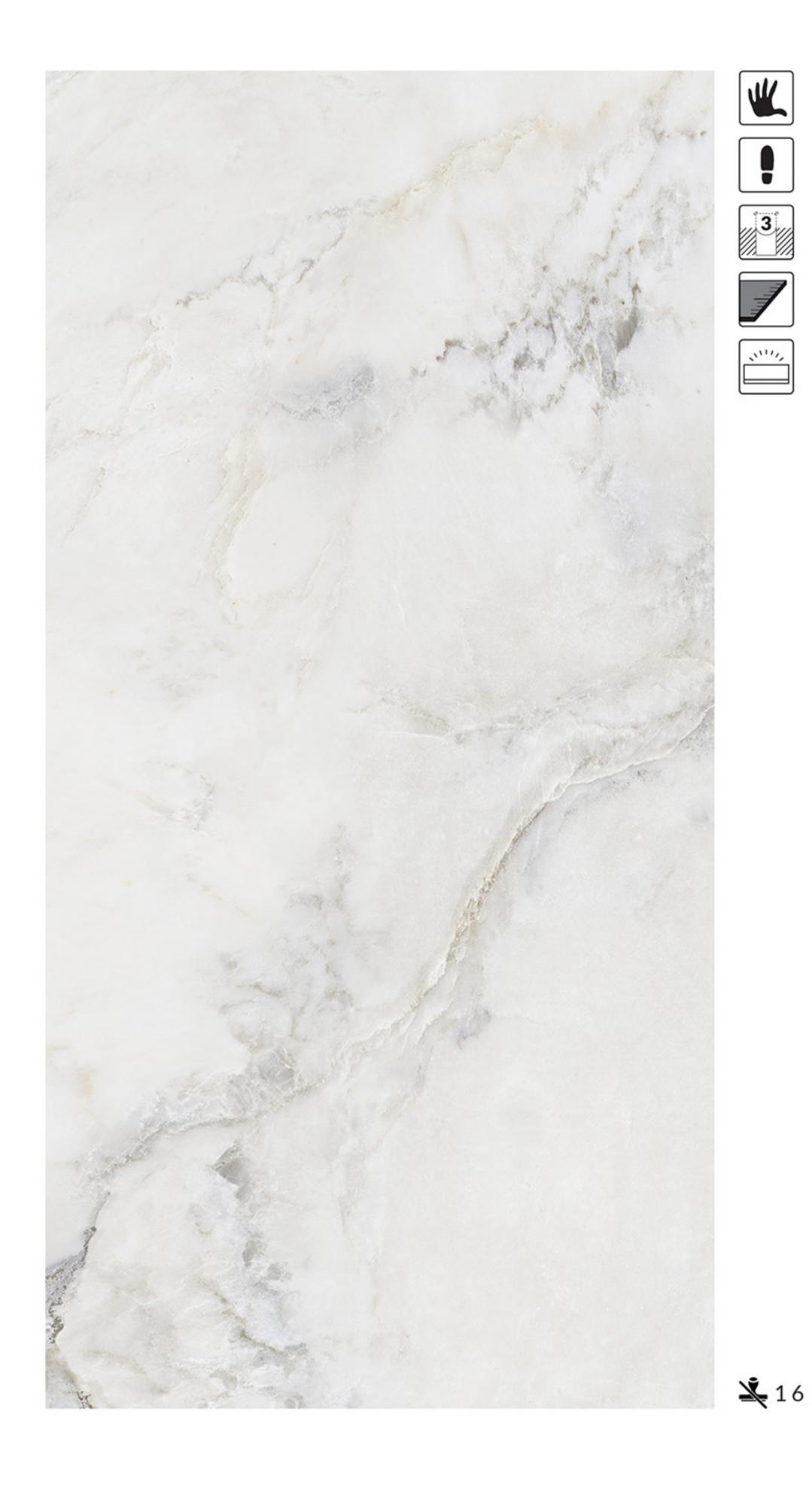
BAMBOO POLISHED MIXED DECOR 800x1600 / 32"x64"

FLOOR <u>▼</u>

BAMBOO POLISHED CODE 2400 800x1600 / 32"x64"



CALACATTA VELVET POLISHED SURFACE CODE 5035 800x1600 / 32"x64"





CALACATTA VELVET POLISHED CODE 5035 800x1600 / 32"x64"

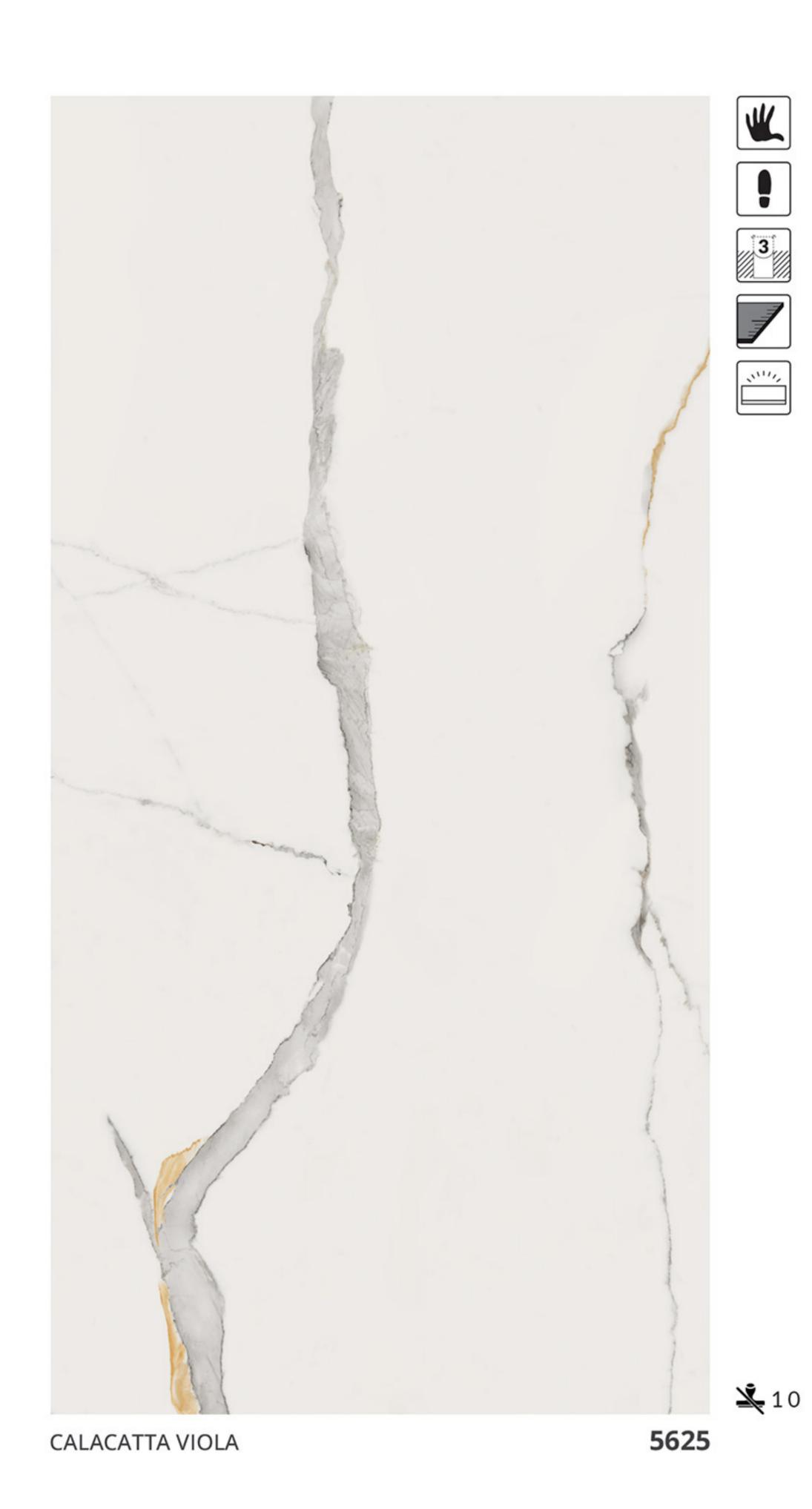
WALL ▶

PURE BLACK FULL BODY MATT CODE **2160** 800x1200 / 32"x48"

Other sizes of tiles available in the collection:
1200×1200 (48"×48") | 1200×2400 (48"×96") | 1200×2600 (48"×102")
1500×3000 (59"×118")



CALACATA VIOLA POLISHED SURFACE CODE 5625 800x1600 / 32"x64"





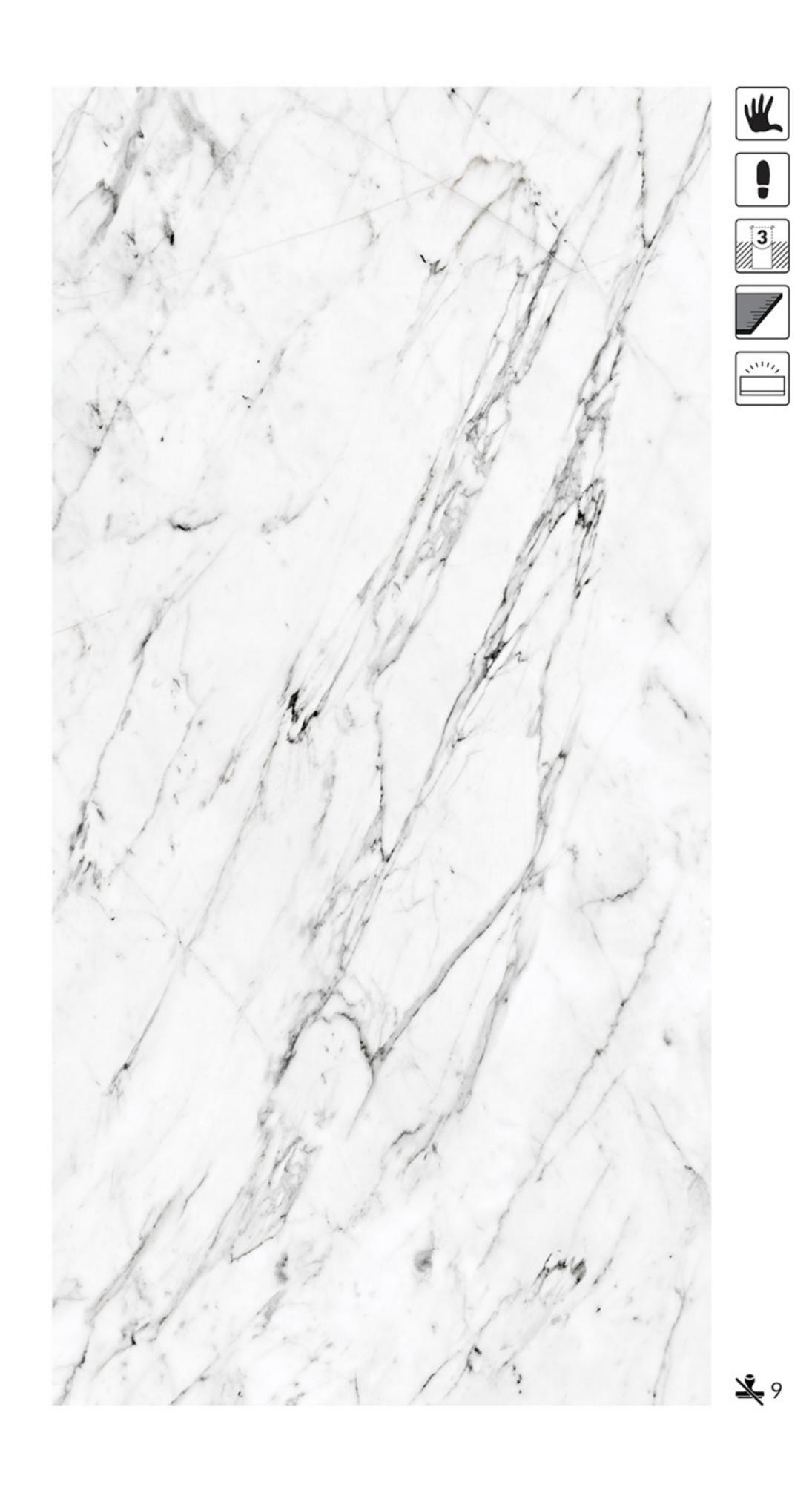
WALL / FLOOR ▶ | ▼

CALACATTA VIOLA POLISHED CODE 5625 800x1600 / 32"x64"

SHOWER CLADDING ▶

PULPIS DARK GRAY POLISHED CODE 5440 800x1600 / 32"x64"







CARRARA POLISHED CODE **5240** 800x1600 / 32"x64"

FLOOR <u>▼</u>

CARRARA POLISHED CODE **5240** 1200x1200 / 48"x48"

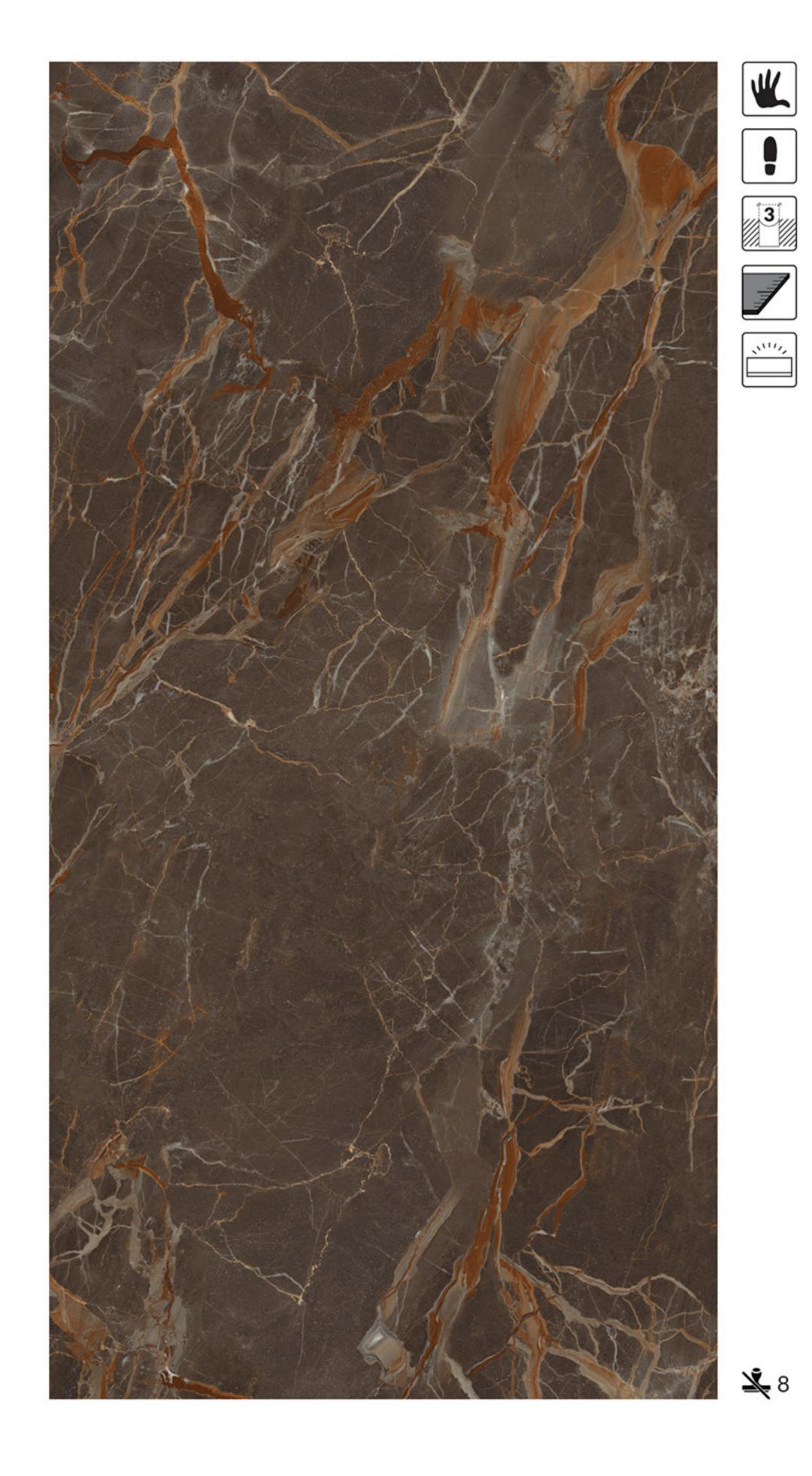
COUNTER -

CARRARA POLISHED CODE **5240** 1200x2400 / 48"x96"





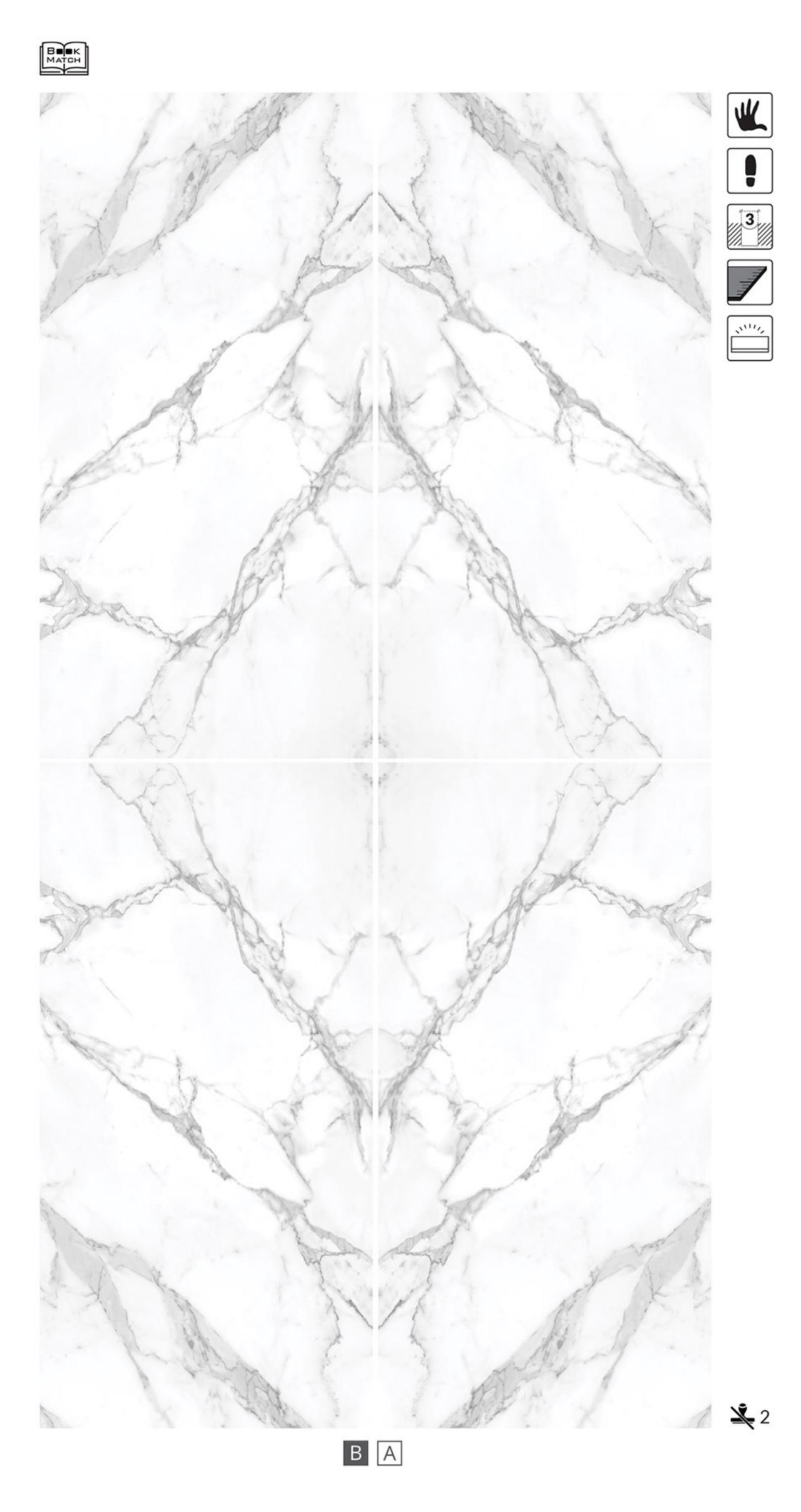






FLOOR 💌

CARAVAGGIO POLISHED CODE 5160 800x1600 / 32"x64"





BOOKMATCH LEGEND POLISHED CODE **5335-5340** 800x1600 / 32"x64"

FLOOR <u>▼</u>

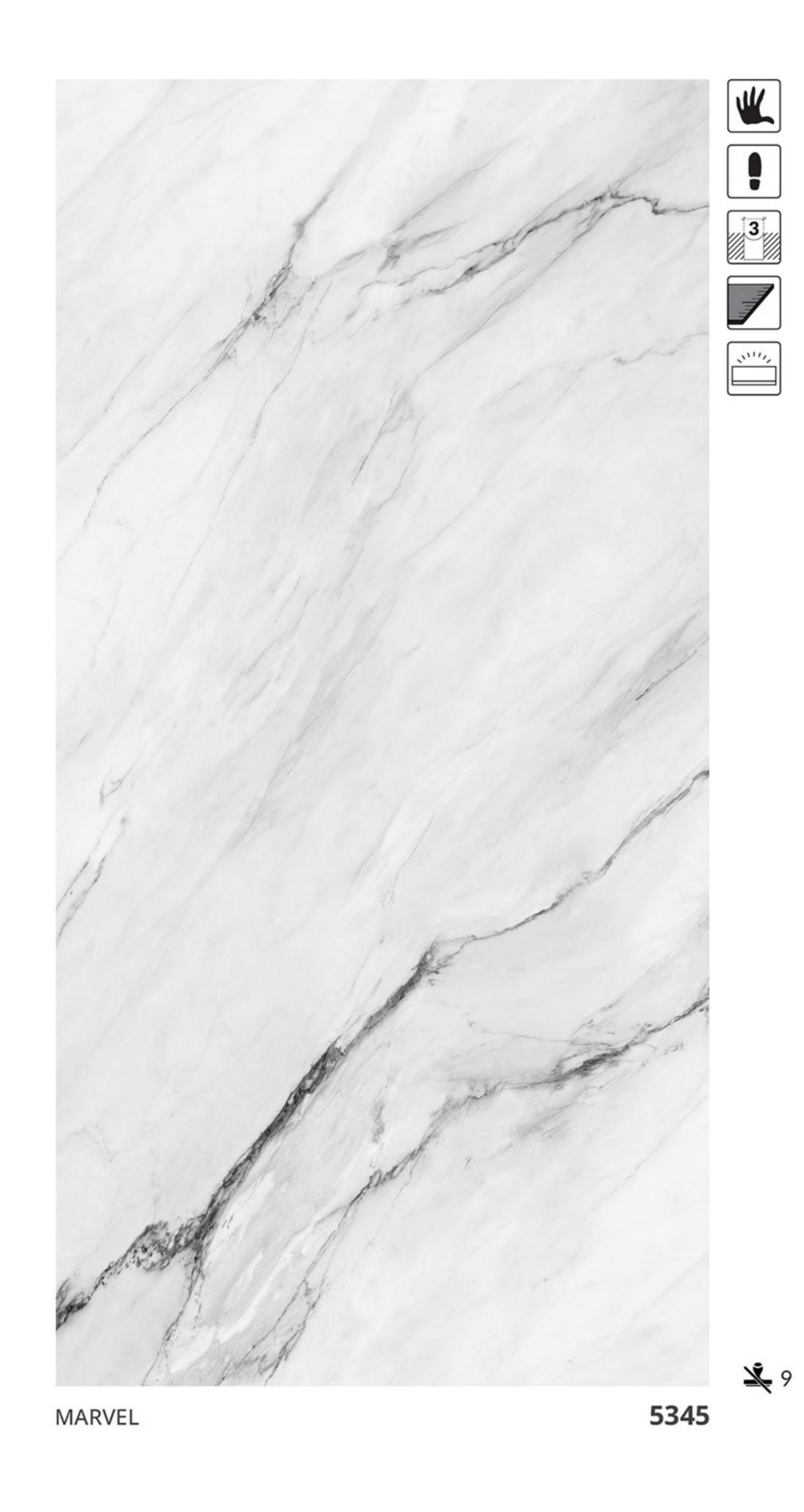
CALACATTA WHITE POLISHED CODE 2010



Other sizes of tiles available in the collection: 1200x2400 (48"x95")

THE ULTIMATE EXPRESSION OF MARBLE EFFECT FOR HAVING HARMONIOUS ENVIRONMENT.







Other sizes of tiles available in the collection: 1000×1000 (40"×40") | 800×1600 (32"×64") | 1200×2400 (48"×96") 1200×2600 (47"×102") | 1500×3000 (59"×118")

FLOOR <u></u>

MARVEL POLISHED CODE 5345 1000x1000 / 40"x40"

FIRE PLACE 💌

THUNDER POLISHED CODE 5080 800x1600 / 32"x64"



METAL STONE

MATT / SEMILUX SURFACE 800x1600 / 32"x64"



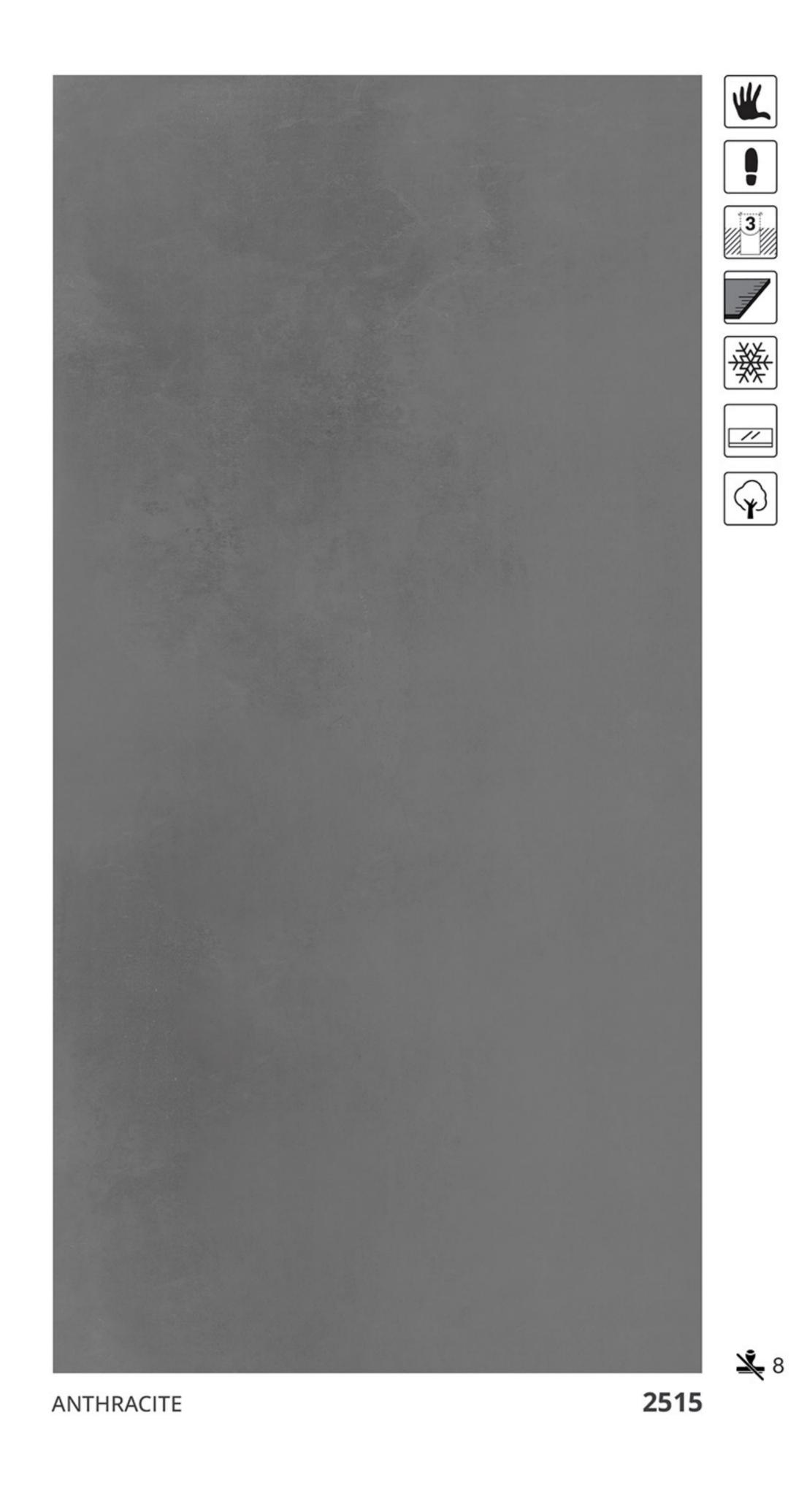


FLOOR ▼

METAL STONE GRAY SEMILUX CODE 2510
800x1600 / 32"x64"

METAL STONE

MATT / SEMILUX SURFACE CODE 2515 800x1600 / 32"x64"

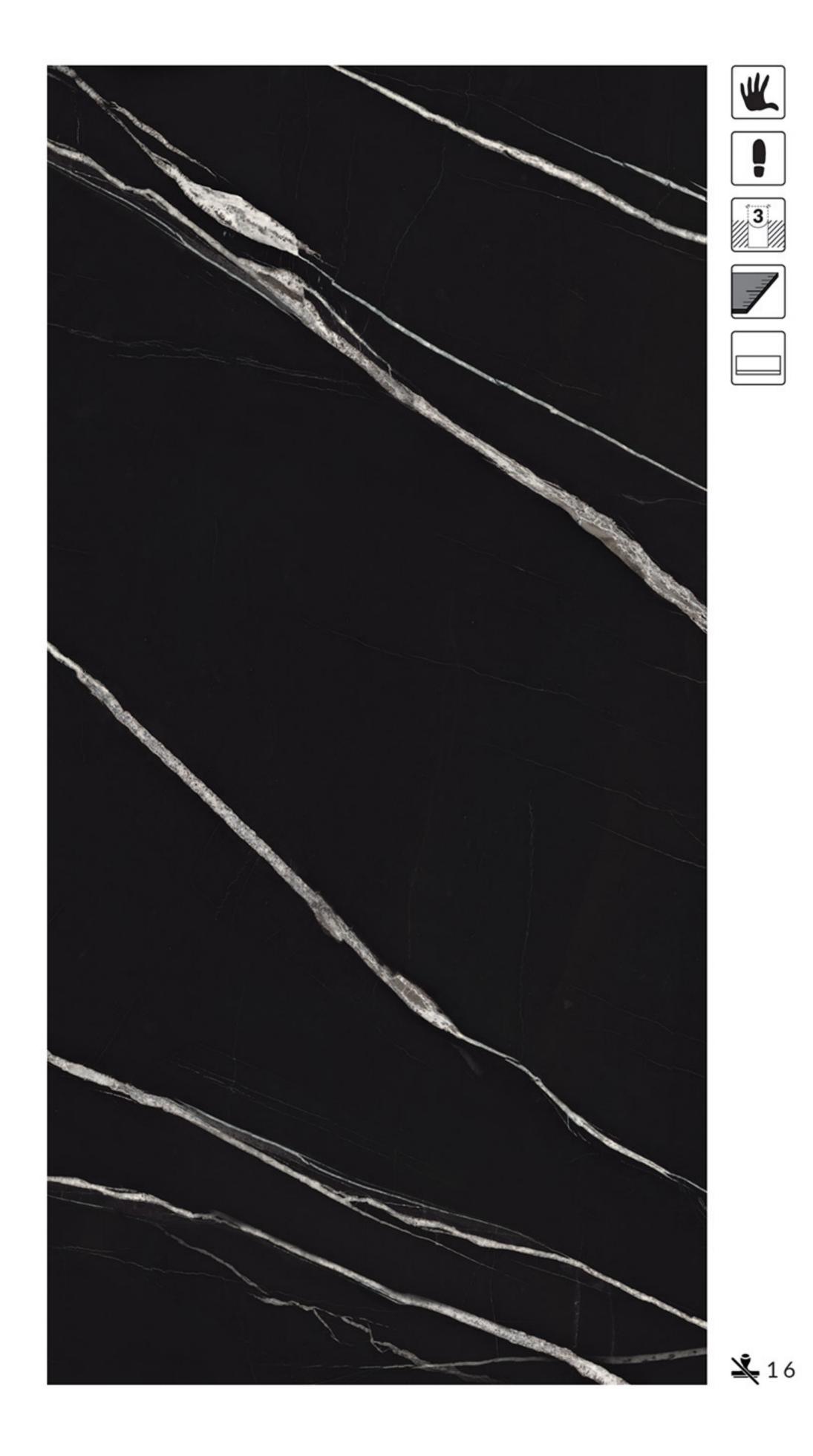




FACADE ▶

METAL STONE ANTHRACITE MATT CODE 2515 800x1600 / 32"x64"

MATT SURFACE CODE 5085 800x1600 / 32"x64"



WALL ▶

MIDNIGHT MATT CODE **5085** 800x1600 / 32"x64"

WALL ▶

CHESTER MATT CODE **2450** 800x1200 / 32"x48"

FLOOR <u>▼</u>

VENICE POLISHED CODE 5025 800x1600 / 32"x64"

Other sizes of tiles available in the collection:
1500x1500 (59"x59") | 1200x1200 (48"x48") | 1200x2400 (48"x96") | 1200x2600 (48"x102")
1500x3000 (59"x118") | 800x1600 (32"x64")









WALL ▶

METALUX CUTTING PIECES

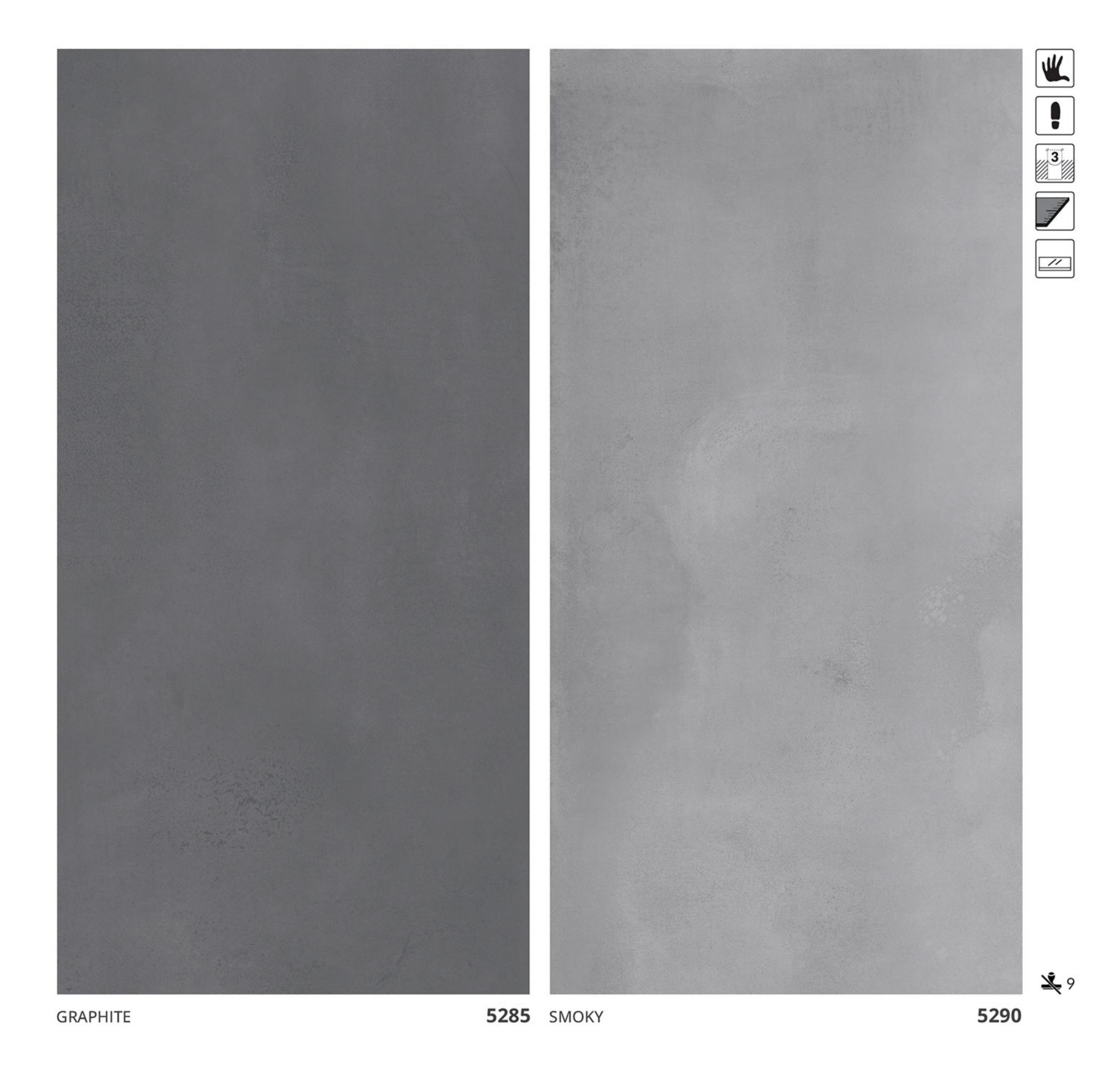
COUNTER ▶

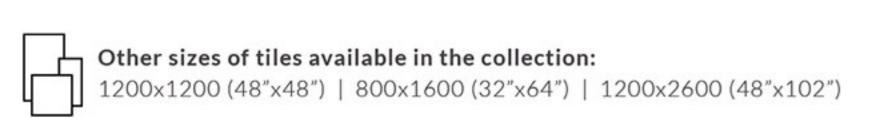
METALUX CUTTING PIECES

FLOOR <u>▼</u>

METALUX SMOKY
SEMILUX SURFACE CODE 5290
1000x1000 / 40"x40"





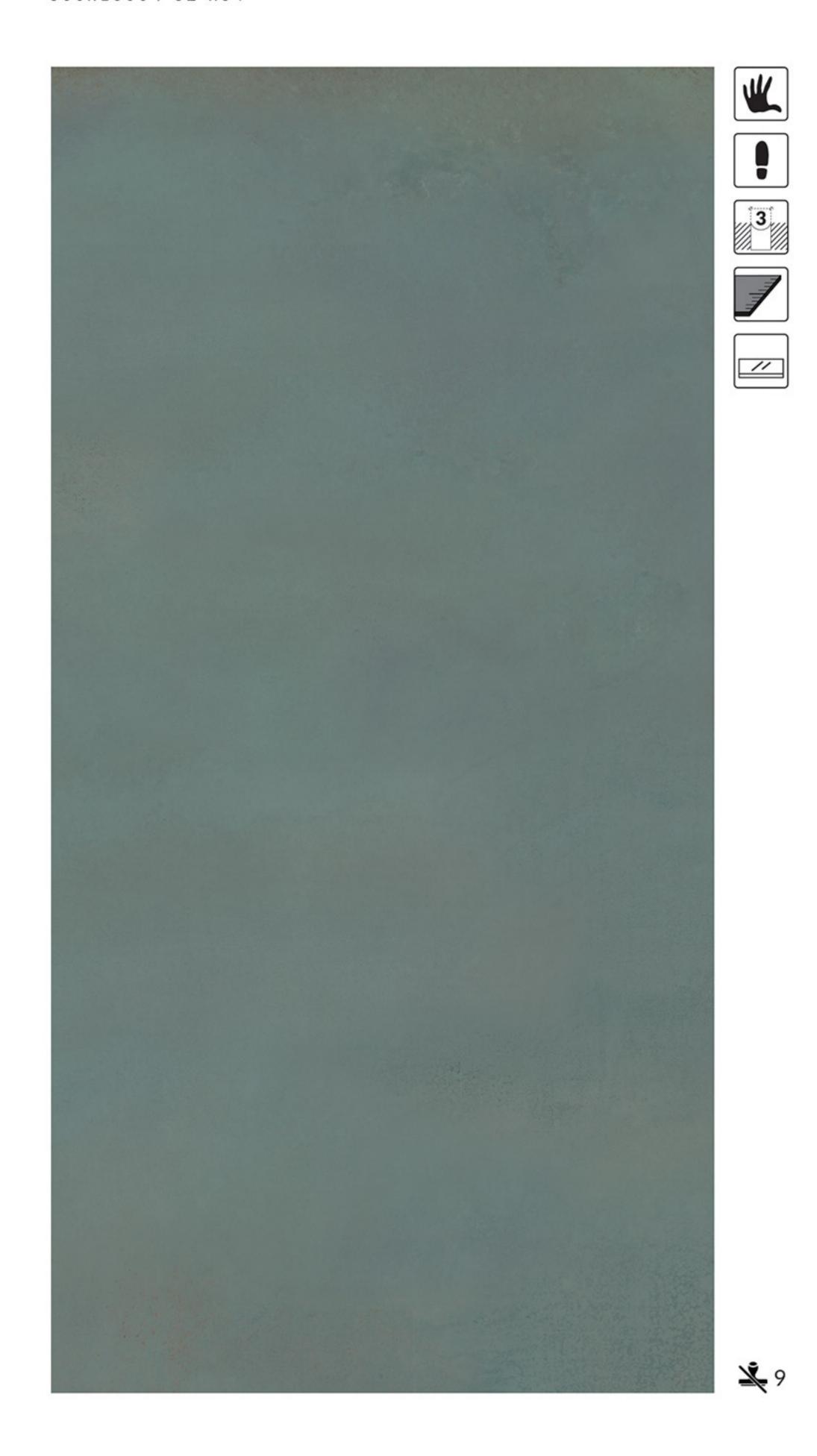


FLOOR <u>▼</u>

METALUX GRAPHITE SEMILUX SURFACE CODE **5285** 1000x1000 / 40"x40"









METALUX MINT SEMILUX CODE 5275 1000x1000 / 40"x40"

WALL ▶

METALUX SMOKY SEMILUX CODE 5290 800x1600 / 32"x64"

WALL ▶

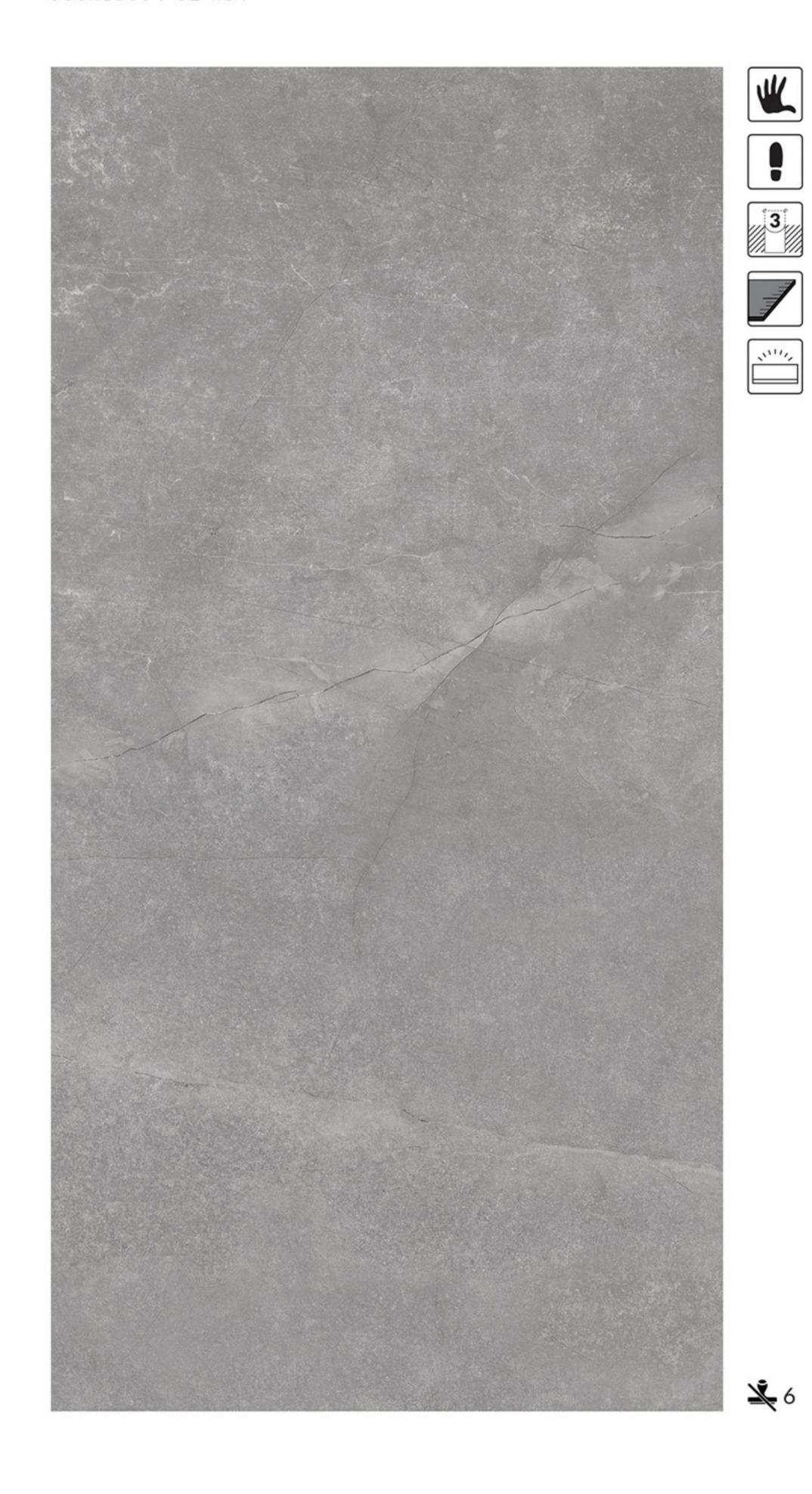
METALUX MINT SEMILUX CODE **5275** 800x1600 / 32"x64"

COUNTER WALL

METALUX GRAPHITE SEMILUX CODE 5285



MINERAL POLISHED SURFACE CODE 2635 800x1600 / 32"x64"

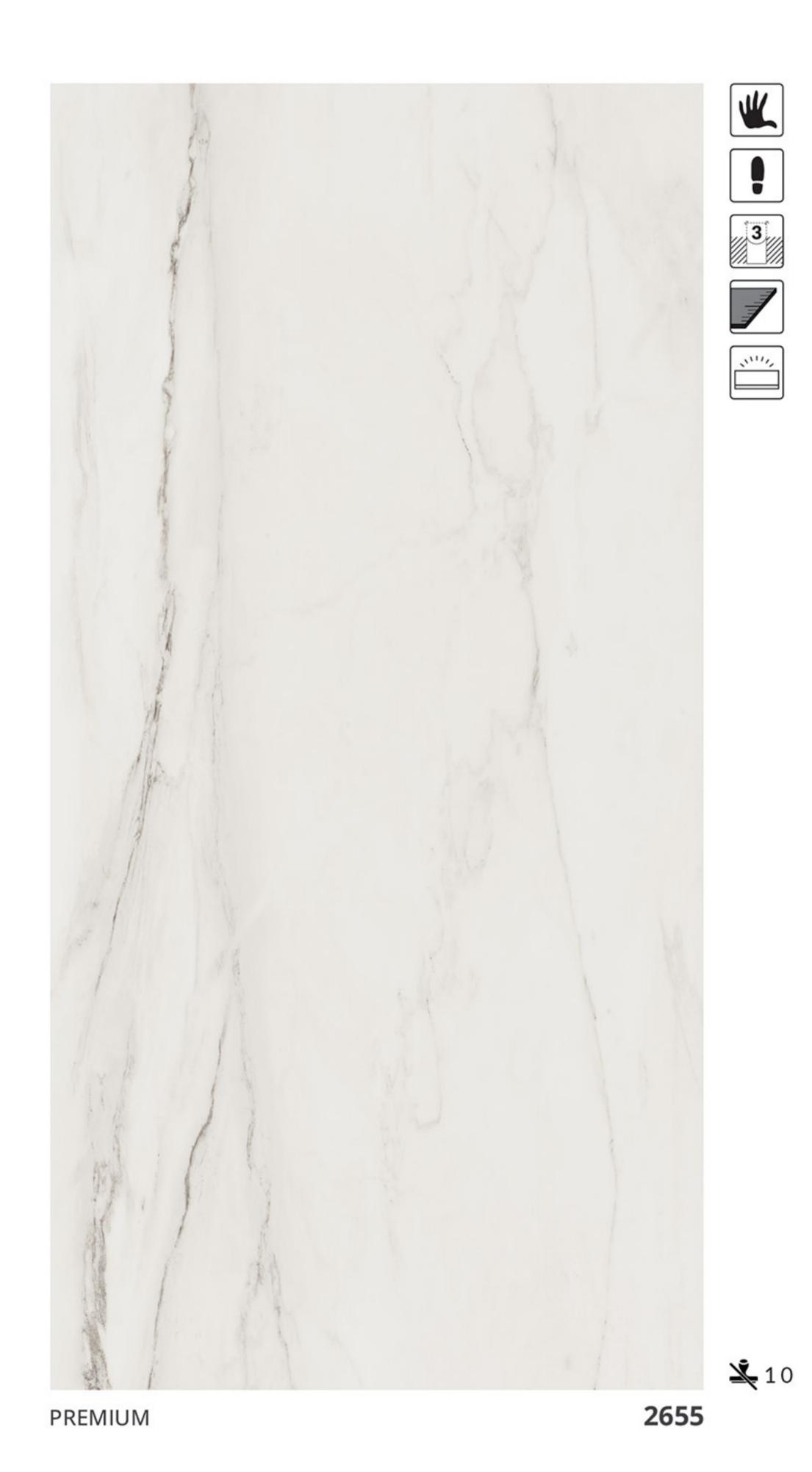




FLOOR ▼

MINERAL POLISHED CODE 2635
800x1600 / 32"x64"

PREMIUN POLISHED / MATT SURFACE CODE 2655 800x1600 / 32"x64"



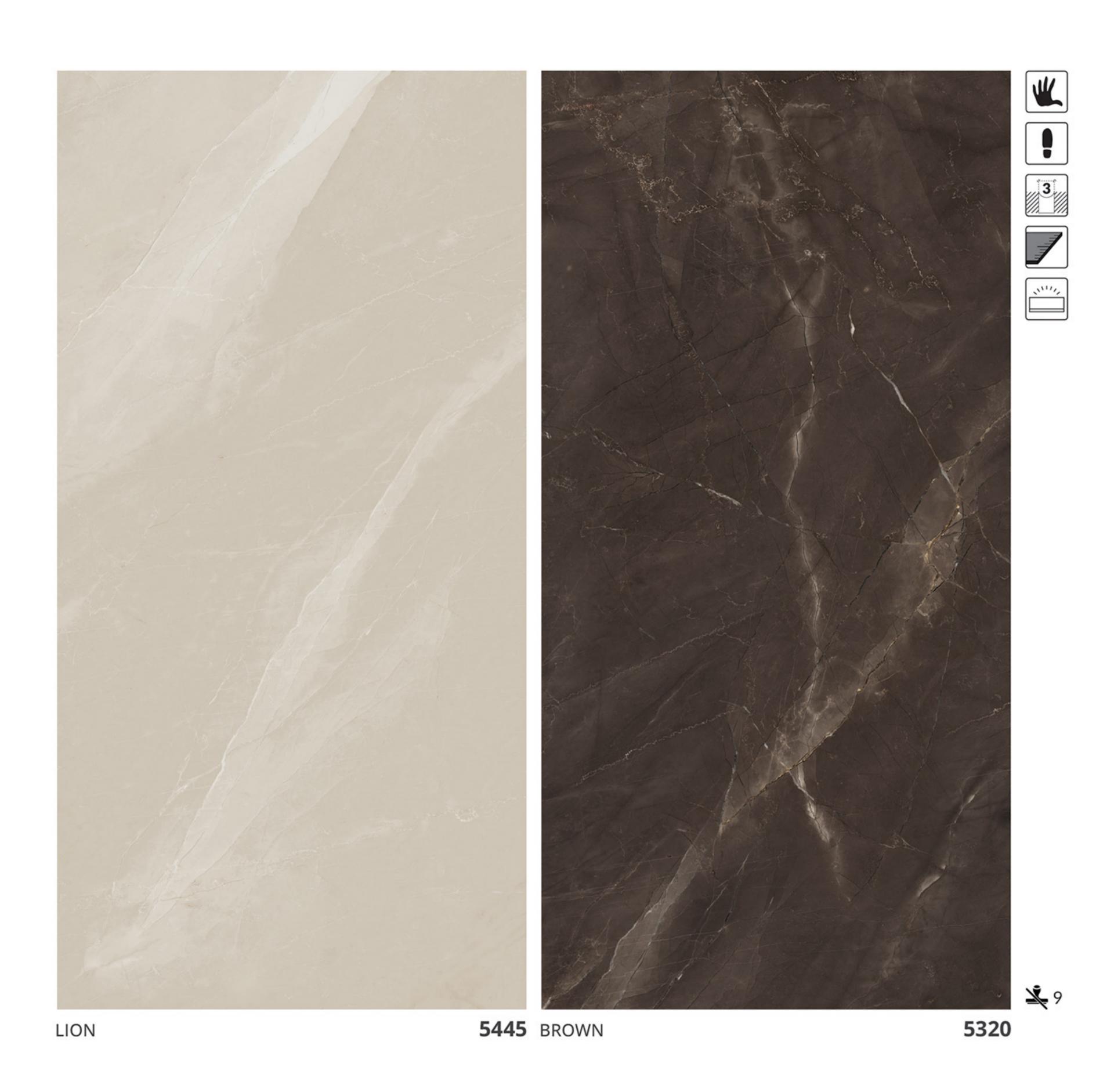


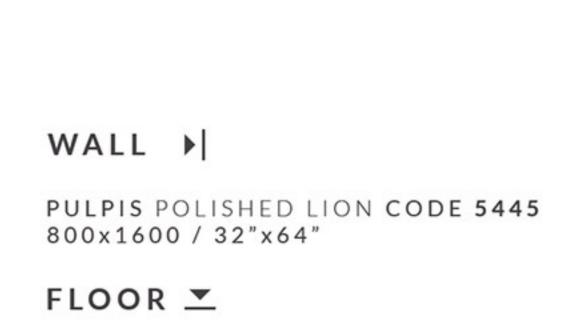
PREMIUM MATT CODE **2655** 800x1200 / 32"x48"

FLOOR 💌

PREMIUM POLISHED CODE 2655 1200x2600 / 47"x102"



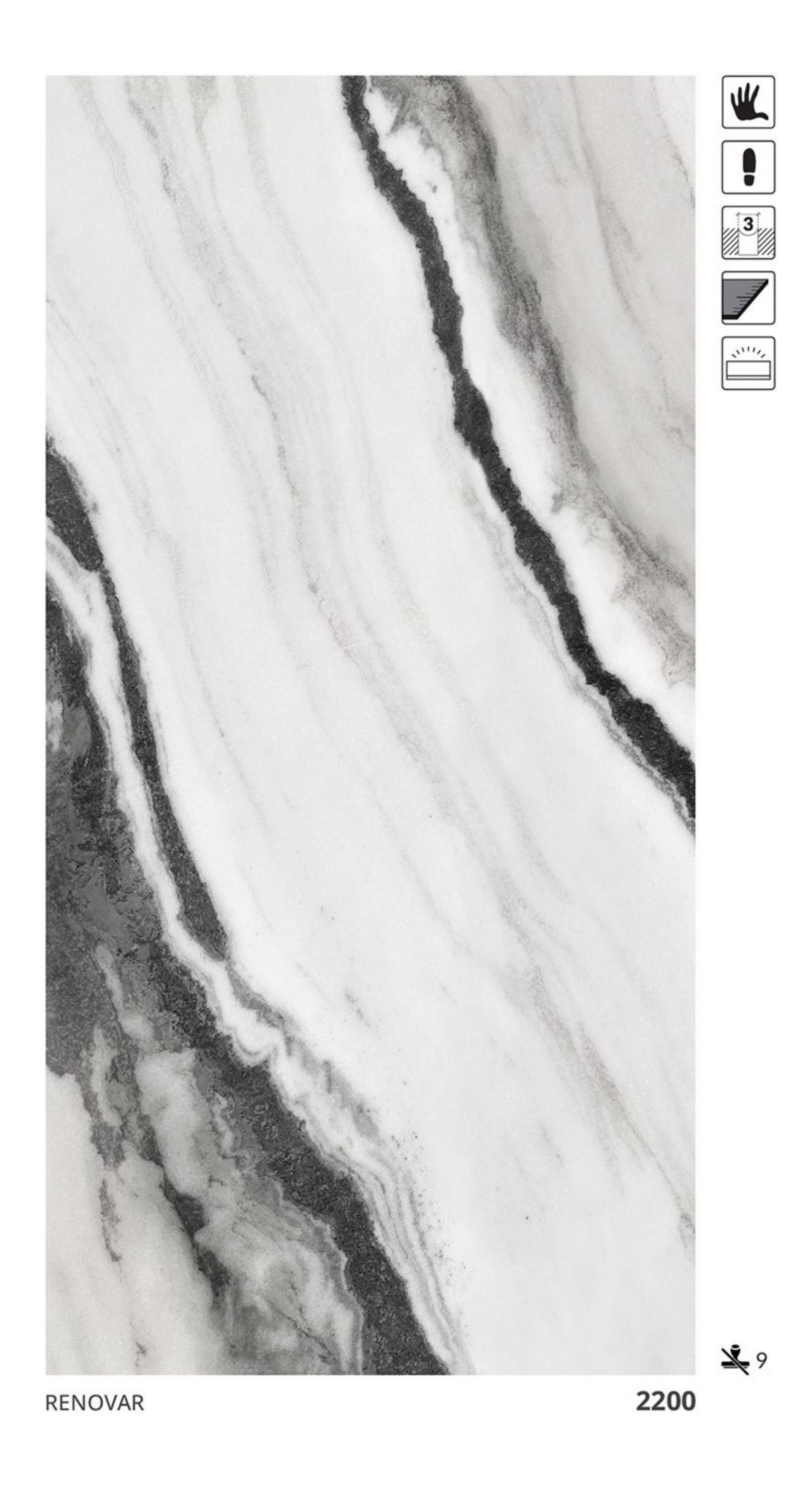




PULPIS POLISHED BROWN CODE 5320 800x1600 / 32"x64"





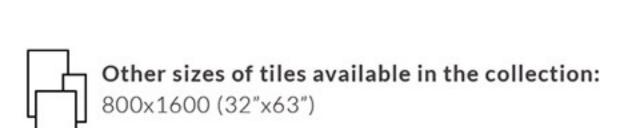




RENOVAR POLISHED CODE 2200 800x1200 / 32"x48"

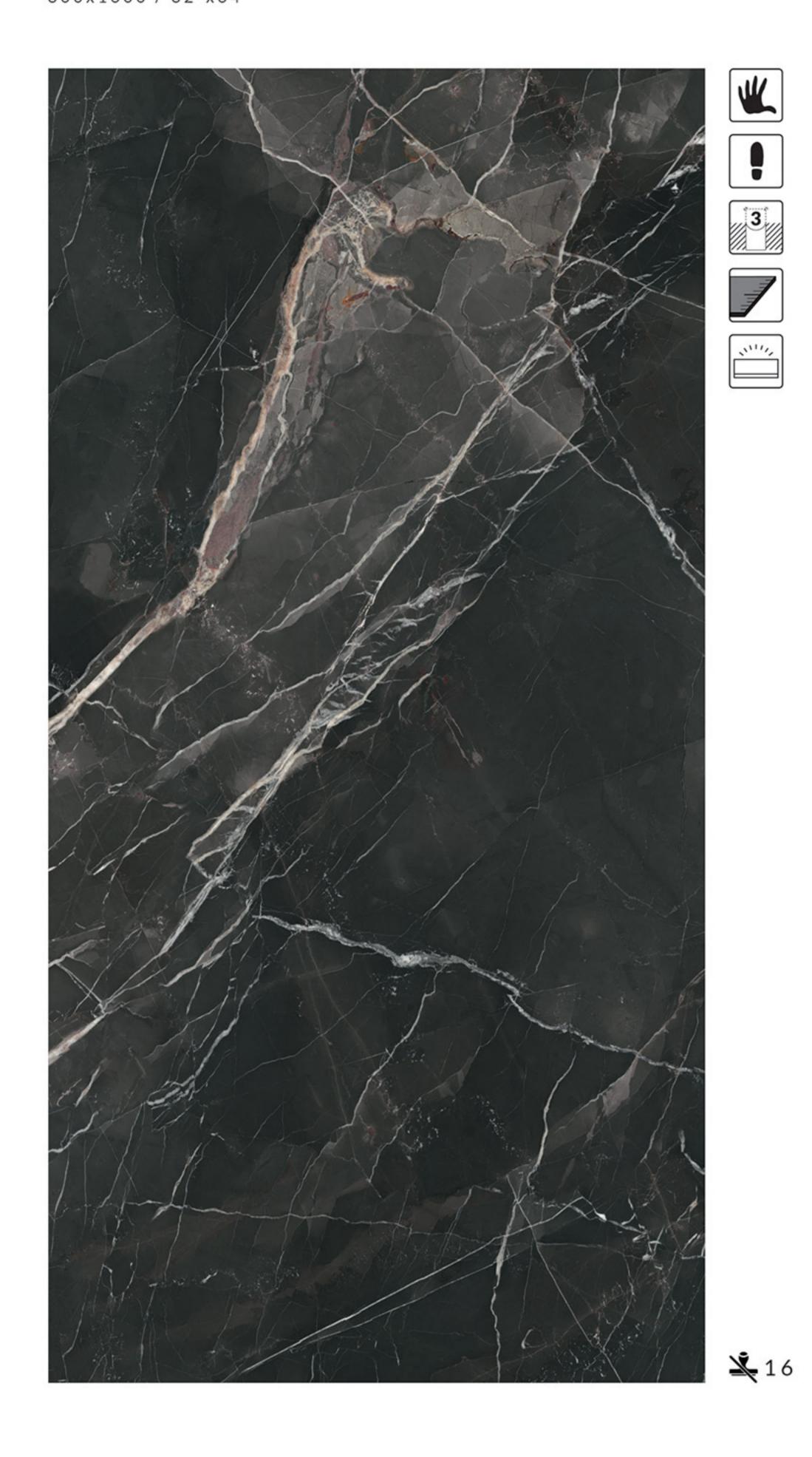
FLOOR <u>▼</u>

EVOKE BRIGHT MATT CODE **1017** 200x1200 / 8"x48"





THUNDER POLISHED SURFACE CODE 5080 800x1600 / 32"x64"



WALL ▶

MARVEL POLISHED CODE 5345 800x1600 / 32"x64"

FLOOR & COUNTER WALL -

THUNDER POLISHED CODE 5080 800x1600 / 32"x64"

Other sizes of tiles available in the collection:
1500×1500 (59"×59") | 1200×1200 (48"×48") | 1200×2400 (48"×96") | 120×260 (48"×102")
1500×3000 (59"×118") | 800×1600 (32"×64")





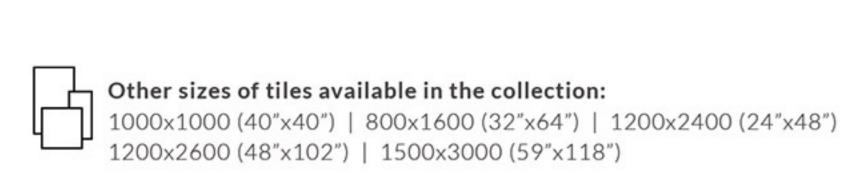




VENICE POLISHED CODE 5025 800x1600 / 32"x64"

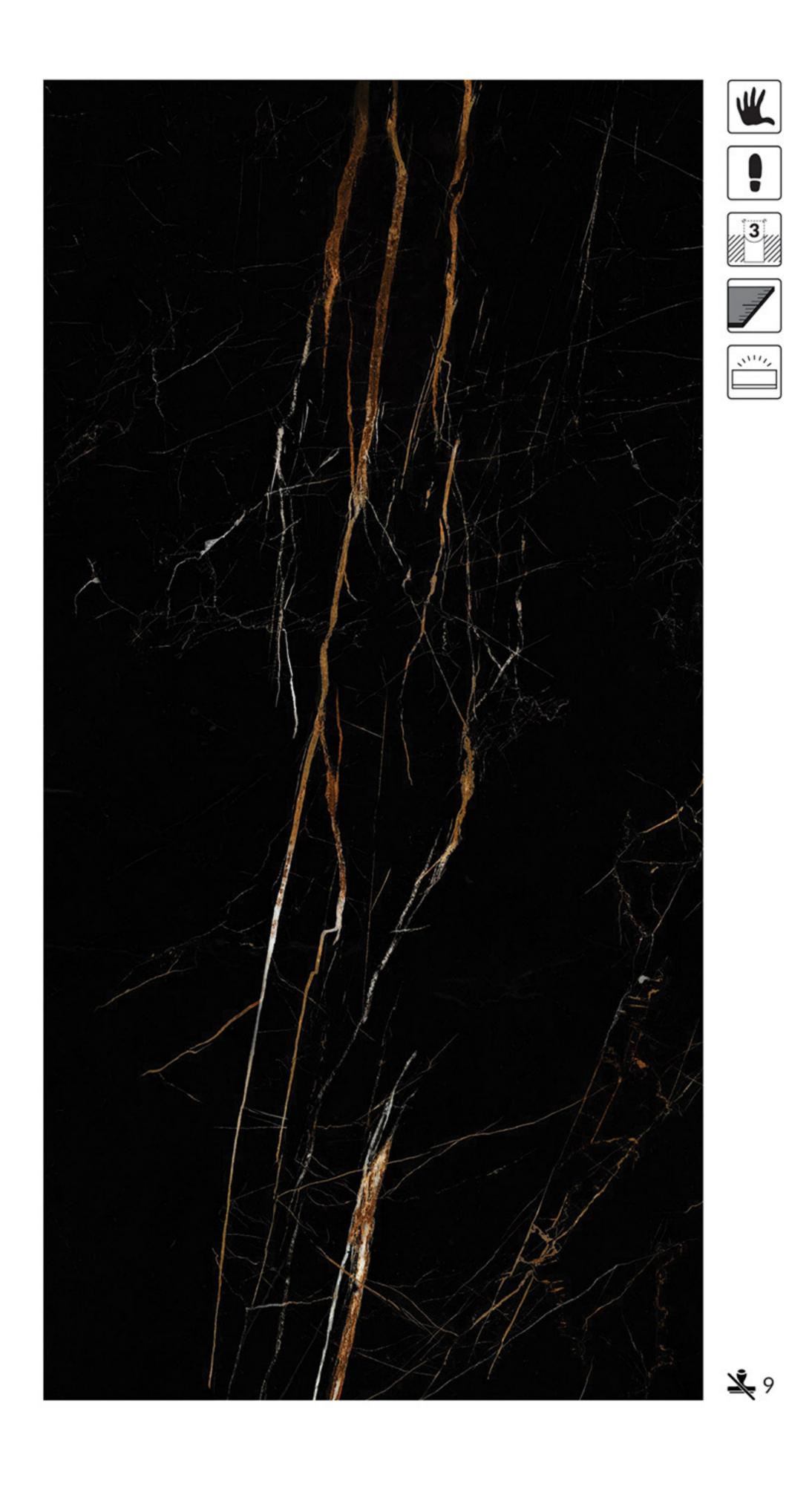
FLOOR <u></u>

MIDNIGHT MATT CODE 5085 800x1600 / 32"x64"







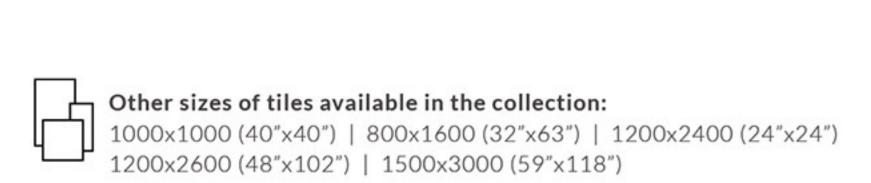


WALL ▶

VOLCANO POLISHED CODE **5380** 800x1600 / 32"x64"

FLOOR <u>▼</u>

MIX DECOR POLISHED 800x1600 / 32"x64"





TECHNICAL INFORMATION

PORCELAIN TILE QUALITY

Producing porcelain tiles is the most recent technology in manufacturing ceramic tiles products. The quality of this product is remarkably different from ordinary ceramic tiles. So, the demand for this kind of ceramic is higher. Porcelain tiles can be used inside, outside, and on the facades. Due to the high resistance of this kind of tile to the moisture and ultraviolet light and heat, the customers are confident enough to use them on any surface.

Due to the low water absorption, porcelain tiles have lower staining, so they can be easily cleaned. Another quality factor of porcelain tiles is that they are produced in a way that cannot be inflamed in case of fire and it can limit the expansion of the fire on the surface. The other advantage of using the porcelain tiles in the building is the long lifespan, in case of accurate consumption pattern, these tiles can be easily used for more than 2 decades. Due to the all reasons which were mentioned above, purchasing porcelain products is more economical and reasonable for the customers.

PORCELAIN TILES VS CERAMIC TILES

There is a significant difference between porcelain tiles vs ceramic tiles. Porcelain products are the most novel technology in manufacturing tile and ceramic products. Their water absorption rate is less than %0.5 so they can be considered the most compressed product to cover the walls and floors. The low percentage of water absorption of these groups of tiles is because of their high vitrified surface. The porosity of porcelain tiles is less than that of normal ceramic tiles and therefore the quality is higher. Regarding the process of production of these tiles and the high-quality raw material which is used in manufacturing them, the price is also higher than the ordinary ceramic tiles.

Porcelain tiles are used in the region which is more probable of climate fluctuations or the humid regions. Due to the low rate of water absorption, they are also used in coating the floor and walls of the bathrooms and swimming pools. Concerning the low price of the non-porcelain tiles, customers usually purchase them to use in the dry regions and inside of the building. The design of both, porcelain tiles and ceramic tiles are acceptable but the porcelains concerning their production process and the raw material have more pleasant patterns.

THE PRODUCTION PROCESS OF PORCELAIN TILES

The body of ceramics is made from a combination of raw materials such as clays with different physical and chemical characteristics so that their final composition can provide the characteristics required in the product such as dried strength, fired strength, water absorption and color of body. These raw materials include types of kaolinites, Feldspars, bentonite and etc.

After selecting the suitable raw materials, in the first step, they are crushed and then ground inside the ball mills with water so that the raw materials are completely combined with each other and are also sufficiently ground. In the next step, the resulting slip is dried in a spray dryer to obtain spherical granules (production of granules with a moisture content of 5-6%).

The granule obtained in the spray dryer is pressed and the green body is formed.

The term "green body" refers to unglazed and unfired ceramic tiles. Currently, the presses in the factory are capable of producing products up to 150 x 300 cm, and in the future development plan, this amount will increase up to 200 x 400 cm.

After pressing the green body and drying it inside the dryer, it is transferred to the glazing line and the steps related to glazing and decorating are performed on it (Decoration is added using a digital printer). This body does not have strength and needs to be fired at a high temperature to become a porcelain product, so the firing process will be done in the kiln at a temperature of 1180-1200 °C during at least 70 minutes.

After finishing the firing process, our products, which now have a water absorption of less than 0.5%, must reach the exact working dimensions. For this purpose, the produced porcelain will reach the exact dimensions in the chamfering machine (with a dimensional tolerance of less than 1 mm) in the packing section of the factory.

If the product is a polished product, before the ceramics enter the chamfering machine, the polishing operation is done with the polishing machine in order to polish the product until it reaches lux above 90.

The produced porcelains are graded based on qualitative and quantitative parameters in accordance with the ISO 2014:13006 standard and then sent to the warehouse unit for delivery to the customer.

CLEANING

Porcelain tiles are manufactured from extremely pure clays and minerals that are fired at very high temperatures. They are harder, stronger and more durable than natural stones and have superior chip resistance and an extremely low level of water absorption. A comprehensive cleaning routine will help to keep your tiles in tip-top condition and ensure their continued beauty for years to come.

Post-laying cleaning is critical after on-site works. Inadequate or delayed removal of the grouting used on the joints can leave marks that are difficult to remove and creates a cement film that can absorb all types of dirt, giving the impression that the tile surface has become dirty.

To remove cement-based grouts, wash the floor with specialist cleaning detergent which is aimed at removing excess grout residue, post-application deposits and building grime. Always follow the manufacturer's instructions. For stubborn stains or advice on specific detergents contact our After Sales department.

General cleaning of porcelain tiles is a relatively simple process. Regular cleaning (once or twice weekly) is the best way of preventing a build-up of dirt and unsightly stains. This can be accomplished with a simple sweep and vacuum to remove debris, followed by mopping sparingly with warm water for Products with resistance to staining class of 5 (According to Iso 13006:2014). Dry with a microfiber cloth and if your surface is polished, buff to restore the brilliant finish. And also, for special products and special effects with resistance to staining class of 4 (According to Iso 13006:2014), you should clean using weak detergents) ISO 2015:14-10545).

In addition, for cleaning anti-slippery products with resistance to staining class of 3 (According to Iso 13006:2014), you can use stronger Acidic and alkaline detergents (ISO 14:2015-10545). To order these special acid detergents feel free to contact our sales representatives.

Before using any new cleaning product or method, make sure to test it on a small, inconspicuous area of tiling first. Avoid using excessively acidic or alkalis products, and do not use abrasive sponges. We do not recommend the use of polishing machines or waxes.

Although porcelain tiles are stain-resistant, care must be taken to immediately clean any stain, especially on polished bench tops.

For bathroom sediments and hard water stains, you can use Acidic and alkaline detergents with a maximum concentration of 18% to clean our products observing safety considerations. However, gloves, goggles, and masks should be used with caution to provide sufficient ventilation and protection.

20 MM TILES

With their practical, non-slip surface and incredible strength, 20 mm porcelain slabs have become the ideal laying solution for heavy traffic commercial areas and external applications.

100% frost-resistant and suitable for sub-zero temperatures means that these tiles can be used for driveways and walkways, as well as for swimming pools surrounds and hard landscaping. They are also entirely resistant to stains, mold and moss, meaning their finish will remain as beautiful as the day it was laid.

20 mm porcelain tiles also provide tremendous versatility, as they can be laid on virtually any outdoor surface and be fixed with a variety of different methods to suit the application.

Adhesive free installation techniques allow for dismantling, maintenance and repositioning of porcelain slabs.

LAYING ON GRASS

Position the slabs on top of the grass area according to your desired installation layout.

Mark around the perimeter edge of each slab using a flat spade or lawn edging cutter.

Carefully lay the slab to one side. Across the entire area you have marked, remove the top surface of the lawn and soil down to a depth of 70 - 100 mm.

To ensure perfect stability, fill the excavated hole with fine gravel (3 - 6 mm grain sized) to a depth of 50 - 80 mm and compact down to ensure a level surface. Carefully lower the slab into position and gently tap the slab with a rubber mallet to level.

Ensure the surface of the slab is approximately 5 - 8 mm beneath the surface of the surrounding soil in order not to damage the lawnmower when cutting the grass. You may be left with a slight gap around the tile which you can fill with some of the previously excavated soil. Slabs installed in this way can be walked on immediately.

Take care to ensure that the porcelain slabs do not protrude above the level of the soil in order not to damage the lawnmower when cutting the grass.

DRY PORCELAIN TILES FAÇADE

Recently, in the twentieth century, the implementation of ceramic facades has grown in the advanced architecture cycle around the world. Examples include a building in Barcelona, built by Antonio Gaudi and a large number of glazed ceramic facades in many cities of the United States. These buildings still prove in our day how can one century of ceramic facades resist numerous thermal changes, atmospheric attacks, storms, and acid rain and smoke.

Dry porcelain tiles façade is one of the most up-to-date building facades in the world that implemented by dry installation method. The porcelain dry ceramic facade can be used for various commercial, office, residential, as well as interior parts of buildings, terminals and metro stations, etc.

In this way, the caved dry ceramic porcelain with a specially designed grooved section is placed on horizontal aluminum rails, and horizontal rails are attached to the iron or aluminum substructures. The thickness of the caved ceramics in this system is less, and thus the weight of the finished facade will be lighter.

WHY THE DRY FACADE AROSE?

For the first time in the 1970s, architects in the United States decided to install stone on massive skyscrapers by dry method. The reason of this system design was due to the resistance of the building's facade to severe wind force at high altitudes, and this modern and innovative method was endorsed by world standards and considered by many architects around the world. In Iran, in the seventies, this method was used for the first time and also in recent years, architects and builders of the country's construction industry have been aware of this system benefits and have used it in their buildings.

Previously, the façade's material was fixed with the mortar or adhesive to the main building structure. In this method, it was not possible to use insulation for the builder and also at high altitudes, the wind load entering the structure reduced the material strength and ultimately Causing the crash to endanger irreparable risks. In dry facade system, the facade material is applied by aluminum cushioning and without adhesive force on the main structure, which prolongs facades life and if properly installed and engineered, will assure you that in hard conditions it will not collapse at all.

This installation method makes building's facade double skin. An empty enclosure can be applied to an insulation structure to protect the building from atmospheric conditions, noise pollution and other disturbances faced by residents, as well as an air chamber between the wall of the structure and the façade that prevent the building from entrance of the outside air and vice versa. The shape of the air flow inside this compartment will also be determined according to the different climatic conditions, depending on the area's needs.

For example, for warm and wet conditions, this vacant space is designed in such a way that the air inside it is ventilated, but it is designed for cold, warm and dry conditions in such a way that the air is contained in the empty space, which makes insulation coefficient of the building increases the air relative to the outside.

One of the remarkable advantages of a dry facade is that the panels and materials used can be collected and reused. It also significantly reduces the volume of construction waste. This type of building facade helps to optimize energy consumption and, because of the freedom to use different pavements, the building is resistant to water, sound and air entering. The dry facade can be resistant against stresses from wind, storms, earthquakes, and fire.



HANDLING LARGE FORMAT SLABS

Large format porcelain slabs are extremely heavy and may have sharp edges. It is therefore necessary to wear protective gloves at all times. For safe handling of large format slabs, we highly recommend the use of a specialist tile handling frame with suction cups.

These frames help to maintain the integrity of the tile and ensure that operators' safety is not compromised.

Carefully wipe the surface of the tile to remove any dust or moisture, position the suction cups on the face of the tile and make sure that they adhere to the surface properly. For larger formats the full frame with four suction cups is suitable, use two double suction cups with smaller formats.

To remove the handling frame from the tile surface, first ensure the tile is stable, then support the weight of the handling frame and press all the suction release valves in turn.

TECHNICAL CHARACTERISTICS - PORCELAIN TILES (BLA - GLAZED)

	Test Description	Standard Test Method	Standard Requirements	PALERMO Tiles Specifications
SQ	Surface Quality	EN ISO 10545-2	a minimum of 95% of the tiles are to be free from visible defects	a minimum of 95% of the tiles are to be free from visible defects
\longleftrightarrow	Length & Width	EN ISO 10545-2	±0.6%	±0.3%
	Thickness	EN ISO 10545-2	±5%	±3%
↑- `90°	Straightness of sides	EN ISO 10545-2	±0.5%	±0.3%
	Rectangularity	EN ISO 10545-2	±0.5%	±0.2%
	Surface Flatness : Center Curvature	EN ISO 10545-2	±0.5%	±0.3%
	Surface Flatness : Edge Curvature	EN ISO 10545-2	±0.5%	±0.3%
	Surface Flatness : Warpage	EN ISO 10545-2	±0.5%	±0.3%
H ₂ 0	Water Absorption	EN ISO 10545-3	≥0.5%	WA ≤ 0.4%
KG ↑ ↑	Breaking Strength	EN ISO 10545-4	≤1300N	≤2400 N
$\frac{\downarrow}{\uparrow\uparrow}$	Modulus of Rupture	EN ISO 10545-4	≤35 N/mm2	≤38 N/mm2
	Resistance to surface abrasion	EN ISO 10545-7	Manufacturer to state classification	GLOSSY: 1-2 MATT:3-4
	Linear Thermal Expansion	EN ISO 10545-8	Test method available	Test method available
+	Resistance to Thermal Shock	EN ISO 10545-9	Test method available	Test method available
效	Crazing Resistance	EN ISO 10545-11	Required	Required
**	Frost Resistance	EN ISO 10545-12	Required	Required
	Resistance to Household Chemicals & Swimming Pool Salts	EN ISO 10545-13	Minimum GB	GA
Low	Resistance to Low Concentrations Acids & Alkalis	EN ISO 10545-13	Manufacturer to state classification	GA
HIGH	Resistance to High Concentrations Acids & Alkalis	EN ISO 10545-13		GA
*	Resistance to stains	EN ISO 10545-14	Minimum Class 3	Minimum Class 4

PACKING INFO.			PCS / BOX	M²/	вох	KG / BOX		BOX / PALLET	M²/ PALLET		KG / PALLET	
							3					
40x40 cm	16mm THICKNESS	MATT	6 PCS	M ²	0.96	KG.	35	BOX 48	M ²	46.08	KG.	1680
				SQ. FT.	10.33	LBS.	77.16		SQ. FT.	496	LBS.	3704
60v60 cm	20mm THICKNESS	MATT/POLISHED	2 PCS	M ²	0.72	KG.	34	BOX 40	M ²	28.8	KG.	1360
60x60 cm				SQ. FT.	7.75	LBS.	75		SQ. FT.	310	LBS.	2998
00:120	12 mm THICKNESS	MATT/POLISHED/SEMILUX	2 PCS	M ²	1.92	KG.	52	BOX 36	M ²	69.12	KG.	1872
80x120 cm 32°x48°				SQ. FT.	20.66	LBS.	114.7		SQ. FT.	744	LBS.	4127
100,100,	10 mm THICKNESS	MATT/POLISHED/SEMILUX	2 PCS	M ²	2.00	KG.	47	DOY 42	M ²	84	KG.	1974
100x100 cm				SQ. FT.	21.5	LBS.	103.64	BOX 42	SQ. FT.	904	LBS.	4352
	10 mm THICKNESS	MATT/POLISHED/SEMILUX	1 PCS	M ²	1.28	KG.	32		M ²	64	KG.	1600
80x160 cm 32'x64"				SQ. FT.	13.77	LBS.	70.54	BOX 50	SQ. FT.	689	LBS.	3527
25, 420	20 mm THICKNESS	MATT	2 PCS	M ²	0.84	KG.	38	BOX 56	M ²	47.04	KG.	2128
35x120 cm				SQ. FT.	9.05	LBS.	83.77		SQ. FT.	506.33	LBS.	4692
17.100	12 mm THICKNESS	MATT	4 PCS	M ²	0.82	KG.	23	DOV 01	M ²	68.88	KG.	1932
17x120 cm				SQ. FT.	8.82	LBS.	50.7	BOX 84	SQ. FT.	741.4	LBS.	4259
20.422	12 mm THICKNESS	MATT	4 PCS	M ²	0.96	KG.	26.1	BOX 84	M ²	80.64	KG.	2192
20x120 cm				SQ. FT.	10.33	LBS.	57.54		SQ. FT.	868	LBS.	4832

NOTE

