



# THE SYMPHONY OF NATURE

# S M

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durable, eco-friendly tiles that are the ideal choices for a wide range of interior and exterior styles. Royal is an excellent choice for those seeking to embody luxury, modernity, and sophistication in their everyday life.



Tiles 30,000,000 sqms/year)
Quartz (305,000 sqms/year)

SPC factory —— 26.000.000 sqms/year

Subsidiaries worldwide 3 located in the USA

Warehouses

2.500 3.000

Employees

Agents and distributors across Vietnam

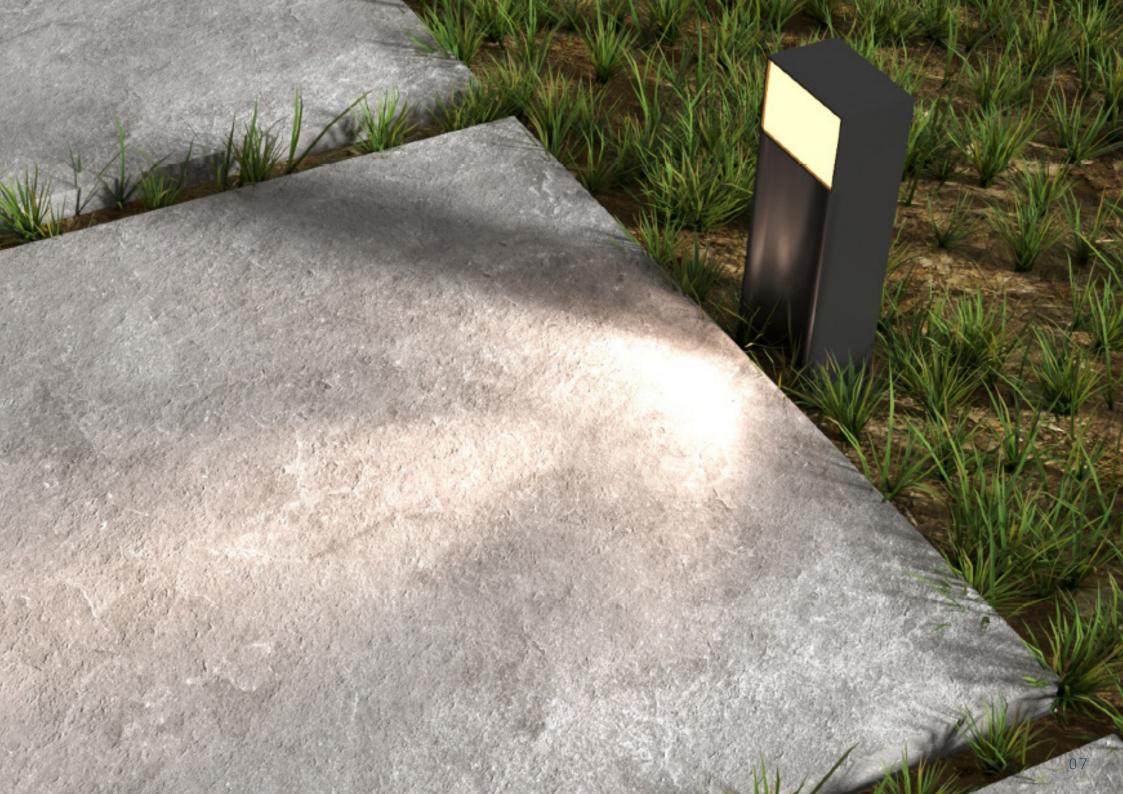
#### SINTERED STONE PAVER

Sintered Stone is a new kind of material that is made from feldspar powder together with many other minerals. Just as the name suggested, Sintered Stone goes through an engineered process of sintering, which uses high temperature and pressure to produce a solid mass that feels just like real stone. While they are commonly used for countertops and sinks, their durability and wide range of surfaces – from rough to smooth to intricate embossing – make them applicable in various interior and exterior settings.

#### Some of Sintered Stone's standout features include:

- Silica-free: Sintered Stone is completely free of crystalline silica.
- **Composition:** Sintered Stone is made entirely from minerals.
- **High-temperature sintering:** Sintered Stone is forged at high temperatures up to 2300°F, resulting in a very dense material with strong molecular bonds.
- Low water absorption: <0.5%
- UV resistance
- Stain resistance
- **Digital printing:** Unlike other engineered stones, Sintered Stone is able to achieve a wide range of vivid designs matching any aesthetics through automated digital printing technology that is then set at a high temperature to preserve the color depth and saturation.







Tile usage in hardscape is becoming a new trend in exterior design and décor. Outdoor areas are where we enjoy beautiful moments with family and friends, therefore choosing the right materials to create a beautiful and safe space is extremely important. With outstanding features such as great aesthetics, high bending strength, ease of upkeep and long-lasting durability, Sintered Stone Paver is the perfect choice for not only your outdoor surfaces such as sidewalks, paths, lawns, porch and swimming pool, but also for tiling any uneven surface, raised platform and pedestal.

Welcome to the diverse world of

#### SINTERED STONE PAVER







## **TOPPAVER SINTERED STONE** THE MATERIAL OF TOMORROW



**TOPPAVER** is the first collection in Royal's Sintered Stone range, with several remarkable qualities that promise to replace current hardscape options as the preeminent choice for your exterior needs.

In addition to the benefits of regular pavers such as high bending strength, waterproof feature and long-lasting color retention, TOPPAVER also incorporates Royal's signature 3-in-1 Pyramid technology, which provides an exceptional hard surface with maximum scratch resistance and slip resistance regardless of surface embossing, thus yielding an low-maintenance product that is lifeproofed without compromising the vivid designs that evokes the beauty of natural stone.







## PYRAMID SURFACE TECHNOLOGY THE PINNACLE OF INNOVATION

Pyramid surface technology is more than a breakthrough; it is a perfect combination of slip resistance and stain resistance, ushering in a new era of outdoor hardscapes. This technology prioritizes not just safety but also the aesthetics and durability of each product.

#### UNIQUE FEATURES OF PYRAMID TECHNOLOGY:

**Optimal slip resistance:** By applying cutting-edge nonslip coating technology from Spain, Pyramid ensures safety without compromising design clarity, effectively resolving this common issue for commercial matte surfaces.

**Durable and Long-lasting:** Our patented formula for clay, engobe, body and firing temperature produces a higher quality and longer lasting final commodity in which Royal is confident enough to put a 10-year-guarantee on.

#### **MODERN PRODUCTION PROCESS:**

- 1. Multilayer digital printing: By employing a multilayer digital printing method using special inks, Pyramid technology produces one-of-a-kind patterns with exceptional depths and contrast.
- 2. Top-coat: The design is then treated with a top-coat to produce special effects that create additional depths closely resembling nature.
- **3. Nonslip diamond dry glaze:** A special diamond dry glaze is sprayed over top for state-of-the-art nonslip protection, yielding a slip resistance that rivals any "grip-finishes" on the market and a highly scratch-resistant surface with a hardness of 8 or above Mohs.

In conclusion, Pyramid provides TOPPAVER with not only a high-end hardscape, but also a technological masterpiece of the highest level and quality.





The structures and textures of **TOPPAVER**Sintered Stone reduce the risk of slipperiness.



Low maintenance costs.



Completely prevents mold and mildew formation, making removal a breeze.



Do not react with or take acids and chemicals, allowing for eco-friendly cleaning selections.



TOPPAVER Sintered Stone is completely unaffected by sunlight, ensuring long-term usage and enjoyment.



TOPPAVER Sintered Stone is nonporous thanks to the baked-on glazing process.



#### **Scratch resistant**

Thanks to Royal's signature Pyramid technology,
the surface is extremely hard and virtually
scratch-proof



#### Salt resistant

Completely unaffected by salt use.



#### Easy to install, replace and remove

No sealing needed, can be easily removed and repositioned to a new area when not mortared down or installed with adhesive.



#### Easy to clean

Mild environmentally friendly detergents and pressure washers up to 1500 PSI can be used without worry of etching or striping.



#### **Drive over**

When properly laid over concrete, TOPPAVER
Sintered Stone is suitable for mild residential
vehicular traffic.



#### Frost resistant

Can withstand frost and freezing conditions.



Because of its density, TOPPAVER Sintered Stone can withstand sudden, drastic temperature changes, ranging from -60°F to 140°F.



#### **Eco-friendly**

TOPPAVER Sintered Stone utilizes recycled components and adhere to the most stringent environmental regulations.



#### Low thermal conductivity

TOPPAVER Sintered Stones do not get hot easily, thus reduce the chance of foot burns.



#### Lifeproofed

Pyramid technology uses significantly smaller coating particles compared to other anti-slip treatment in the industry, which gives much less purchase for dirt to cling onto, making it hassle-free.

#### **GENERAL PROPERTIES of SINTERED STONE PAVERS**

#### **GENERAL PROPERTIES**

- **High bending strength and durability:** Sintered Stone Pavers are often designed to endure strong forces and impacts, resulting in durable surfaces with high bending and breaking strength.
- **Diverse designs:** Our Sintered Stone Pavers come in many different shapes, sizes, colors and surface embossings, allowing for the creation of diverse and creative decorative patterns.
- Flexible installation: Our Sintered Stone Pavers can be installed in various combinations or forms on all different types of subfloors, resulting in abundant use cases and design options that may be easily change as desired.
- Easy to maintain and repair: Damaged pavers can be easily replaced without having to change the entire surface.

#### ADVANTAGES OVER ALTERNATIVE EXTERIOR TILES

- **Drainage ability:** With a water absorption rate below 0.5%, our Sintered Stone Pavers have near perfect waterproofness that allows for more effective drainage than other hardscape products, thus saving the end users from the headache of dealing with cracking waterlogged surfaces.
- Aesthetics and creativity: Our Sintered Stone Pavers can be put in a variety of patterns or forms to provide aesthetic and creativity to any living space. You can make one-of-a-kind designs, photos, or beautiful patterns.
- Anti-slip: The surface embossing not only mimics the touch-feel of natural stones, but also create additional grip for generating friction to prevent slipping, making Sintered Stone Pavers safer to use outside, especially in rainy conditions or in wet areas.
- Suitable for a wide range of areas and outdoor functions: Sintered Stone Pavers can be utilized on a number of terrain surfaces, including but not limited to gardens, corridors, walkways, playgrounds, and so on.





#### **SINTERED STONE** - THE IDEAL MATERIAL FOR OUTDOOR BARBECUE AREAS

Sintered Stone is a premium material that is resistant to heat, stains, scratches and UV rays. Thanks to these features, Sintered Stone can be the ideal material for outdoor barbecue areas, preventing damages and providing a luxurious, high-end beauty.

Sintered Stone protects the floor of the barbecue oven from cracking and damage caused by high temperatures.









#### Discover

#### THE WORLD'S VERSATILITY

through TOPPAVER Collection

TOPPAVER is an optimal choice for many constructions and projects that require outdoor materials due to their oustanding qualities.

#### **Quality and Sustainability**

TOPPAVER Sintered Stone is made from the highest quality recycled ingredients and goes through a rigorous manufacturing process to ensure quality. Unlike other industries, the incorporation of recycled ceramics in our Sintered Stone makes the product stronger and more durable, with higher breaking strength and bending properties than regular tile.

Outdoor paver is a popular choice in construction projects due to their numerous applications and high durability. In particular, Sintered Stones can absorb loads and withstand harsh weather, assuring long-term stability over time, helping customers feel more secure and confident when selecting this type of product. Furthermore, they may be reused and recycled and is easy to be fixed, lowering maintenance expenses for the end user as well as supporting environmental conservation through lowering the need for replacement.

TOPPAVER is the ideal solution for customers who appreciate the high-end beauty of natural stones while also wanting to protect the surrounding environment.





## Enhance the natural beauty of every landscape

**TOPPAVER** Sintered Stone has a natural stone surface that adds luxury and sophistication to every landscape. This product comes in a variety of colors and sizes, making it easy for you to choose one that suits your unique preferences and design style.

The natural beauty of Sintered Stone in **TOPPAVER** products is expressed through many elements, including:

- Color: TOPPAVER is available in a wide range of hues, from monochrome to multicolored, making it a versatile solution for all design needs.
- Composition: TOPPAVER has a strong and durable composition that can withstand harsh weathers.
- **Surface:** Unlike natural stone, **TOPPAVER** comes in many different surface textures ranging from rough to smooth without compromising its slip resistance, giving each design a unique and distinct style.







#### Minimalist rustic design

- With simple but elegant designs that resemble natural stones, each product adds a sense of closeness to the environment.
- They help create a relaxing and balanced landscape that bridges the gap between nature and architecture.

## Perfectly compatible with the surrounding environment

**TOPPAVER** Sintered Stones are made with high-quality raw materials that help to achieve realistic color and strong technical properties. This makes **TOPPAVER** perfect for adding aesthetic value while also ensuring the strictest quality standard to any decorative architectural space. Our Sintered Stones are thus the ideal choice to building spaces that feel harmonious with the surrounding environment.

#### Create a safe living space

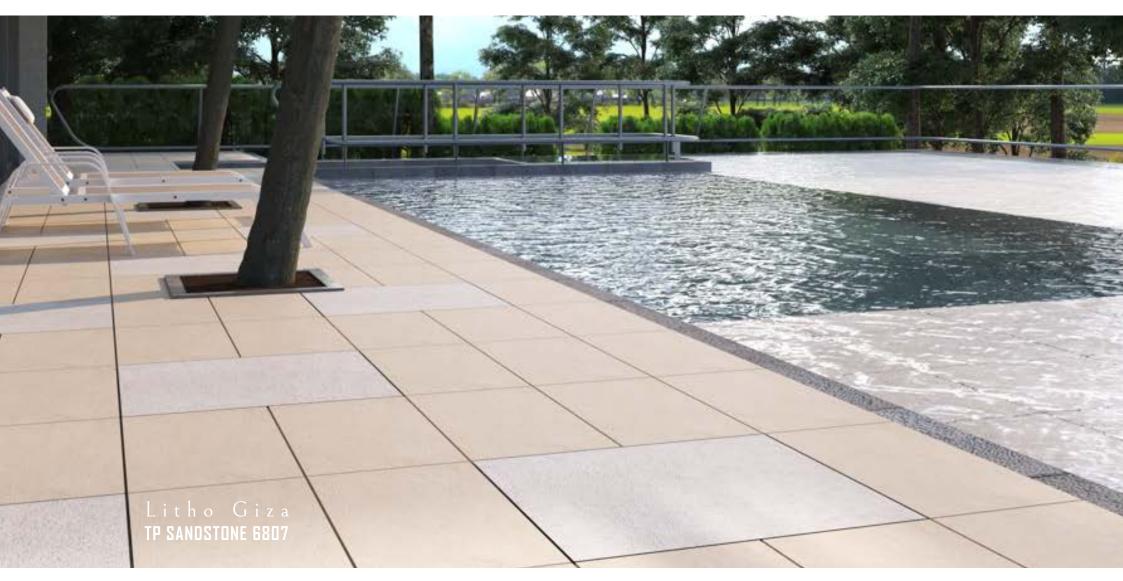
**TOPPAVER** Sintered Stones have outstanding anti-slip features (R>11) as well as high durability indicator across the board, providing the preeminent solution to create a safe lifeproofed space for all your outdoor activities.





### FLEXIBLE APPLICATIONS

IN A VARIETY OF SPACES



TOPPAVER Sintered Stone provides a luxurious and high-end beauty to gardens, walkways, and swimming pools.



TOPPAVER Sintered Stone contributes to pedestrian safety, particularly in locations near swimming pools.





• GARDEN, PARK \_\_\_\_\_\_



• AIRPORT\_\_\_\_\_



TRAIN STATION\_\_\_\_\_\_









• GYM\_\_\_\_\_



BALCONY\_\_\_\_\_\_



WALKWAY\_\_\_\_\_\_





TOPPAVER Sintered Stone creates a natural space that is close to nature.





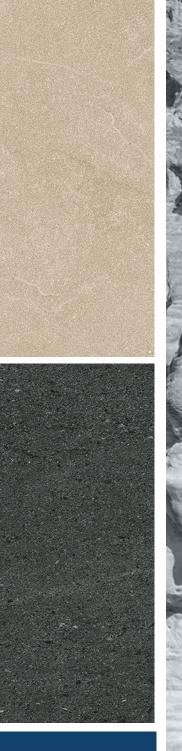


TOPPAVER can be installed on elevated floors in areas where cables, wires, water pipelines, or air conditioning systems are required below the floor. TOPPAVER Sintered Stone adds uniform beauty to the space while minimizing electrical hazards.

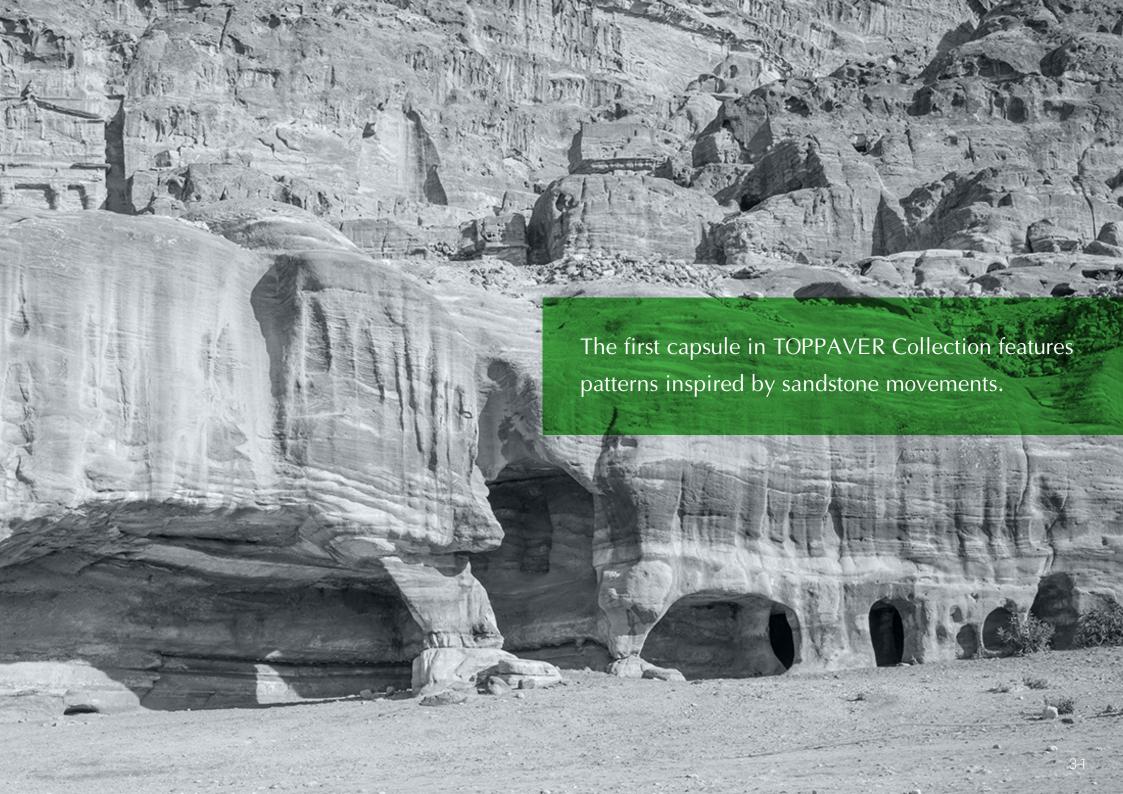


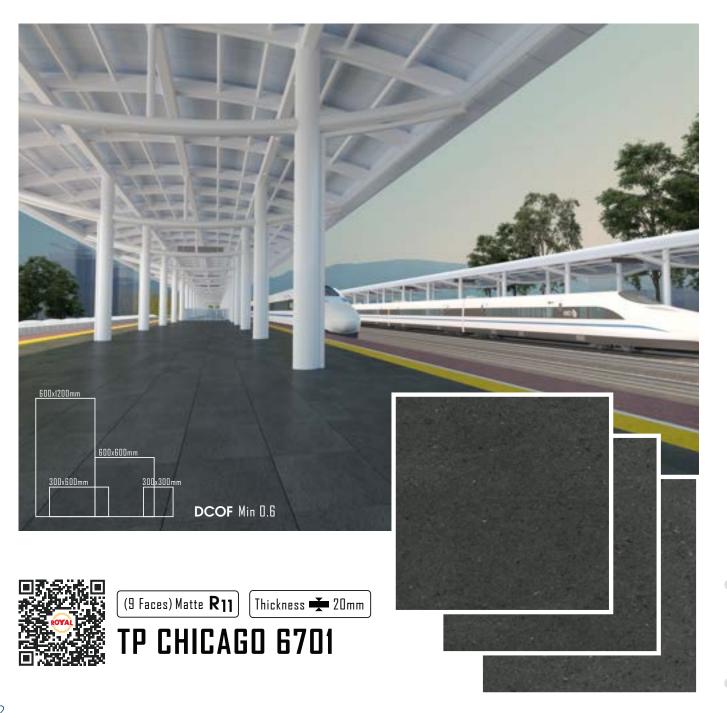


## SANDSTONE









#### Arenèspace

Arenèspace, combined from the ancient name for sandstone – "Arenite" – and the French term "èspace", encapsulates the concept of sustainability, strength, passion, and openness that sandstones are known for. With its sophisticated designs, the Arenèspace capsule is the perfect compliment to any luxurious yet fresh space.

















#### Litho Giza

Inspired by "Lithos", which means stone in Greek, and "Giza", the majestic Egyptian Great Pyramid, Litho Giza embodies the spirit of brilliant human civilization with its distinctive sand color. With its minimalist design and striking hues, Litho Giza is a versatile option that would be suited for various outdoor applications.









Scratch resistant







## STONE









### Petra Forte

Petra Forte's rich black hue is both powerful and classy. It has a simple yet versatile beauty that draws the eyes, making it the focal point for any outdoor environment it adorns.



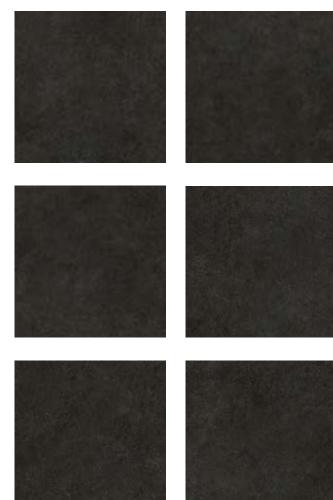














### Neo Terrace

The taupe grey tone of Neo Terrace exudes modern sophistication. It is an excellent choice for those who love stylish outdoor settings that perfectly balance between functionality and design.











**Eco-friendly** 







### Vigor Cobble

The dark ash gray color of Vigor Cobble, combined with its unique design and outstanding properties, makes it the ideal choice for unique outdoor spaces with special uses.







Anti-slip Easy to clean

Scratch resistant













### Aspero Curve

Aspero Curve's smoky dark color bridges the gap between harmony and elegance. It is the perfect choice for design projects featuring aesthetics spaces that require a versatile touch to complement their myriads of unique patterns and shapes.









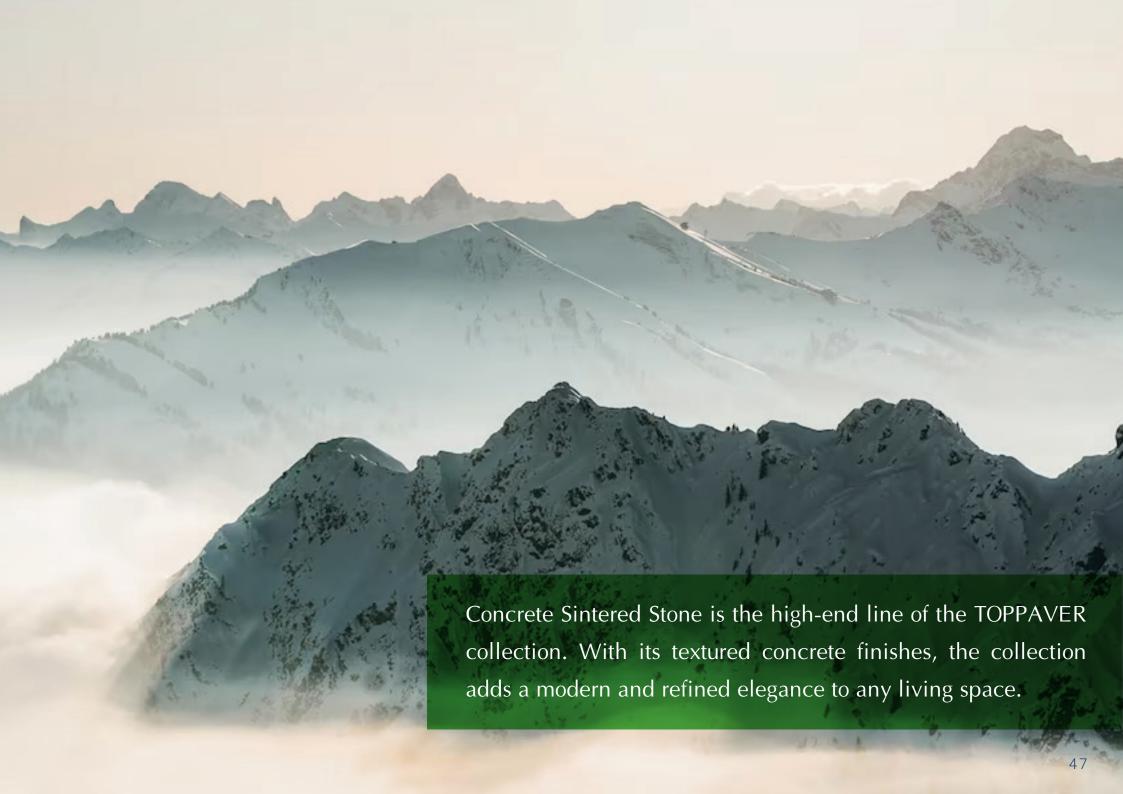






# CONCRETE







### C-Fusion

Breaking away from the rigidity of traditional hardscape, C-Fusion is a unique and memorable name that evokes the explosive collision and blending of concepts, aesthetics and worlds. By combining the letter C representing "concrete" with the word "fusion", C-Fusion affirms the product's distinct beauty: a mix of traditional and modern; of simplicity and sophistication, making it a versatile option that works well together with types of tiles and is suited for a range of outdoor areas.















### C-Ferro

Embodying the sophisticated minimalism of the "Concrete" line, C-Ferro is the epitome of blending simple rustic elegance with modern creative flourishes. By interweaving the warm gray color of iron with signature elements of the industrial aesthetic, C-Ferro is able to produce a unique and dynamic color pattern that serves as the perfect canvas for building a harmonious, sophisticated, and luxurious space.









Eco-friendly







# BAZAN









### **TOPPAVER**

### 20 m m

#### Novus Basalt

By adding the term "Novus" which means "new and youthful," the name "Novus Basalt" is a nod to the innovations born out of an effort to improve nature: for example, how this new generation of Sintered Stone strives to preserve the timeless beauty of natural basalt while offering superior performance for everyday use. Basalt's simple, pure appearance with unique patterns is the most eloquent proof of a product with timeless value regardless of trends — only now it comes with TOPPAVER's cutting edge surface technology and exceptional physical properties that ensures its long-lasting durability.

Given its timeless elegance, Novus Basalt is a versatile option that can be used in any area of the house, from residential apartments to public places, in both traditional and contemporary styles.





Easy to clean



Scratch resistant









# MARBLE











#### Marmoris Dante

Inspired by the words "Marmoris" in Latin — which describes the point where light hits the marbling surface of the ocean — and "Dante" — which translates to durability — Marmoris Dante is a beautiful and precious combination that encapsulates what it means to be "durable marbles", evoking a feeling of high luxury that is no less show-stopping than the natural stones that line grand staircases or villa's terrace.

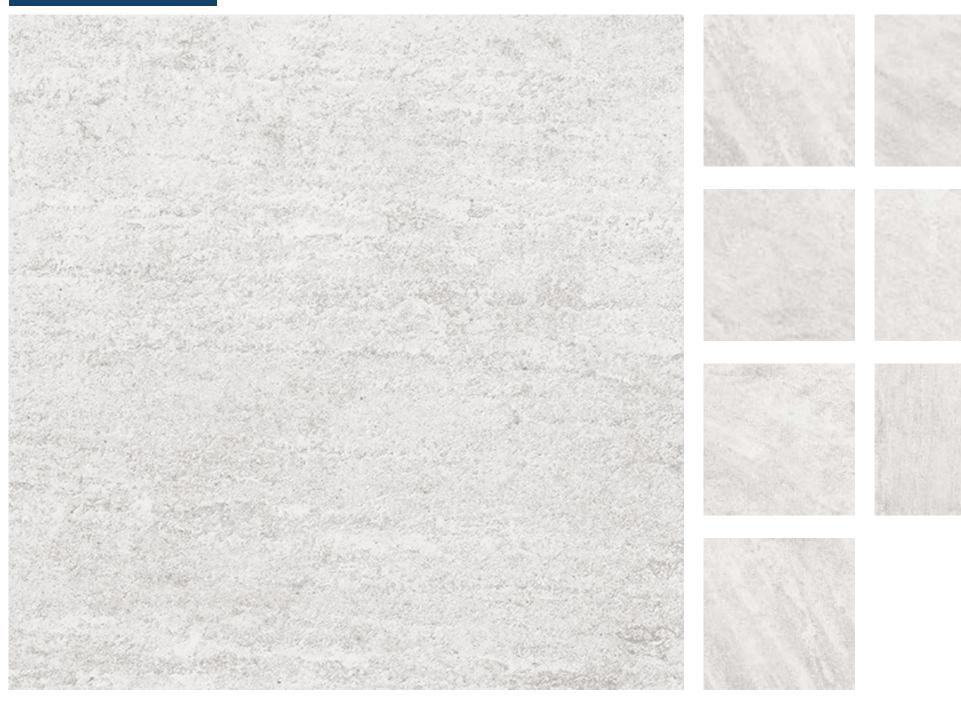














#### Marbleize

Marbleize, with its calacatta vein movements that leave a strong impression from the very first glance, is a testament to the owner's elite taste and cultivated eye for selecting the right product that perfectly conveys a quiet — but indubitable — luxury that is highly sought after but equally elusive. This is especially evident when used in tiling outdoor seating or hosting spaces. There's no need for flashy titles or elaborate introduction, Marbleize speaks for itself: sophistication embodied, it is the classic choice to transition your space into a tranquil oasis with ease – the epitome of a "quiet luxury" money alone cannot buy.





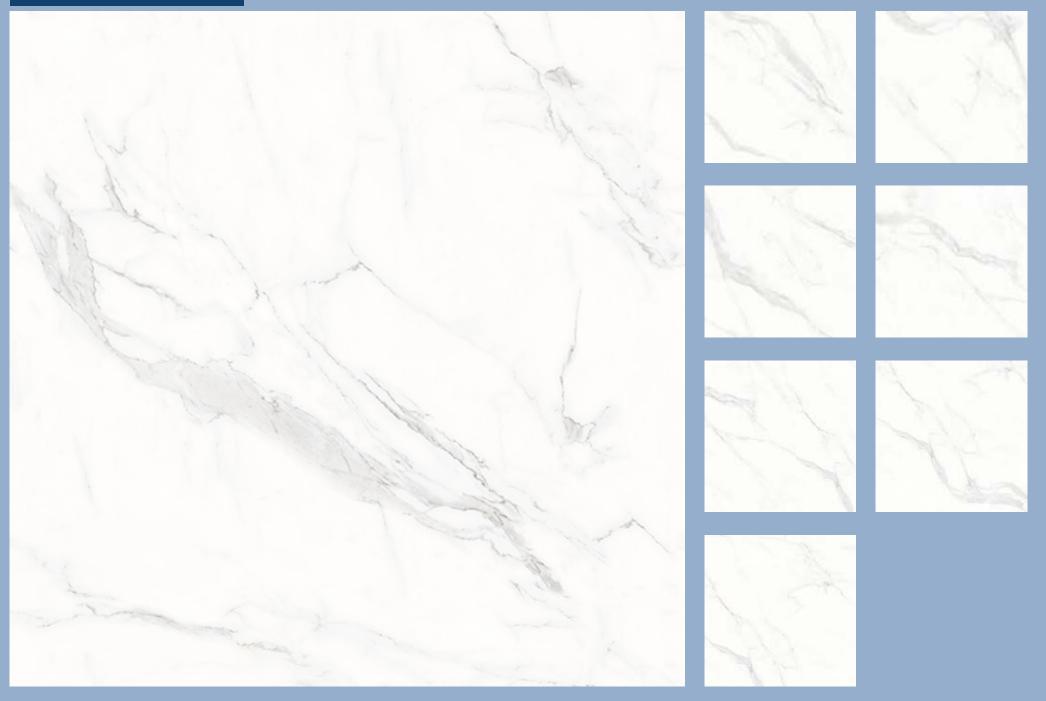


Easy to clean

Scratch resistant







### ADDITIONAL DESIGNS







### **INSTALLATION GUIDE**

TOPPAVER Sintered Stone can be installed on a variety of surfaces, including grass, sand, gravel, elevated floor, and so on.

Please refer to our

### **INSTALLATION GUIDE BOOKLET**

for detailed instructions for each substrate.

All installations must adhere to the following guidelines:

- Only use a paver saw with a wet cut porcelain blade to cut TOPPAVER Sintered Stone.
- Never use a plate compactor to compact TOPPAVER Sintered Stone.
- $\bullet$  Never install TOPPAVER Sintered Stone without spacers (minimum 4 mm 5/32").
- Gloves are strongly advised when handling and installing TOPPAVER Sintered Stone to protect the hands from harm.
- Project/site evaluation and structural design must be performed by a qualified professional engineer.



### **CUTTING GUIDE**

- Due to their 20mm thickness and extremely hard surfaces, cutting TOPPAVER Sintered Stone is very different from cutting regular tiles and requires specific tools as well as techniques, such as:
  - · Using a segmented blade for linear cut
  - Making a 2-3mm deep groove for linear cut
  - Using core bits to drill holes

Royal suggests the use high-quality tools, plenty of water before, during, and after the cutting/drilling phase, as well as approved wet or suction equipment. Royal always recommends wearing safety glasses, masks, gloves, and steel toe shoes.

Please refer to our

### **CUTTING GUIDE BOOKLET**

for detailed instructions

# **Technical SPECIFICATIONS**

No	Items	ISO 13006:2018	THICKNESS 20MM MATTE	METHOD
1	Size	±0.5%	±0.3 mm	ISO 10545-2
2	Thickness	±5%	±5%	ISO 10545-2
3	Straightness of sides	±0.5%	±0.2%	ISO 10545-2
4	Rectangularity of Sides	±0.5%	±0.2%	ISO 10545-2
5	Sides curvature	±0.5%	±0.2%	ISO 10545-2
6	Center curvature	±0.5%	±0.2%	ISO 10545-2
7	Water absorption	≤ 0.5%	≤ 0.5%	ISO 10545-3
8	Breaking strength	≥1300N	≥9000N ≥2000lbf	ISO 10545-4
9	Abrasion resistance	-	Class IV	ISO 15045-7
10	Modulus of rupture	≥35 N/mm²	≥35 N/mm²	ISO 15045-4
11	Thermal shock resistance	Ten cycles	Ten cycles	ISO 15045-9
12	Stain resistance	Min class III	Min class IV	ISO 10545-14
13	Crazing resistance	Pass	Pass	ISO 10545-11
14	Chemical resistance	Min Class B	Class A	ISO 15045-13
15	Resistance to freeze	Pass	Pass	ISO 15045-12
16	DCOF	Min 0.42	Wet: min 0.6	A 137.1
17	Slipperiness	-	R11	DIN 51130
18	Morh Hardness	-	8	EN 15771

**SYMBOLS** 



resistance

Thermal shock



Eco-friendly



Matte surface



**TOPPAVER BIA** 

Slip resistance

DCOF min 0.6

Dynamic coefficient of friction

# CARE &

#### DO

- Keep Sintered Stone clean with basic cleaning of warm water and mild soap.
- Use multi-purpose spray cleaner to remove soap scum, hard water stains and mildew.
- Wipe Sintered Stone dry thoroughly after cleaning.
- Cover furnitures and table legs with protectors to prevent scratches.
- Choose products in compatible with grout to avoid damage.
- Read the instructions on the packaging carefully.
- Install Sintered Stone in the direction indicated by the arrow on the back of the product.

#### **DO NOT**

- Expose Sintered Stone to permanent inks or dyes.
- Use cleaning products containing acids, ammonia or other strong chemicals.
- · Clean Sintered Stone with oil-based cleaners.
- Put too much pressure on Sintered Stone past acceptable range (please refer to Technical Data sheet for the breaking strength).

# TOPPAVER SINTERED STONE



