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Please note, all specifications have been supplied by the manufacturer and are subject to change.

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FRONTIER20

__Frontier20 is a porcelain pavers collection perfectly suited for outdoor applications. The market's demand for a stain-proof, slip-resistant, chemical resistant, no maintenance product led to the development of a revolutionary aesthetically superior product, enough versatility for exteriors as well as interiors. Combining the highest level of quality control and technology with state-of-the-art equipment, age-old practices have been

Frontier20 offers a dimension never seen before to your outdoor living area.

revitalized to offer a superior industry leading product.

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PERFORMANCE, FUNCTIONALITY AND AESTHETICS: ALL IN 20MM.

__Frontier20 porcelain pavers are inheritantly slip resistant and impervious to chemicals, salt, fading, or scratching.

Free your self from having to commit to yearly sealing practices.

Your Frontier20 will never fade or need sealing!

Simply pressure wash your way to a newly installed look any time you want. Moss and mold also won't be an issue, they too can easily be cleaned off without fear of streaking. The ultra realistic surface of Frontier20 is physically bound and can not fade or be removed.

Frontier20 is Freedom!

PROJECT

FLOOR DESIGI

Frontier20 African Beige - 24"x48"

Frontier20 African Beige - 12"x48"

Frontier20 African Beige - 24"x24"

Frontier20 African Beige - 12"x24"

Frontier20 African Beige Stair Tread - 12"x24"

Frontier20 African Beige Riser - 8"x24"

Frontier20 Soul Walnut - 12"x48"









Mild environmentally friendly detergents can be used when cleaning your porcelain pavers.

Pressure washers up to 1500 PSI may be used without fear of etching or striping.



ANTISLIP

The structure and texture of the porcelain paver reduce the risk of slipperiness.



RESISTANT TO MOSS AND MOLDING

Frontier20 is so dense that mold and mildew are not able to establish them selves in a permanent way making removal very easy and simple.



EASY TO REPLACE AND REMOVE

DRIVE OVER*

When properly installed over concrete, Frontier20 porcelain pavers are suitable for light residential vehicular traffic.

(*) When installed over reinforced concrete (4" minimum) using a thinset mortar suitable for porcelain paver.







STAIN RESISTANT

Frontier20 porcelain pavers are virtually non porous.

Due to the baked on glazing process nothing can be absorbed including stains.



RESISTANT TO THERMAL SHOCK

porcelain pavers are baked at temperatures up to 2300 degrees F which in turn causes a very strong molecular bond making for a very dense material. Due to its density it become very inert allowing for extreme and sudden temperature changes in the range of - 60 F +140 F.



SCRATCH RESISTANT

Frontier20 porcelain pavers are extremely hard with an equally hard surface making them virtually scratch proof.



FADE RESISTANT

Frontier20 baked on graphics are created using ingredients that are completely unaffected by the sun ensuring enjoyment of your porcelain paving investment for many years to come.



FROST RESISTANT

Frontier20 porcelain pavers are so dense that frost and or freezing temperatures do not affect it.



RESISTANT TO SALTS

Frontier20 porcelain pavers are completly unaffected by use of salts.



RESISTANT TO ACID AND CHEMICALS

Frontier20 is made with inert ingredients that do not react or accept acids and or chemicals allowing you to make environmentally friendly cleaning decisions!



ECO-FRIENDLY

Frontier20 porcelain pavers are produced in our environmentally menury complex following the strictest state and federal regulations.



NO SEALING NEEDED

No sealers are needed because Frontier20 is so dense virtually nothing can stick to it!



SAVING OVER TIME

Low maintenance cost.

_ 6 _____ 7





FOR PUBLIC SPACES

- → Public outdoor areas
- → Swimming pools
- → Outdoor rest<mark>a</mark>urants
 - → Outdoor bars
 - → Wellness centres
 - → Urban design
 - → Safety passages
 - → Outdoor pavements and squares

PROJECT

FLOOR DESIGN Frontier20 Star Grey - 24"x48"

Frontier20 Star Grey - 12"x48"

Frontier20 Star Grey Grip Stair Tread - 12"x48"
Frontier20 Star Grey Riser - 6"x48"

Frontier20 Star Grey - 12"x48"



CONTINUITY IN & OUT.

Combining the Frontier20 line of products with the standard thickness product lines offers high-level design flexibility and customization, allowing designers and architects to easily transition inside design into outdoor beauty, functionality and performance.

PROJECT
OUTDOOR FLOOR DESIGN
Frontier20 Montauk White - 24"x48"
Frontier20 Montauk Grey - 24"x48"
INDOOR FLOOR DESIGN
Essence Refined Montauk White Grip - 12"x24" Essence Refined Montauk White Mosaic A - 12"x12"



Ceramics provides matching solutions for indoors and outdoors, combining products from the Frontier20 catalog with items from traditional thickness collections.

Continuity of style allows architects and designers to easily transition from inside beauty to outdoor functionality.

INDOOR PORCELAIN TILE



₹9 mm

OUTDOOR PORCELAIN PAVER



₹ 20mm









DRY LAYING.

A way of laying pavers that allows you to **support plates** directly onto grass, gravel or sand.

1.1 ON GRASS



1.2 ON GRAVEL



01.3 ON SAND



02

INSTALLATION OVER REINFORCED CONCRETE*.

A way of laying pavers that allows you to create **perfectly stable surfaces** of incredible resistance.

* When installed over reinforced concrete (4" minimum) using a thinset/thickset mortar suitable for porcelain paver.





INSTALLATION OVER DECKING.

Traditional deck made with wood and porcelain pavers.



RAISED FLOORS.

Slabs matched with a support structure for raised high-performing floors that also leaves sufficient room for **under-floor inspection**.







DRY LAYING.

_The surface in 20mm thickness can be laid onto the substrate without adhesives, lending itself to applications onto grass, gravel and sand. Sought-after ambiance in the home come to life quickly with incredible ease and simplicity.

ADVANTAGES.

- → RAPID
- → MODIFIABLE
- → REUSABLE
- → EASY TO CARRY THROUGH
- → REDUCES ADHESIVES COSTS
- → QUICK TO INSTALL

→ READY TO USE **LOCATIONS.**

- → PRIVATE GARDENS
- → PATIOS
- → WALKWAYS
- → PUBLIC PARKS AND GARDENS
- → OUTDOOR COMMERCIAL AREAS
- → BEACH RESORTS







01.1 DRY LAYING ON GRASS.

DRY LAY OVER GRASS

(PEDESTRIAN FOOT TRAFFIC)

PRACTICAL INSTALLATION

Follow the drawing below.

- Cut grass in desired area as short as possible. remove any debris.
 Using a landscape rake scratch up top 1 inch of soil and level.
 Insure sub grade is graded to a 1" in 10' slope and that it is pitched away from any building.



- A FRONTIER20 PORCELAIN 3/4" NOMINAL (20MM) PAVERS
- B BARE SOIL IS BEST. SCRATCH AND LAYEL WITH A RAKE

DRY LAY OVER GRASS ON COMPACTED ROAD BASE INSTALLATION

(PEDESTRIAN FOOT TRAFFIC)

PRACTICAL INSTALLATION

Follow the drawing below.

- → Compacted base road is composed of ³/₄ compated gravel.
- → Sand bed course poured onto compacted gravel and screed to have smooth surface.



- A FRONTIER20 PORCELAIN 3/4" NOMINAL (20MM) PAVERS.
- B 1" SAND BEDDING COURSE SCREED WITH SMOOTH SURFACE.
- C COMPACTED ROAD.



ON GRAVEL.

PERMEABLE APPLICATION

(PEDESTRIAN FOOT TRAFFIC)

PRACTICAL INSTALLATION

Follow the drawing below.

- → The required edge restraint system for this installation has a vertical height of 2" (5 cm) as shown in the drawing.
- → Insure that pavement is constructed with a 1" in 10' and that it is pitched away from any building.
- → Insure the ³/¹₁6" (4 mm) spacers are installed between all pavers, in order to prevent pavers from touching each other (and potentially chipping) and to allow better water drainage.



- A FRONTIER20 PORCELAIN 3/4" NOMINAL (20MM) PAVERS
- B COARSENESS OF GRAVEL 2" 8 S' AND 9 S' (1/2" + LESS)
- C COARSENESS OF GRAVEL 4" #57 (3/4")
- D COARSENESS OF GRAVEL 6" 3 S'- 4 S' IF DESIRED
- FILTER FABRIC

INSTALLATION WITH HIGH DENSITY PANELS

(PEDESTRIAN FOOT TRAFFIC)

PRACTICAL INSTALLATION

Follow the drawing below.

- → The edge restraint system is 0.75 " 1" height profile.
- → Attach the edge restraint into the panel.
- → Lay fabric directly on top of the substrate to contain sand.
- → Install panel onto sand bed course 1".
- → Insure the ³/₁6" (4 mm) spacers are installed between all pavers, in order to prevent pavers from touching each other (and potentially chipping) and to allow better water drainage.



- A FRONTIER20 PORCELAIN 3/4" NOMINAL (20MM) PAVERS
- B SPACERS
- C HIGH DENSITY PANELS
- D SAND 1/2" 1"

- FILTER FABRIC
- F 1' INCH PERIPHERAL ANCHOR
- G SUBSTRATE

GRATE SYST

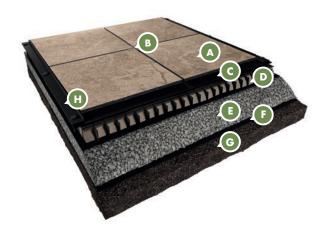
INSTALLATION WITH GRATE FULFILLED WITH SAND OVER COARSE

(PEDESTRIAN FOOT TRAFFIC)

PRACTICAL INSTALLATION

Follow the drawing below.

- → Paver joints have to be swept with polymeric tile sand.
- → Please ensure that grate has to be filled with drainable sand.
- → Depth of coarse aggregate has to be approximately 50% of traditional excavation vertical extent.



- FRONTIER20 PORCELAIN
 3/4" NOMINAL (20MM) PAVERS
- B SPACERS
- C FILTER FABRIC
- GRATE SYSTEM FILLED WITH DRAINABLE SAND
- E COARSE AGGREGATE (67 OR 57)
- ADDITIONAL FILTER FABRIC IF NEEDED
- G SUBSTRATE
- H 1' INCH PERIPHERAL ANCHOR



Insure the plastic 3/16" (4 mm) spacers are installed at all corners of the installed pavers, in order to prevent pavers from touching each other (and potentially chipping) and to allow better water drainage.

ON SAND.

TYPICAL FLEXIBLE BASE INSTALLATION

(PEDESTRIAN FOOT TRAFFIC)

PRACTICAL INSTALLATION

Follow the drawing below.

- → Base material is to be over dug 6" to 8" beyond the edge of the pavement.
- → The required edge restraint system is a low profile edge restraint with a vertical height of 1.5" (4 cm) as shown in the drawing.
- → Insure that pavement is constructed with a 1" in 10' slope that it is pitched away from any building.
- → insure the plastic ³/₁₆ " (4 mm) spacers are installed at all corners of the installed pavers, in order to prevent pavers from touching each other (and potentially chipping) and to allow better water drainage.



- FRONTIER20 PORCELAIN
 3/4" NOMINAL (20MM) PAVERS
- B 3/4" UNCOMPACTED BEDDING SAND
- C 4-6" CRUSHER RUN/ROAD BASE
- D FILTER FABRIC

OVER SAND BASE INSTALLATION

(PEDESTRIAN FOOT TRAFFIC)

PRACTICAL INSTALLATION

Follow the drawing below.

- → Filter fabric is recommended as it allows water to pass but not the particles of sand.
- → 2-4" of a compactable sand is recommended. You can go with more however it will not offer any distinct advantage. Going with less than 2" may offer a less desirable effect as it will tend to hold more water and become "mushy" when super saturated.
- → The use of an edge restraint is ideal but not necessary. It becomes more necessary if your desired paving area is above the surrounding native soil, as it will help aid in the minimization of sand migration or erosion.
- → Insure the plastic ³/₁₆" (4 mm) spacers are installed at all corners of the installed pavers, in order to prevent pavers from touching each other (and potentially chipping) and to allow better water drainage.



- A FRONTIER20 PORCELAIN 3/4" NOMINAL (20MM) PAVERS
- B APPROX. 4" OF BEDDING SAND
- G FILTER FABRIC

SAND SET OVER CONCRETE

(PEDESTRIAN FOOT TRAFFIC)

PRACTICAL INSTALLATION

Follow the drawing below.

- → The edge restraint system is 1 ½" 2" height profile.
- → Ensure edge restraint into the concrete base made.
- → Lay fabric directly on top of the concrete to contain sand and fold it up the front of the edging.
- → Insure that pavement is constructed with a 1" in 10' and that it is pitched away from any building.
- → Insure the ³/₁6" (4 mm) spacers are installed between all pavers, in order to prevent pavers from touching each other (and potentially chipping) and to allow better water drainage.



- A FRONTIER20 PORCELAIN 3/4" NOMINAL (20MM) PAVERS
- B SAND BEDDING COURSE 1"
- C FILTER FABRIC

- EXISTING OR NEW CONCRETE 4" MINIMUM
- 1/2" 1" INCH DRAINAGE HOLES DRILLED 24 INCH ON CENTER
- F PERIPHERAL RESTRAINT SYSTEM

Insure the plastic 3/16" (4 mm) spacers are installed at all corners of the installed pavers, in order to prevent pavers from touching each other (and potentially chipping) and to allow better water drainage.



INSTALLATION OVER REINFORCED CONCRETE*.

ADVANTAGES.

- → LONG TERM DURABILITY
- → READILY ACCESSIBLE SURFACES
- → ABLE TO WITHSTAND PEDESTRIAN AND LIGHT VEHICLURE TRAFFIC

_The Frontier20 may also be installed with traditional methods using thinset/thickset mortar appropriate for use with porcelain paver. In a short 24 hours your floor will be ready for foot traffic. This method offers the most stable and most durable floor covering that is able to withstand foot traffic up to light vehicular traffic.

* It is recommended installation over 4" minimum thick reinforced concrete, using a thinset/thickset mortar suitable for porcelain paver.

LOCATIONS.

- → YARDS
- → PORCHES
- → TERRACES
- → RAMPS
- → GARAGES

- → PARKING AREAS
- → CYCLE TRACKS
- **→ PAVEMENTS**
- → SQUARES





THIN SET MORTAR APPLICATION **OVER REINFORCED CONCRETE**

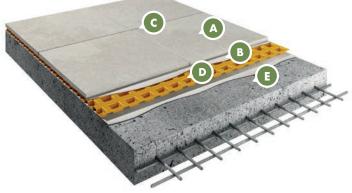
PRACTICAL INSTALLATION

Follow the drawing below.

- → Insure that pavement is constructed with approximately 2 degree slope and that it is sloped away from any building.
- → Please consult your paver supply distributor for thin set mortar suitable for porcelain paver as well as for inside or external usage.
- → For cementitious adhesive and grout installation, refer to the manufacturer's technical instructions and specifically as they relate to outdoor installations.
- → For concrete foundation slabs that are not large enough to require contraction/control joints, a minimum 3/16" (4 mm) grout joint is acceptable, but for larger concrete foundation slabs that do require contraction/control joints, the control joint width should be a 3/8" (1 cm). It is absolutely imperative that all contraction/control joints be located in the joint line of installed porcelain pavers and not beneath a paver.

CAUTION: if a porcelain paver is installed over a control joint, the paver will reflectively crack along the contraction/control joint beneath it.

Utilization of an uncoupling membrane can help minimize the potential issue.



- FRONTIER20 PORCELAIN 3/4" NOMINAL (20MM) PAVERS
- B THINSET
- 3/16" MINIMUM GROUT JOINT
- D UNCOUPLING MEMBRANE
 - EXISTING OR NEW CONCRETE (REINFORCED). 4" MINIMUM



INSTALLATION OVER DECKING.

Frontier20 combined with a **grate system** allows porcelain paving to be utilized in conjunction with an existing or new construction **wood deck structure**. As long as the wooden deck structure is constructed soundly and according to local codes, the honeycomb plastic grate is installed as the substrate for the porcelain paver. This system is **highly innovative and functional** for the design of contemporary outdoor spaces.

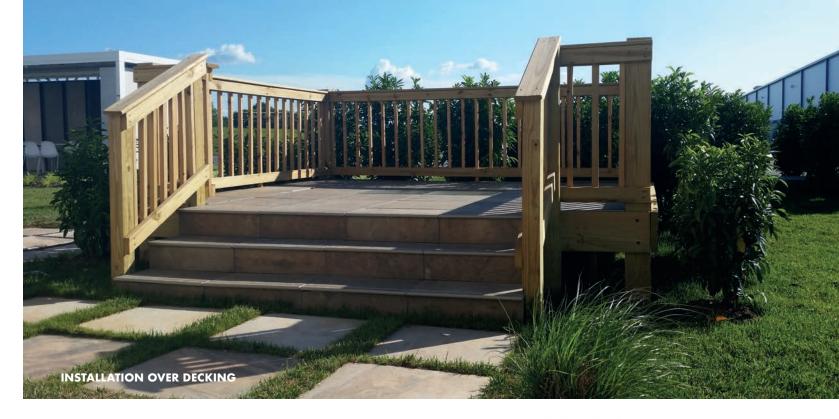


ADVANTAGES.

- → ANTISLIP FROST RESISTANT
- → RESISTANT TO THERMAL SHOCK
- → SAFETY
- → EASY TO MAINTAIN
- → DURABLE OVER TIME
- → HIGH END LOOK
- → NEVER HAVING TO STAIN DECK BOARDS AGAIN
- → NO SCREW OR NAILS STICKING UP
- → NO WOOD SPLINTERS

LOCATIONS.

- → PRIVATE GARDENS
- → OUTDOOR ELEVATED WALKWAYS
- → DECK PATIOS
- → DECK GAZEBOS



INSTALLATION OVER DECKING

(PEDESTRIAN FOOT TRAFFIC)

PRACTICAL INSTALLATION

Follow the drawing below.

- → Deck joists must be "sound" and in good condition as well as constructed in accordance with local codes.
- Deck joists must be spaced 16" on center.
- → Top of joists bust be flat to one another.
- → Grates will span 2 joists and be fastened using weather proof screws.
- → Stagger grates 1/3 rd, 1/4th or 1/2 as shown.
- Outdoor fabrics varies in thickness. Multiple layers may be needed to reduce acoustics.
- → The use of porcelain paver spacers are recommended. ¹/₂ th inch joints are the minimum recommendation.
- → Silicon or a neutral colored adhesive may be applied to spacers to help reduce porcelain paver movement.
- → Porcelain paver joints may be filled or left open, depending on desired drainage.
- → Insure the ³/₁6" (4 mm) spacers are installed between all pavers, in order to prevent pavers from touching each other (and potentially chipping) and to allow better water drainage.



- A FRONTIER20 PORCELAIN 3/4" NOMINAL (20MM) PAVERS
- B OUTDOOR FABRIC OR SOUND INSULATING MATTRESS
- C HONEYCOMB PLASTIC GRATE
- D DECK JOISTS

Insure the plastic 3/16" (4 mm) spacers are installed at all corners of the installed pavers, in order to prevent pavers from touching each other (and potentially chipping) and to allow better water drainage.





ADVANTAGES.

- → LEVEL OFF UNEVEN SURFACES
- → ALLOWS YOU TO HIDE UNSIGHTLY PIPES AND PLANTS WIRES AND ELECTRICAL CONDUIT
- **→** EASY MAINTENANCE
- → ALLOWS FOR WATER DRAINAGE
- → RESISTANT TO THERMAL EXPANSION
- → PROVIDES THERMAL AND ACOUSTIC INSULATION
- → NO NEED FOR ADHESIVES
- → REDUCES LABOUR COSTS

LOCATIONS.

- → PATIOS
- → GAZEBOS
- → FACILITY AREAS OF COMMERCIAL VENUES
- → ROOF TOPS

_In combination with a suitable structure the Frontier20 porcelain paver in 20mm thickness lend themselves perfectly to floors with a **suspended installation**. The adjustable stand means being able to create an air space under the floor in which to lay electrical conduit or plumbing.

The raised flooring system is easy to manage, allows you to configure the underlying wiring or plumbing systems based on specific needs and also to change its configuration any time a new look is needed.



LOW HEIGHT SUPPORTS (UP TO 3/4" - 20MM) PEDESTAL INSTALLATION OVER EXISTING SUBSTRATE

(PEDESTRIAN FOOT TRAFFIC)

PRACTICAL INSTALLATION

Follow the drawing below.

- → Ensure concrete slab is in stable condition and has a 1" in 10' slope to divert water away from structure.
- → Ensure spacer tabs are intact in the corners where the porcelain pavers might come to contact.



- A FRONTIER20 PORCELAIN 3/4" NOMINAL (20MM) PAVERS
- B PEDESTAL
- C EXISTING SLAB OR SUBSTRATE

INSTALLATION OVER LOW HEIGHT SUPPORTS (UP TO 3/4" - 20MM) PEDESTAL ON CONCRETE (PEDESTRIAN FOOT TRAFFIC)

PRACTICAL INSTALLATION

Follow the drawing below.

- → Make sure the concrete slab is properly built and smooth and has 1 ½ - 2 degree pitch and that it is pitched away from any building.
- → Plastic ¾" pedestal support must be placed and installed all corners of the pavers.



- A FRONTIER20 PORCELAIN 3/4" NOMINAL (20MM) PAVERS
- B PEDESTAL
- C CONCRETE BASE
- **D** SUBSTRATE

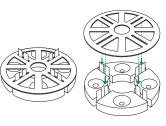
Insure the plastic 3/16" (4 mm) spacers are installed at all corners of the installed pavers, in order to prevent pavers from touching each other (and potentially chipping) and to allow better water drainage.

RAISED FLOORS INSTALLATION SYSTEM.

LOW HEIGHT SUPPORTS.

System made up of disks of variable thickness. Utilize for low height installation (up to 3/4").

	AVAILABLE HEIGHT			
	1/8"	1/4"	1/2"	3/4"
Shim	1/8"			

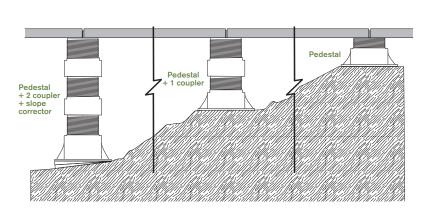




ADJUSTABLE HEIGHT SUPPORTS.

System made up of adjustable height pedestal (from 1 1/4" to 16").

B	AVAILABLE HEIGHT			
	11/4" - 2"	2" - 3"	3" - 4 ³ / ₄ "	43/4" - 73/4"
Coupler	add up 4" each			
Slope corrector		0" - 1" per	foot slope	







RAISED FLOORS INSTALLATION SYSTEM.



WARNINGS.

It is recommended to carry out raised installation onto a solid, resistant substrate with the correct inclination to guarantee water drainage. Support come equipped with four spacers that allow for the creation of grout lines between pavers. For a correct installation against walls or corners, it is necessary to keep the supports distant from the wall and remove 2 or 4 spacers as showed in the picture below.

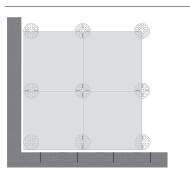
Ceramics recommends to strictly follow the instructions for the raised installation of Frontier20.

Failure to comply with these recommendations may lead to improper use of the product and could cause serious property damage or injury. For further information and recommendations concerning the installation systems please refer to our website at

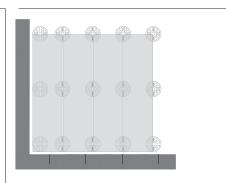
Wall corner



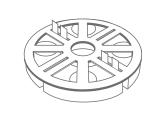


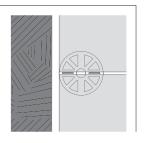


12"x48"

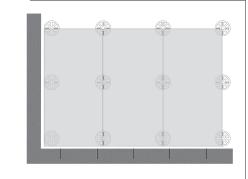


Wall border

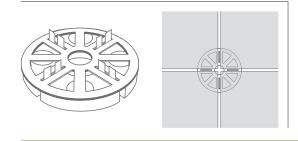




24"x48"



Floor center



RAISED FLOORS INSTALLATION SYSTEM.



WARNINGS.

Our products are made using the best technology available, and their technical performances match or exceed requirements from both ASTM and ISO standards for porcelain products.

Nevertheless, if the application of the 20 mm slabs requires the ceramic product used in structural installations, the project engineer and/or customer must carefully assess the project requirements with regard to the technical specifications of the slabs.

To prevent the risk of damage or injury, the manufacturer recommends:

- With regard to a raised floor installation a ceramic slab may fracture on impact if a heavy object falls on it. Therefore, the manufacturer recommends checking the specific intended use before starting the installation and:
- 1) As far as supports requirements, comply with the table for raised installation provided below.
- 2) In all installations on pedestals higher than 3/4", reinforcing must be applied on the back of the slabs (double fiberglass mesh) supplied and applied by the manufacturer.

SUPPORTS REQUIREMENTS				
	SIZE	UP TO 3/4" (20MM)	ABOVE 3/4" (20MM)	
-	12"x12" (300x300 mm)	4 supports 0,32 pcs/sq ft		
	12"x24" (600x300 mm)	4 supports 0,32 pcs/sq ft		
	24"x24" (600x600 mm)	4 supports 0,32 pcs/sq ft		
	24"x36" (600x900 mm)	6 supports 0,32 pcs/sq ft		
	12"x48" (300x1200 mm)	6 supports 0,65 pcs/sq ft		
	24"x48" (600x1200 mm)	6 supports 0,65 pcs/sq ft		

- With reference to any dry installation system of flooring above the ground level, the manufacturer recommends to comply with local regulations and conditions of use with regard to wind-load, loadbearing, seismic events, etc.
- Outdoor pavings installed unglued above the ground level are subject to the action of the wind, with the risk, in some cases, of becoming airborne. The manufacturer recommends to require the assistance of a qualified professional in order to check the suitability of the installation system above the ground adopted, in accordance with the local laws and regulations and the conditions of use.

NOTE

PORCELAIN PAVERS OTHER WARNINGS

Outdoor pavings installed unglued above the ground level are subject to the action of the wind, with the risk, in some cases, of becoming airborne. The manufacturer recommends to require the assistance of a qualified professional in order to check the suitability of the installation system above the ground adopted, in accordance with the local laws and regulations and the conditions of use. Failure to do so could result in serious injury or property damage.

If the application of the 20 mm slabs requires the ceramic product used in structural installations, the project engineer and/or customer must carefully assess the project requirements with regard to the technical specifications of the slabs. With reference to a raised floor installation: a ceramic slab may fracture on impact if a heavy object falls on it from any significant height. Therefore to prevent the risk of damage or injury, recommends to check the specific intended use before starting the installation and to follow table for raised installation provided below.

In certain conditions, reinforcing must be applied on the back of the slabs (double fiberglass mesh) supplied and applied by the company's reference to any dry installation system of flooring above the ground level: recommends to comply with local regulations and conditions of use with regard to wind- load, loadbearing, sismic events, etc. Failure to comply with these recommendations may lead to improper use of the product and could cause serious damage or injury. Failure to adhere to instructions for installation of slabs on raised pedestal systems may result in serious injury.

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RECOMMENDATIONS FOR THE INSTALLATION, ORDINARY CLEANING AND MAINTENANCE OF FRONTIER20

of Frontier20 floor surfaces using water and commercially available neutral detergents: the inclination of the surface and the space between adjacent slabs for dry-system installation favour the natural flow of water. However, it is important to take into consideration that any type of floor surface is subject to the surface tension effect of liquids: it is the same property of water that gives the tendency to transform into spherical droplets and which cause the curved top surface of a glass full of water. The surface tension can obstacle the complete drainage of water and cause a temporary stagnation of liquid on the slab edges. In order to avoid this problem, Ceramics recommends ensuring adequate inclination of the surface during installation so as to encourage the flow of water between adjacent slabs. Please remember in any case that, in view of the distinctive advantages of porcelain stoneware, Frontier20 absorbs practically no water, which makes it highly frost-proof. This may lead to localised water pooling, mainly on the edges of the pavers, independently of the manner and quality of the laying. Laying is also recommended with a minimum gap of 4 mm (5/32"). Should liquid deposit on the surface, it is recommended to



Backing with double fiberglass mesh.

push it towards grout lines using a brush or remove it with a wet and dry vacuum cleaner.



TRIM TILES TO LANDSCAPE THE OUTDOORS.

_Frontier20 includes a complete range of special trim pieces to seamlessly complete and accentuate the landscaping outdoor spaces. The trim tiles represent the ideal solu planning of outdoor spaces, commercially or residentially. The special trims feature coordinated aesthetics to match those of the Landmark porcelain paver, for projects that demand total visual continuity.

DESTINATION OF USE.

- → STAIRS
- **→POOLS**
- → WALL COVERS

PROJECT

RISER GRIP STAIR TREAD

LINEAR COVER DRAIN SE

O COPING CORNER

END COVER

COVER P. 43



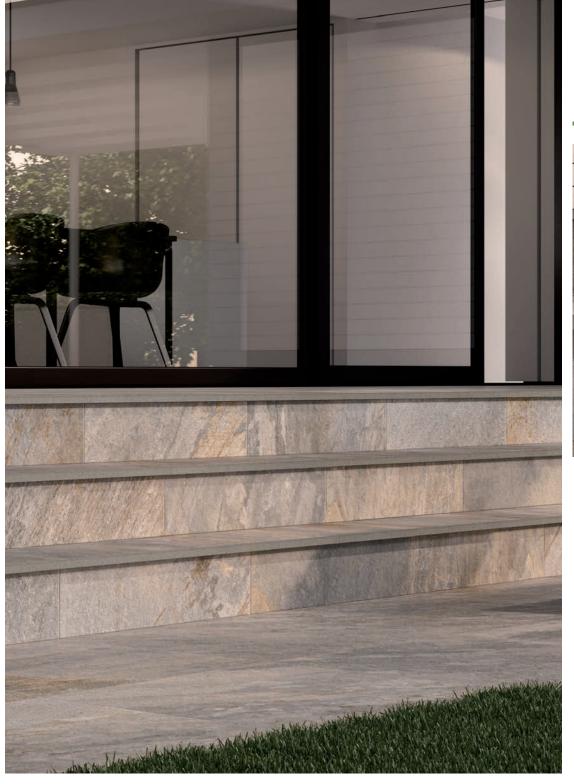
STAIRS WITH AN IN-DEMAND AESTHETIC THAT IS ALSO HIGH PERFORMING.

SYSTEM.

- → STAIR TREAD
- **→ GRIP STAIR TREAD**
- → RISER

ADVANTAGES.

- → RESISTANCE TO SALTS
- → RESISTANCE TO CHEMICALS
- → TECHNICAL PERFORMANCE
- → ANTI-SLIP
- → VISUAL CONTINUITY TO THE OUTDOOR FLOOR







COMFORT AND STYLE FOR SWIMMING POOL AREAS.

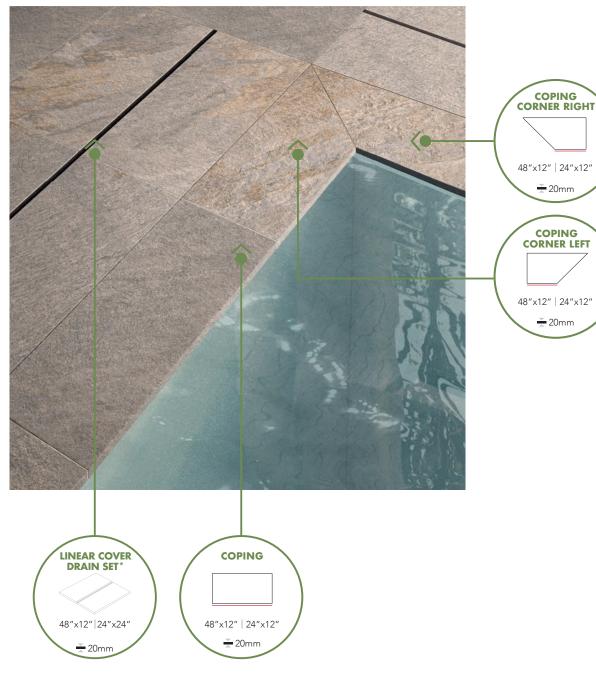
SYSTEM.

- → LINEAR COVER DRAIN SET
- → COPING
- → COPING CORNER

ADVANTAGES.

- → RESISTANCE TO SALTS
- → RESISTANCE TO CHEMICALS
- → ANTI-SLIPPERINESS
- → DURABILITY
- → EASY TO CLEAN
- → VISUAL CONTINUITY TO THE OUTDOOR FLOOR





^{*} The Linear Cover Drain Set is made-up of two pieces, each having a further beveled and polished edge. The two pieces are studied to be laid with the beveled and polished edges facing each other in order to create an open joint. See pages 45, 46 for more details.



WALL COVERS: PROTECTION FROM WATER AND VISUAL CONTINUITY.

SYSTEM.

- → COVER
- → END-COVER

ADVANTAGES.

- → ANTI-DETERIORATION
- → EASY TO CLEAN
- → PROTECTS THE WALL FROM WATER INFILTRATION

COVER* 12"x24" ₹ 20mm **END COVER*** 12"x24" ₹ 20mm **DRIPSTONE**

^{*} Both Cover and End-Cover have dripstone and undecorated borders.









STAIR TREAD*



GRIP STAIR TREAD*





TRIM DIMENSIONS



A: 24" **B:** 8"

Rectified



WALL COVERS

COVER*



END COVER*



TRIM DIMENSIONS

A: 24" **B:** 12"

Undecorated border and dripstone



₹20 ETHICKNESS

PORGELAIN PAVERS

POOLS

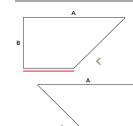
TRIM DIMENSIONS



A: 24" **B:** 12"



TRIM DIMENSIONS



A: 24" **B:** 12"





TRIM DIMENSIONS



A: 24" **B:** 11.63"



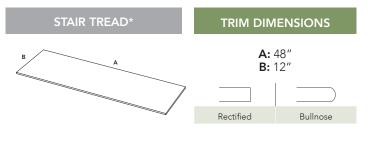






TRIM TILES RANGE 12"x48"

STAIRS

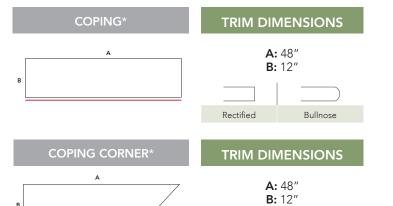








POOLS



CORNER LEFT*

Rectified

Bullnose





CORNER RIGHT*

¥20 € THICKNESS PORGELAIN PAVERS

A COMPLETE PROJECT FOR EVERY NEED.

_Frontier20 is a complete project for any design need, specially developed by Landmark for contemporary outdoor spaces. The extent of the range makes it possible to design outdoor environments with looks that are always new, and to play with surfaces inspired by different materials.

ADVANTAGES

- **©1 WIDE LOOKS RANGE**
- **02 A WIDE RANGE OF SIZES**
- **©3 AMERICAN STONES**
- **04 LANDMARK DESIGN PROJECT**

PROJECT

FLOOR DESIGN

Frontier20 Travertine Cross Cut Silver - 24"x24"

WALL DESIGN

Frontier20 Travertine Cross Cut Silver - 24"x24" COUNTER

Frontier20 Travertine Cross Cut Silver - 24"x24"

WIDE LOOKS RANGE.

BLUESTONE DESIGN PROJECT







TUMBLED BLUESTONE COBBLESTONE CUBE V3 AMERICANSTONE ±



TUMBLED BLUESTONE COBBLESTONE MULTISIZE



LIMESTONE LOOK BLUESTONE DESIGN PROJECT



LIMESTONE

















SLATE LOOK

BLUESTONE DESIGN PROJECT



VINTAGE SLAB





THERMAL BLUESTONE FULL COLOR





BLUESTONE FULL COLOR







INDIANA SALEM DESIGN PROJECT



INDIANA BUFF SELECT



INDIANA GREY SELECT



INDIANA VARIEGATED









V3 AMERICANSTONE ★

SLATE DESIGN PROJECT



MONTAUK WHITE













TRAVERTINE CROSS CUT WHITE



TRAVERTINE CROSS CUT DESIGN PROJECT

TRAVERTINE CROSS CUT DESIGN PROJECT





SLATE DESIGN PROJECT



CALIFORNIA GOLD





RUSTIC GOLD





MARIPOSA SLATE



TRAVERTINE CROSS CUT CREAM V2 AMERICANSTONE ★









WIDE LOOKS RANGE.









WIDE LOOKS RANGE.







WALNUT

PEPPER

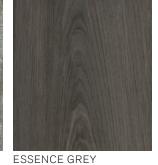


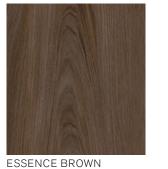














V2

V2







A WIDE RANGE OF DIFFERENT SIZES. DIFFERENT SIZES, GREATER FREEDOM.

Frontier20 is characterized by a wide range of sizes from the small 9"x9", 9"x18", 12"x12" and 12"x24" up to the bigger 24"x36" and 24"x48", from the classic 24"x24" to the refined 12"x48" plank size. Frontier20 ensures freedom in every design project.

PROJECT

Frontier20 Limestone - 12"x48"

12"x24" 12"x12"

12"x48"

24"x24"

24"x36"

9"x18"



O₃ AMERICANSTONE ★

THE AMERICAN SOUL OF THE REAL AMERICAN STONES.



__Frontier20 American Stone is a collection of some of the most regionally popular natural stones from across the nation.

Elegant Bluestone from the North East and iconic and classic Indiana Limestone select from the Midwest in buff, grey, and variegated colorations. Lastly the three renowned Pacific multicolor Slates and the North East monochrome deep refined Slates. The American Stone range also includes prestigious Travertine cut against the vein, a stone commonly found in the South West distinguished by the timeless beauty and appeal of the original material.

Naturally inspired colors that are rich, sophisticated, and bold enough to make a statement yet versatile enough to seamlessly blend your home's interior charm with your outdoor living area.

_Unlike natural stone, American Stone is uniform in thickness and consistent in size, affording the most in design flexibility and cost saving installation. American Stone is extremely durable, will never fade, impervious to chemicals or salts, can be easily cleaned without harsh chemicals and never needs sealed.

PROJECT

Emotion Soft Dark - 8"x40"

OUTDOOR FLOOR DESIGN
Frontier20 Full Color Bluestone Cobblestone Cube - 24"x24"
OUTDOOR WALL DESIGN
Frontier20 Bluestone Blue Select - 12"x24"







DESIGN PROJECT.

_Landmark Design Project is the newest, unique and most distinctive concept developed by Landmark. Every Design Project takes root from the study of a prestigious and popular natural stone, widely used in North America for both indoor and outdoor applications.

The ultimate goal is to provide a deep and complete interpretation of that stone using porcelain technology. The reference stone is studied in depth in terms of colors, textures, finishes and sizes, with the ambitious goal to blend them into a complete and unique porcelain design project, able to match and exceed the design and application options offered by the natural stone.

At the same time, BDP combines all its beauty with superior technical performances of the best porcelain.

Every design project is an integrated solution perfectly balanced to design outdoor floors and walls with a stunning and elegant total stone-effect look inspired by American premium natural stones.

All the items belonging to a Design Projects can be blended, allowing designers to adopt the same concept everywhere, boundlessly playing with different sizes, colors, finishes and creative patterns, as well as unique and eye-catching walls proposal and In&Out solutions.

PROJECT

OUTDOOR FLOOR DESIGN

Frontier20 Thermal Bluestone Full Color - 24"x24"

Frontier20 Thermal Bluestone Full Color Coping - 24"x12"

Frontier20 Thermal Bluestone Full Color Coping Corner - 24"x12"

Frontier20 Full Color Bluestone Cobblestone Multisize - 24"x24"





BLUESTONE DESIGN PROJECT. REDEFINE TRADITIONS.



_Bluestone Design Project is a premium line inspired by the finest Pennsylvania native Bluestone, widely used for prestigious projects all over North America. A highly versatile outdoor collection with infinite combinations of colors, sizes, veneers, trim pieces, finishes, and coordinated tiles designed to meet the demands of Total Look outdoor project.

PROJECT

Frontier20 Thermal Bluestone Full Color - 24"x48" Frontier20 Full Color Bluestone Cobblestone Multisize - 24"x24"





©4.1 BLUESTONE DESIGN PROJECT. HIGH-TIER FINISH.

__The Bluestone Design Project comes with the most refined and prestigious finishes available with the Pennsylvania stone.



THERMAL

Achieved through a meticulous process of high-grade flaming and brushing, the soft textured surface of neutral gray hues offers a welcoming touch.



NATURAL (CLEFT)

Emphasizing the stone's distinctive layered structure, the traditional natural split-stone finish brings out a timeless charm.



With a peculiar and prestigious finish, the surface takes on a distinctive antiqued appearance, cherished for its rugged yet elegant nature.





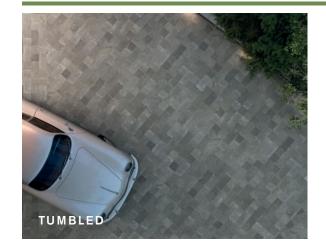
O4.1 BLUESTONE DESIGN PROJECT.

COLORS AND DESIGN.

__The Bluestone Design Project explores the most exceptional and defining traits of the Pennsylvania native bluestone, such as the Blue Select color, known for its uniform and intense gray-blue shade, or the Full Color alternative, where polychromies and dynamic design meet to create an array of combinations.

Bluestone Design Project also revisits the prestigious Tumbled design, breathing new life into a historical pattern and the Cobblestone variant, enriched by infinite multicolored nuances.

As far as Porcelain Pavers, Bluestone Design Project offers an ample choice of customizable solutions, with options ranging from the standard 24"x24" size to 12"x24", 24"x36", 24"x48", 12"x48" and 12"x12". The antiqued Tumbled finish is available in the 9"x9" and 9"x18" versions, while the Cobblestone model comes in the traditional Cube pattern or in the unique Multisize variant.











TUMBLED BLUESTONE COBBLESTONE CUBE



TUMBLED BLUESTONE COBBLESTONE MULTISIZE



THERMAL BLUESTONE BLUE SELECT



BLUESTONE BLUE SELECT



BLUE SELECT BLUESTONE COBBLESTONE CUBE



BLUE SELECT BLUESTONE COBBLESTONE MULTISIZE



THERMAL BLUESTONE FULL COLOR



BLUESTONE FULL COLOR



FULL COLOR BLUESTONE COBBLESTONE CUBE



FULL COLOR BLUESTONE COBBLESTONE MULTISIZE



O4.1 BLUESTONE DESIGN PROJECT.

FLOOR AND WALL.

_Bluestone Design Project presents an ample choice of boundless combinations not only for floor but also for wall application, thanks to the prestigious and decorative Porcelain Veneer range, available in two different versions: a refined and modern Pro Ledgestone and a more traditional Quarry Ledgestone.

A remarkable project with infinite combinations for your Bluestone Total Look Project.







O4.1 BLUESTONE DESIGN PROJECT.

COORDINATED PORCELAIN TILES

PORCELAIN TILES - 9mm thickness

FOR IN&OUT APPLICATIONS AND OUTDOOR WALLS

Rectified Monocaliber

3 colors in 9mm colored body porcelain, all rectified and monocaliber, ranging from 12"x24" to 24"x48" size, to complete your project by transitioning the same Bluestone look to both indoor and outdoor walls as well as to both residential and commercial floors.

		Bluestone Blue Select	Bluestone Full Color	Bluestone Thermal Blue Select
	24"x48" MATT ¥ 0.35"/9 mm	•		•
	12″x24″ matt ¥ 0.35″	•	•	•
	12"×12" MOSAIC A ¥ 0.35"	•	•	•
*****	12"×10" MOSAIC D ₹ 0.35"	•	•	•
	3"x24" bullnose	•	•	•
	6"x12" cove base	Vision Concrete	Vision Concrete	Vision Concrete







Q4.2 QUARTZITE DESIGN PROJECT.

A TRIBUTE TO ONE OF THE MOST AUTHENTIC AND ICONIC STONES.

_QDP, Quartzite Design Project, represents our tribute to the Quartzite natural stone. A stone deeply and widely used in architecture and now reinterpreted and proposed in porcelain, for 360° application whether in residential or commercial areas, for both indoor and outdoor, and for floors and walls.

__With its contemporary interpretation of the granular texture of the quartzite stone, Quartzite Design Project is ideal for outdoor spaces thanks to the Porcelain Pavers, Porcelain Veneers and Porcelain Grip Tiles offering. But exterior is not the only possible application. In fact, QDP is perfect for indoor or In&Out transitional applications too, thanks to the Porcelain Tiles offering, belonging to our Explore collection and available in 9mm thickness.

_Quartzite Design Project is a stone effect with a strong character and chromatic richness that celebrates all the beauty of this superior natural looking architectural stone.





Q4.2 QUARTZITE DESIGN PROJECT.

THE QUARTZITE WORLD IN YOUR HAND.

__The Quartzite Design Project offers endless possibilities to every project, thanks to its broad selection of surfaces, sizes and thicknesses. The project is composed and designed to fit every surface with unquestionable appeal, and embraces 4 different product categories: Porcelain Pavers, Porcelain Veneers, Porcelain Grip Tiles and Porcelain Tiles.

ARCTIC WHITE 24"x48" - 24"x36" - 24"x24" - 12"x24" - 12"x12"

AFRICAN BEIGE 24"x48" - 12"x48" - 24"x36" - 24"x24" - 12"x24" - 12"x12"

STAR GREY
24"x48" - 12"x48" - 24"x36" - 24"x24" - 12"x24" - 12"x12"

PORCELAIN PAVERS

3 colors, available in 20mm thickness within Frontier20 range, ideal for 360° outdoor applications with outstanding technical performances and a wide size offering, from 12"x12" to 24"x48".





Q4.2 QUARTZITE DESIGN PROJECT.

URBAN LEDGESTONE

PORCELAIN VENEERS

4 color proposal to decorate every wall both indoor or outdoor with the same authentic and rich look of the best natural quartzite stones, by blending the tradition of the veneers, a modern Urban Ledgestone shape and the remarkable performance of porcelain.

__Urban is the Porcelain Veneer proposal for whoever is looking for a clean, neat and modern design.

Made of listels regular and uniform in height, characterized by a smooth and refined surface finish, Urban is intended for wall compositions to fit any contemporary architectural environments where the tradition of stone veneers meets the elegance of a clean look.

Each veneer is composed by the assembling of same size pieces with a 3D relief to create vibrant and new decorative wall surfaces.





04.2 QUARTZITE DESIGN PROJECT.

GRIP TILES

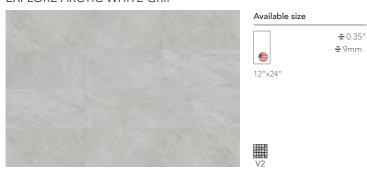
PORCELAIN GRIP TILES - 9mm thickness

COLORED BODY PORCELAIN GRIP TILES

Rectified Monocaliber

4 colors offered in 9mm thickness that fit every outdoor installation over concrete or indoor application, wherever an outstanding slip resistance is needed.

EXPLORE ARCTIC WHITE GRIP



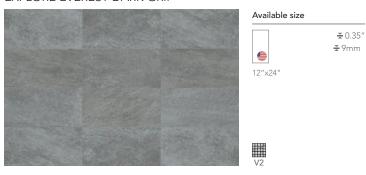
EXPLORE AFRICAN BEIGE GRIP



EXPLORE STAR GREY GRIP



EXPLORE EVEREST DARK GRIP



Q4.2 QUARTZITE DESIGN PROJECT.

COORDINATED PORCELAIN TILES

PORCELAIN TILES - 9mm thickness

FOR IN&OUT APPLICATIONS AND OUTDOOR WALLS

Rectified Monocaliber

5 colors in 9mm colored body porcelain, all rectified and monocaliber, ranging from 12"x24" to 24"x48" size, to complete your project by transitioning the same quartzite look to both indoor and outdoor walls as well as on both residential and commercial floors.

	Explore Arctic White	Explore African Beige	Explore Star Grey	Explore Everest Dark	Explore Volcanic Black
24"x48" MATT ¥ 0.35" / 9 mm	•	•	•		
24"x24" MATT ¥0.35"	•	•	•	•	•
12"x24" MATT ★ 0.35"	•	•	•	•	•
12"x12" MOSAIC A ₹ 0.35"	•	•	•	•	•
12"x10" MOSAIC D ₹ 0.35"	•	•	•	•	•
3"x24" bullnose	•	•	•	•	•
6"x12" COVE BASE	•	•	•	•	•

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04.3 TRAVERTINE CROSS CUT DESIGN PROJECT.

MEET THE AMERICAN LOOK.

PROJECT

OUTDOOR FLOOR DESIGN

Frontier20 Travertine Cross Cut Silver - 24"x48"

Frontier20 Travertine Cross Cut Silver - 12"x48"

Frontier20 Travertine Cross Cut Silver - 24"x24"

Frontier20 Travertine Cross Cut Silver - 12"x24"

Frontier20 Travertine Cross Cut Silver Stair Tread - 12"x48"

Frontier20 Travertine Cross Cut Silver Riser - 6"x48"

WALL DESIGN

Brick World Soho Black - 3"x12"

Frontier20 Travertine Cross Cut Silver - 24"x48"

INDOOR FLOOR DESIGN

Spirit Old Maple - 8"x40"





104.3 TRAVERTINE CROSS CUT DESIGN PROJECT.

A WIDE RANGE OF SIZES FOR MULTIPLE PATTERNS.

TRAVERTINE CROSS CUT WHITE 24"x48" - 12"x48" - 24"x36" - 24"x24" - 12"x24" - 12"x12"

TRAVERTINE CROSS CUT SILVER
24"x48" - 12"x48" - 24"x36" - 24"x24" - 12"x24" - 12"x12"

TRAVERTINE CROSS CUT CREAM
24"x48" - 12"x48" - 24"x36" - 24"x24" - 12"x24" - 12"x12"

TRAVERTINE CROSS CUT NOCE 24"x24"

__Thanks to its new broad selection of sizes, ranging from traditional 12"x12" to the large size 24"x48", Travertine Cross Cut Design Project allows a variety of single and multi-size laying patterns to meet every design need.

Plus, the performance of the Porcelain Pavers guarantees the highest standards of safety, resistance and durability.







O4.4 INDIANA SALEM DESIGN PROJECT.

THE UTMOST ICON OF AMERICAN ARCHITECTURE





OALA INDIANA SALEM DESIGN PROJECT.

COLORS AND FINISHES

INDIANA SALEM BUFF SELECT 24"x48" - 12"x48" - 24"x36" - 24"x24" - 12"x24" - 12"x12"

INDIANA SALEM GREY SELECT
24"x48" - 12"x48" - 24"x36" - 24"x24" - 12"x24" - 12"x12"

INDIANA SALEM VARIEGATED 24"x24" - 12"x24" - 12"x12"

PORCELAIN PAVERS

Buff Select

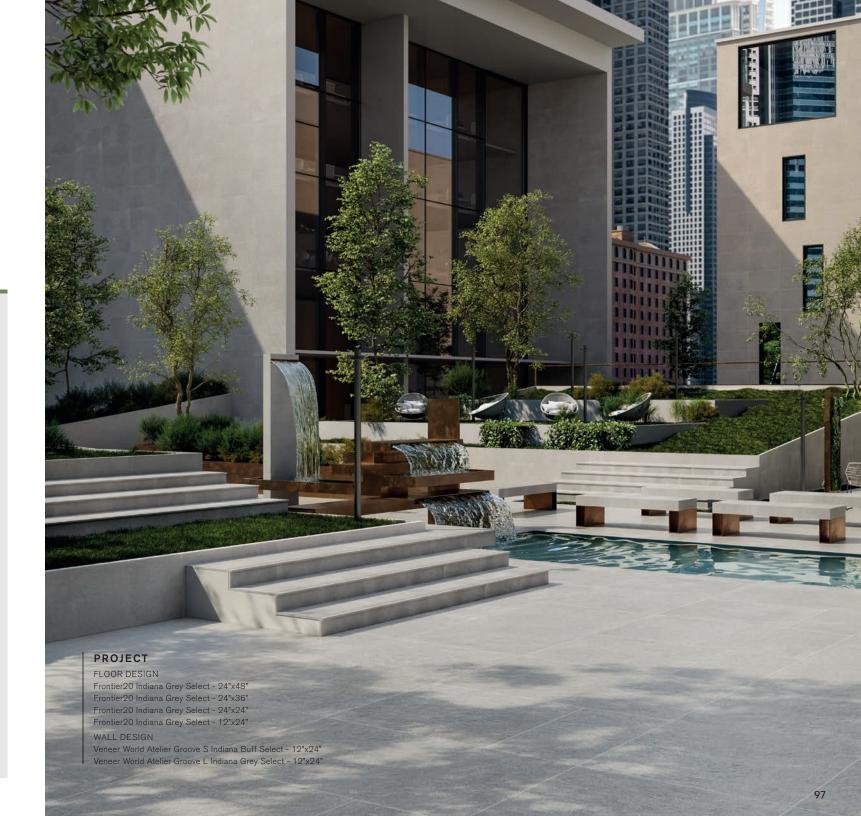
Warm and light creamy color with brownish reflexes on a very fine and refined grainy surface.

Grey Select

Same refined grainy surface, characterized by ecru hue with light grey to bluish shades.

Variegated

While the degree of texture can vary from a fine- to a coarse-grain, this color includes a significative variation from piece to piece, alternating pieces that are full grey or full buff with more variegated ones, that include both grey and buff colors within the same piece.





OAA INDIANA SALEM DESIGN PROJECT. ATELIER

_Porcelain Veneers Atelier: The collection is also enriched with three tooled finishes suited for walls (both indoor and outdoor) and available in Buff and Grey colors:

Atelier Groove S: scratched finish that blends the elegance of natural stone with a 3D surface effect. The brushed and hammered embossed texture creates special plays of light and shadow, along with surface scratches, enhancing the decorative added value of the product.

Atelier Groove L: same scratched finish as Groove S, but with a larger gap among scratches, that elevates natural inspiration through an innovative technology to create a simple and elegant decoration.

Atelier Dynamic: elaborated finish with multiple geometries on the surface, able to offer a contemporary solution that reserves the natural touch of the stone, characterized by micro lines running along the undulating dunes of the surface.

These finishes will make your project stand out by adding a special touch and decorative spirit to vertical installations such as walls and facades.







THE AUTHENTIC AMERICAN LOOK





COLORS AND FINISHES



PORCELAIN PAVERS

Montauk White

A bright light-toned surface with warm white and ivory hues that mimic the soul of American Slate on a soft split stone surface.

Montauk Grey

A lighter gray shade inspired by sedimentary rock, playing in between the Vermont Slate and the Pennsylvania Blue, providing a durable and resistant surface.

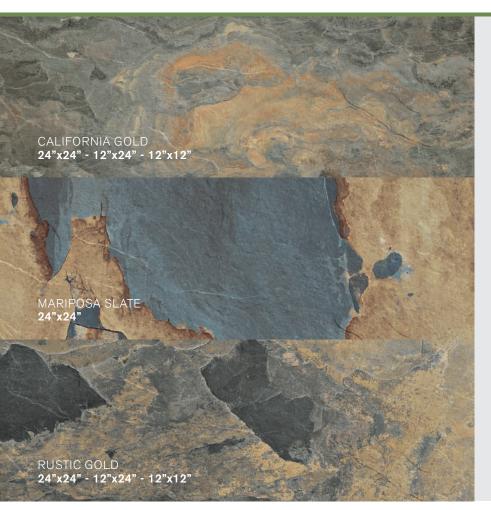
Montauk Black

An authentic reproduction of the darkest slate of the Northeast region of New York and Vermont, with eye-catching colors and subtle variations.





COLORS AND FINISHES



PORCELAIN PAVERS

California Gold

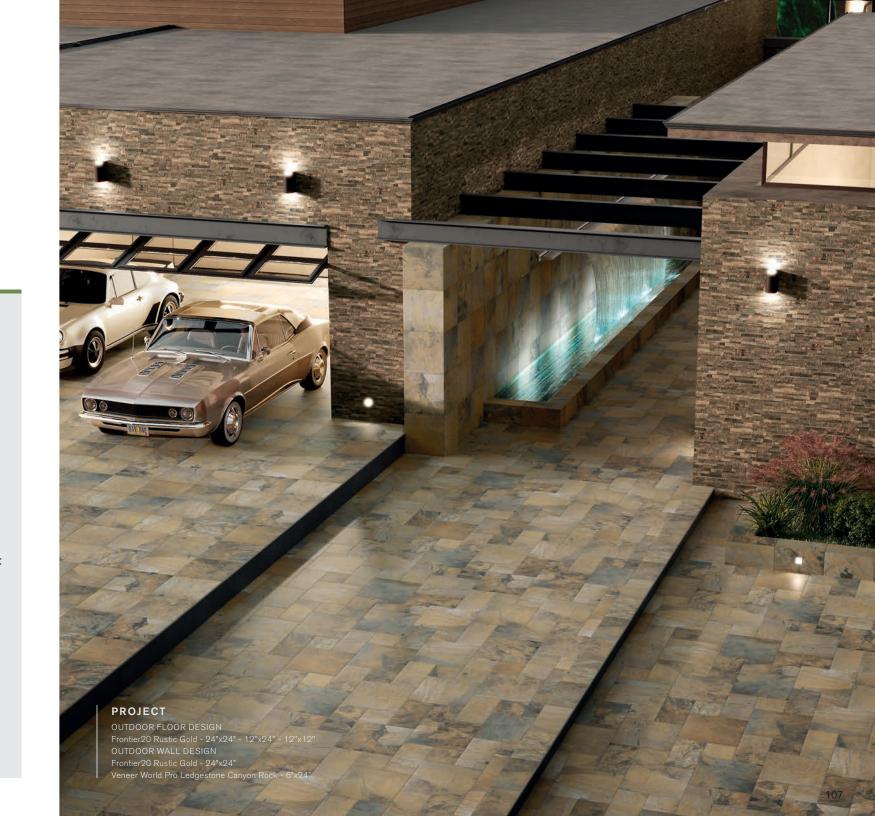
A timeless natural slate look, with brilliant hints of rust and gold, set against a wide array of base charcoal field colors.

Mariposa Slate

An authentic reproduction of the slate from Yosemite Valley. Gold, red, and brown hues melt in the deep black to bring an authentic and traditional look into contemporary and bold architectural projects.

Rustic Gold

A unique blend of colors with a captivating mix of dark grays, various shades of beige, rust and gold, lively oranges, shimmering golds, and rich browns.





ATELIER COMBED

PORCELAIN VENEERS

_Atelier Combed is defined by bold linear striations that evoke the appearance of geometric parallel scratches. Atelier Combed embellish walls with a distinctive and elegant appearance, thanks to the decorative impact resulting from both pronounced linear striations and the play of shadow and light filtering through the grooves.

A proposal of 3 colors to decorate every outdoor and indoor walls with the look of the authentic natural slate look, bringing the tradition of handcrafted tooled surface into every outdoor and indoor project.

ATELIER COMBED MONTAUK GREY PROJECT Frontier20 Montauk Black - 12"x48" - 12"x12' ATELIER COMBED Veneer World Atelier Combed Essence Montauk Black - 12"x24" MONTAUK BLACK



GRIP TILES

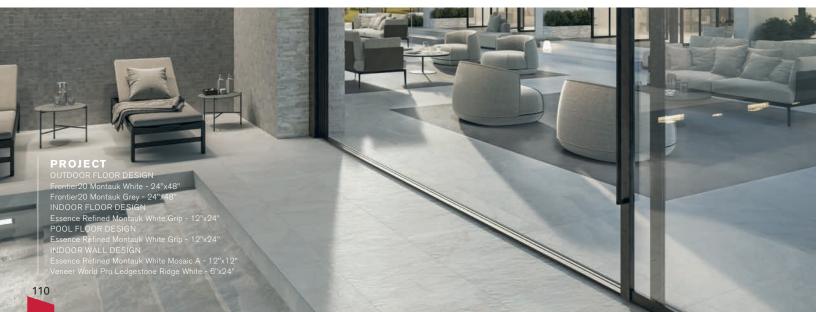
PORCELAIN GRIP TILES - 9mm thickness

COLORED BODY PORCELAIN GRIP TILES

Rectified Monocaliber

2 colors offered in 9mm thickness that fit every outdoor installation over concrete or indoor application, wherever an outstanding slip resistance is needed.





04.5 SLATE DESIGN PROJECT.

COORDINATED PORCELAIN TILES

PORCELAIN TILES - 9mm thickness

FOR IN&OUT APPLICATIONS AND OUTDOOR WALLS

Rectified Monocaliber

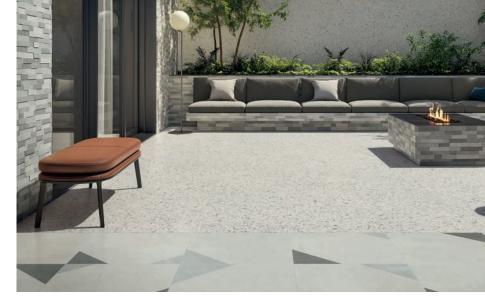
6 colors in 9mm colored body porcelain, all rectified and monocaliber, ranging from 12"x24" to 24"x48" size, to complete your project by transitioning the same slate look to both indoor and outdoor walls as well as on both residential and commercial floors.

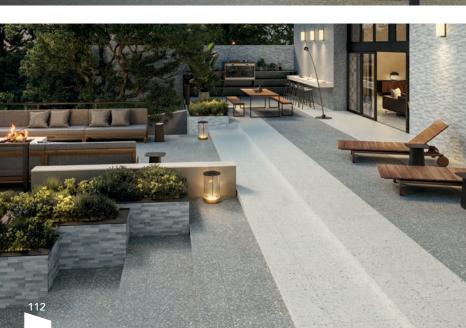
	Essence Montauk White	Essence Montauk Grey	Essence Montauk Dark	Essence Montauk Black	Essence California Gold	Essence Rustic Gold	Essence Mariposa Slate
24"x48" MATT ₹ 0.35" / 9 mm	•	•		•			
12″×24″ MATT ¥ 0.35″	•	•	•	•	•	•	•
3"x12" MATT ₹ 0.35"	•	•	•	•	•	•	•
12"x12" MOSAIC A ★ 0.35"	•	•	•	•	•	•	•
12"x12" MOSAIC H ₹ 0.35"					•	•	•
12"x10" MOSAIC D ₹ 0.35"	•	•	•	•	•		
8"x10" mosaic ₹ 0.35" CHEVRON 3D	•	•		•			
3"x24" bullnose	•	•	•	•	•	•	•
6"x12" cove base	Vision Color Star White	Vision Pearl	Vision Dark	Vision Color Star Black	Vision Dark	Vision Dark	Vision Dark

11



















THE ULTIMATE DESIGNER TOOL.

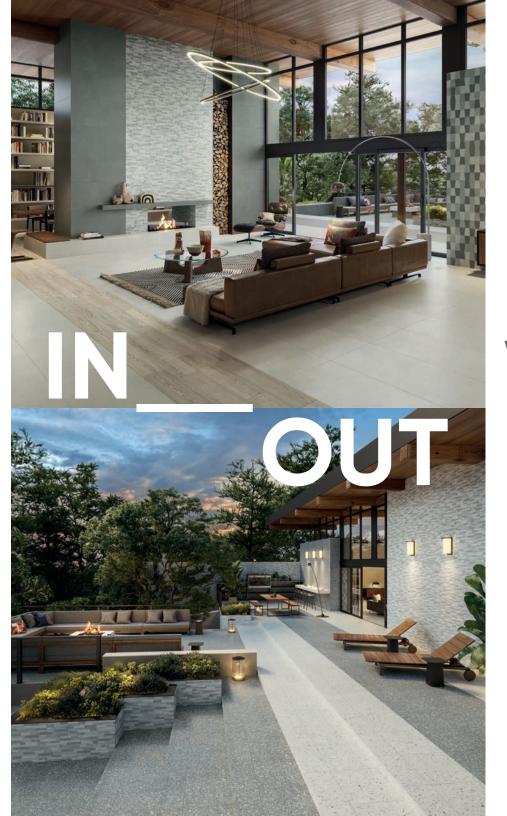
_Perfect continuity. Design Work is a major project composed of 6 porcelain tile collections in standard thickness, two 20mm Porcelain Pavers looks, Mosaics and Porcelain Veneers. A tool to design freely unique spaces.

The 20mm proposal of Design Work is composed of two different looks in 20mm: a Minimal Stone and a Terrazzo look, for outdoor application further enriched by 3 Frontier20 - Deco proposals and with matching porcelain tiles of the Elite and Masterplan collection for a seamless look transition.

In addition to that the minimal look, stone and Masterplan collection matches with 3 multicolor porcelain veneer for decorative wall application.









PROJECT WITHOUT LIMITS.







REFINED SOLUTIONS FOR OUTDOOR LIFE.

__Frontier20 Porcelain Pavers are a perfect solution for landscaping outdoor spaces. The high performance guarantees superior performance: stain-resistant, anti-slip, chemical resistant, maintenance-free product has led to the development of a revolutionary aesthetically superior product, versatile enough for outdoors as well as indoors.



PORCELAIN PAVERS

Porcelain Paver surfaces available in two neutral colors combine refined aesthetics with superior performance. Thanks to their square sizes of 24x24" with a thickness of 20 mm, they allow high versatility in outdoor spaces.



PORCELAIN PAVERS

The Minimal Stone look is available in 4 modular sizes and 4 different contemporary colors. It can be combined with all the surfaces of the Frontier20 range, giving life to always original outdoor environments.

COSMOPOLITAN ASH 24"x48" - 12"x48" - 24"x24" - 12"x24"

116



URBAN LEDGESTONE

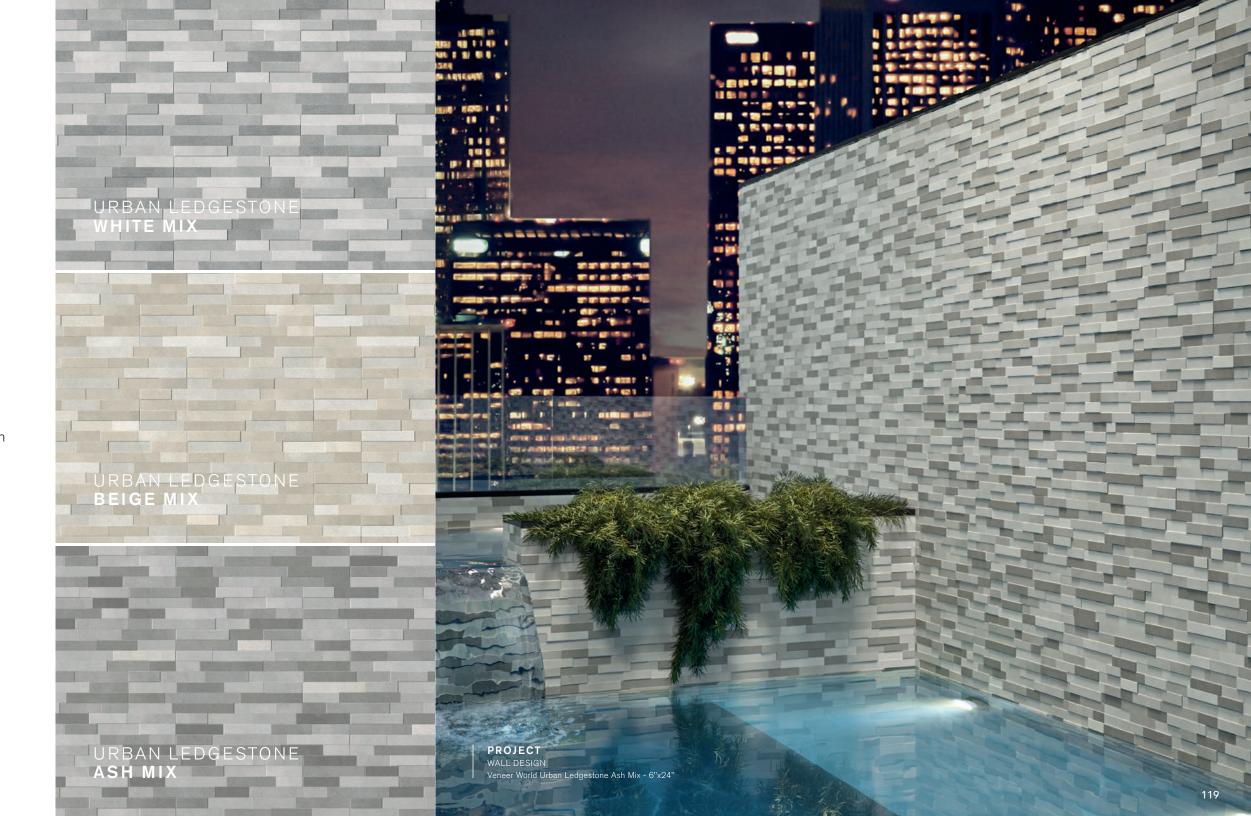
PORCELAIN VENEERS

3 color offers meet all aesthetic needs and allows you to decorate the walls with a look in line with the latest trends in architecture and interior design.

With the Porcelain Veneers Urban Ledgestone, tradition meets contemporary opening new frontiers in the design of outdoor spaces.

__Urban Ledgestone is Porcelain Veneer made with listels of the same height, laid horizontally to design an elegant geometric pattern.

Inspired by natural quartzite stones, the surface reproduces the water saw cut used with real stone veneers, ensuring an authentic look. Each veneer is made by assembling pieces of the same size with a 3D relief that gives dynamism to the entire wall.







GRIP TILES

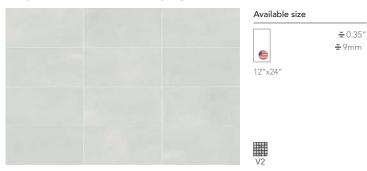
PORCELAIN GRIP TILES - 9mm thickness

COLORED BODY PORCELAIN GRIP TILES

Rectified Monocaliber

Grip Tiles guarantee the highest level of safety. Thanks to the non-slip finish they are the ideal solution for residential and commercial spaces where high safety standards are required.

MASTERPLAN WHITE AVENUE GRIP



MASTERPLAN PRECIOUS IVORY GRIP



MASTERPLAN COSMOPOLITAN ASH GRIP



MASTERPLAN METRO GREY GRIP











COORDINATED PORCELAIN TILES

PORCELAIN TILES - 9mm thickness

FOR IN&OUT APPLICATIONS AND OUTDOOR WALLS

Rectified Monocaliber

A wide range of sizes available in many neutral colors allows total freedom. The different surfaces can be combined with each other to design external walls and create in & out stylistic and chromatic continuity.

	Masterplan White Avenue	Masterplan Precious Ivory	Masterplan Artistic Beige	Masterplan Cosm. Ash	Masterplan Metro Grey	Masterplan Fashion Black	Elite Diamond White	Elite Oyster Beige	Elite Fashion Grey	Elite Precious Black
24"x48" MATT ₹ 0.35/9 mm	•	•		•						
24"x24" MATT ₹ 0.35"	•	•	•	•	•	•	•	•	•	
12"x24" MATT ₹ 0.35"	•	•	•	•	•	•	•	•	•	•
12"x12" MOSAIC A ★ 0.35"	•	•	•	•	•	•				
12"x10" MOSAIC D ★ 0.35"		•			•					
13.7"x12" MOSAIC G ★ 0.35"		•			•					

05 DESIGN WORK PROJECT.

COORDINATED BULLNOSE AND COVE BASE

FROM VISION, VISION COLOR AND MASTERPLAN COLLECTIONS

	Elite Diamond White	Elite Oyster Beige	Elite Fashion Grey	Elite Precious Black
3"x24" BULLNOSE	Vision Dove Vision Color Star White Masterplan White Avenue	Vision Dove Vision Color Star White Masterplan Precious Ivory Masterplan White Avenue	Vision Concrete Vision Color Star White Masterplan Cosmopolitan Ash	Vision Concrete Vision Dark Vision Color Star White Vision Color Star Black Masterplan Fashion Black
6"x12" COVE BASE	Vision Dove Vision Color Star White	Vision Dove Vision Color Star White	Vision Concrete Vision Color Star White	Vision Concrete Vision Dark Vision Color Star White Vision Color Star Black

COORDINATED BULLNOSE AND COVE BASE

FROM VISION AND VISION COLOR COLLECTIONS

	Masterplan White Avenue	Masterplan Precious Ivory	Masterplan Artistic Beige	Masterplan Cosm. Ash	Masterplan Metro Grey	Masterplan Fashion Black
3"x24" BULLNOSE	•	•	•	•	•	•
6"x12" COVE BASE	Vision Concrete Vision Color Star White	Vision Dove Vision Color Star White Vision Dove Vision Color Star White	Vision Dove Vision Color Star White	Vision Concrete Vision Color Star White Vision Concrete Vision Color Star White	Vision Concrete Vision Color Star White	Vision Concrete Vision Color Star White Vision Color Star Black

122







% FRONTIER20 - DECO.

GEOMETRIC DECORATIONS.



OUTDOOR FLOOR DESIGN Frontier20 Patchwork Mix - 24"x24" WALL DESIGN Masterplan Precious Ivory - 24"x48'



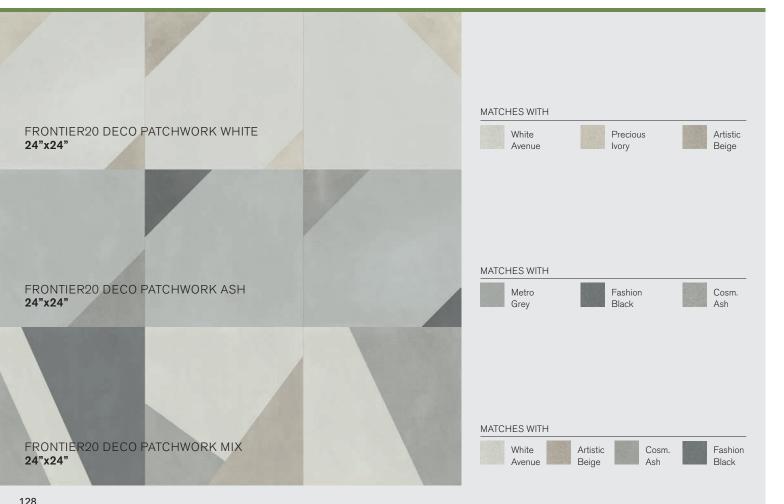


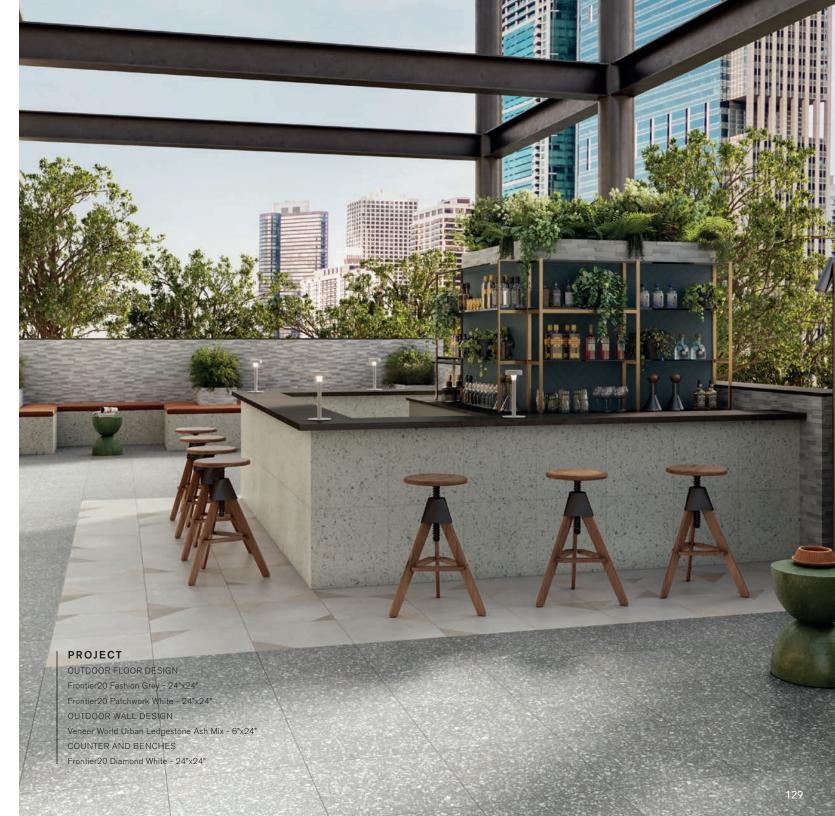


06 FRONTIER20 - DECO.

NEUTRAL MATCHING COLORS.

_Patchwork is available in 3 different light patterns enriched with neutral contrasting shades that can be combined with each other, increasing design freedom. The modular size 24"x24" allows multi-laying patterns to meet every need.







M.P.D.

MULTI PATTERN DESIGN

_The Multi Pattern Design (M.P.D.) is a project designed to allow combination of multiple size patterns and therefore develop creative and original outdoor design solutions. M.P.D. project is available in three different versions:

- M.P.D. Big: allows multiple big size patterns made by using 6 formats (24"x48", 12"x48", 24"x36", 24"x24", 12"x24", 12"x12").
- M.P.D. Small: combines 12"x12", 12"x24" and 24"x24" formats to create smaller size patterns.
- M.P.D. Mini: combines 9"x9" and 9"x18" to create refined and precious patterns.

PROJECT

OUTDOOR FLOOR DESIGN Frontier20 Star Grey - 24 x 48 Frontier20 Star Grey - 12 x 48 Frontier20 Star Grey - 24 x 24 Frontier20 Star Grey - 12 x 24 Frontier20 Star Grey - 12 x 12 Frontier20 Arctic White - 12 x 5 Frontier20 Arctic Whit



M.P.D. BIG ONE*

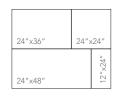


Montauk White

Montauk Grey

Module percentage

24"x48" = 40% 24"x24" = 20% 24"x36" + 12"x24" (MIX) = 40% **



Available colors

Bluestone Blue Select Bluestone Full color

Montauk Black Travertine Cross Cut White Travertine Cross Cut Cream

Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

Arctic White African Beige

Star Grey

Indiana Buff Select

Indiana Grey Select

M.P.D. BIG TWO*



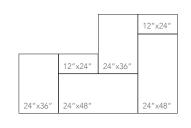
Montauk White

Montauk Grey

Montauk Black

Module percentage

24"x48" = 50% 24"x36" + 12"x24" (MIX) = 50% **



Available colors

Bluestone Blue Select Bluestone Full color Travertine Cross Cut White

Travertine Cross Cut Cream Travertine Cross Cut Silver Limestone

Michelangelo Extra White Arctic White

African Beige Star Grey

Indiana Buff Select Indiana Grey Select



^{*} Modular products with 6 mm joint (approx 1/4").

** NOTE: The 24"x36" and 12"x24" sizes (MIX) are palletized together on the same single pallet containing the correct percentages of each size.

^{*} Modular products with 6 mm joint (approx 1/4").

** NOTE: The 24"x36" and 12"x24" sizes (MIX) are palletized together on the same single pallet containing the correct percentages of each size.

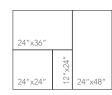


M.P.D. BIG THREE*



Module percentage

24"x48" = 40% 24"x24" = 20% 24"x36" + 12"x24" (MIX) = 40% **



Available colors

Bluestone Blue Select Bluestone Full color

Montauk Grey Montauk Black Travertine Cross Cut White

Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

Arctic White African Beige

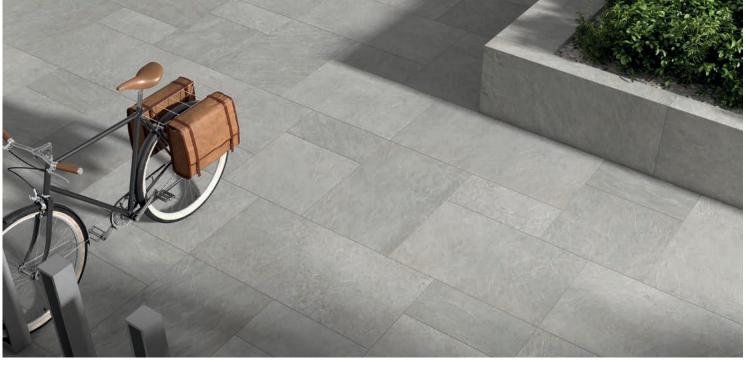
Star Grey

Indiana Buff Select

Indiana Grey Select

Montauk White

M.P.D. BIG FOUR*



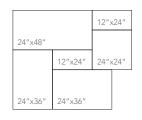
Montauk White

Montauk Grey

Montauk Black

Module percentage

24"x48" = 28.6% 24"x24" = 14.3% 24"x36" + 12"x24" (MIX) = 57.1% **



Available colors

Bluestone Blue Select Bluestone Full color Travertine Cross Cut White

Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone Michelangelo Extra White Arctic White

African Beige Star Grey

Indiana Buff Select

Indiana Grey Select



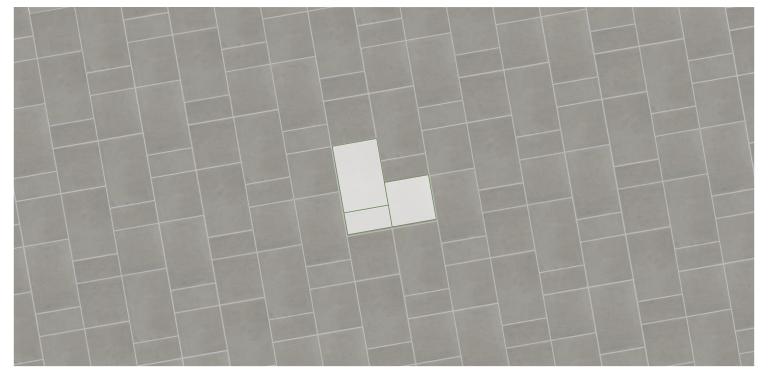
- Modular products with 6 mm joint (approx 1/4").
 NOTE: The 24"x36" and 12"x24" sizes (MIX) are palletized together on the same single pallet containing the correct percentages of each size.

^{*} Modular products with 6 mm joint (approx 1/4").

** NOTE: The 24"x36" and 12"x24" sizes (MIX) are palletized together on the same single pallet containing the correct percentages of each size.



M.P.D. BIG FIVE*



Module percentage

% HP1

 $24'' \times 24'' = 33\%$ 24"x36" + 12"x24" (MIX) = 67% **

24"x36"

% HP2 24"x36"= 50% 24"x24" = 33%

12"x24"= 17%

12"x24"

Available colors HP1

Bluestone Blue Select Bluestone Full color

Travertine Cross Cut White

Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

Arctic White

African Beige

Star Grey

Indiana Buff Select

■ Indiana Grey Select

Montauk White

Available colors HP2

Thermal Bluestone Blue Select Thermal Bluestone Full Color

Module percentage

% HP1 $24'' \times 24'' = 45\%$

12"x12"= 11% 24"x36" + 12"x24" (MIX) = 44% **



* Modular products with 6 mm joint (approx 1/4").

** NOTE: The 24"x36" and 12"x24" sizes (MIX) are palletized together on the same single pallet containing the correct percentages of each size.

% HP2

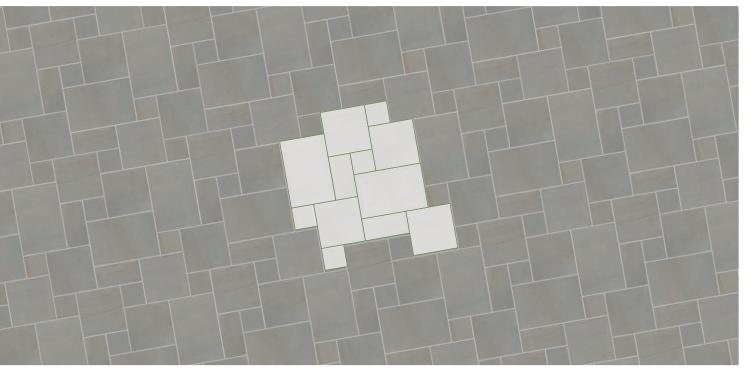
24"x36"= 33%

24"x24" = 45%

12"x24"= 11%

12"x12"= 11%

M.P.D. BIG SIX*



Available colors HP1

Bluestone Blue Select Bluestone Full color

Travertine Cross Cut White Travertine Cross Cut Cream

Travertine Cross Cut Silver Limestone

Michelangelo Extra White Arctic White

African Beige

Star Grey

Indiana Buff Select Indiana Grey Select

Montauk White

Montauk Grey

Montauk Black

Available colors HP2

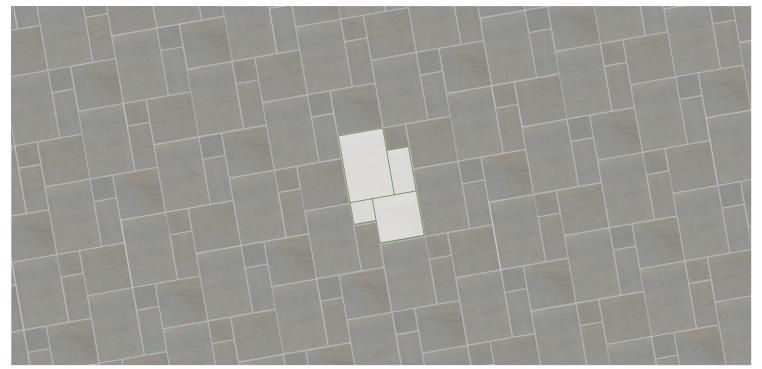
Thermal Bluestone Blue Select Thermal Bluestone Full Color

Montauk Grey 24"x24" Montauk Black * Modular products with 6 mm joint (approx 1/4").

** NOTE: The 24"x36" and 12"x24" sizes (MIX) are palletized together on the same single pallet containing the correct percentages of each size.



M.P.D. BIG SEVEN*



Module percentage

% HP1 $24'' \times 24'' = 31\%$ 12"x12"= 8% 24"x36" + 12"x24" (MIX) = 61% **



% HP2

24"x36"= 46% 24"x24" = 31% 12"x24"= 15% 12"x12"= 8%

Available colors HP1

Bluestone Blue Select Bluestone Full color Travertine Cross Cut White

Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

Arctic White African Beige

Star Grey

Indiana Buff Select

■ Indiana Grey Select

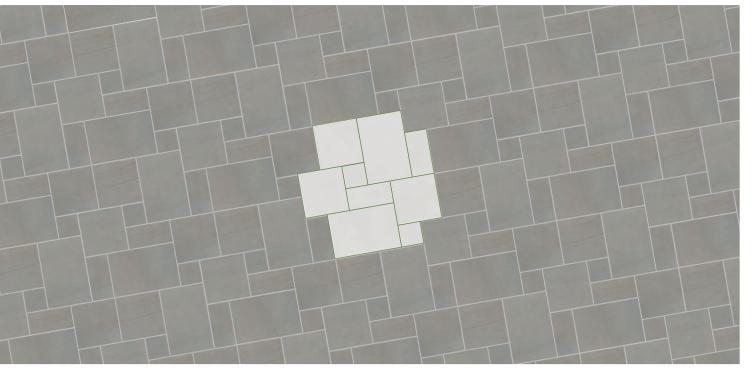
Montauk White Montauk Grey

Montauk Black

Available colors HP2

Thermal Bluestone Blue Select Thermal Bluestone Full Color

M.P.D. BIG EIGHT*



Module percentage

% HP1 % HP2 $24'' \times 24'' = 40\%$ 24"x36"= 40% 12"×12"= 7% 24"x24" = 40% 24"x36" + 12"x24" (MIX) = 53% ** 12"x24"= 13% 12"x12"= 7%



* Modular products with 6 mm joint (approx 1/4").

** NOTE: The 24"x36" and 12"x24" sizes (MIX) are palletized together on the same single pallet containing the correct percentages of each size.

Available colors HP1

Bluestone Blue Select

 Bluestone Full color Travertine Cross Cut White

Travertine Cross Cut Cream

Travertine Cross Cut Silver Limestone

Michelangelo Extra White Arctic White

African Beige

Star Grey

Indiana Buff Select

Indiana Grey Select

Montauk White Montauk Grey

Montauk Black

Available colors HP2

Thermal Bluestone Blue Select Thermal Bluestone Full Color

Modular products with 6 mm joint (approx 1/4").
 NOTE: The 24"x36" and 12"x24" sizes (MIX) are palletized together on the same single pallet containing the correct percentages of each size.

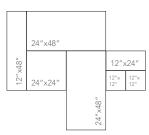


M.P.D. BIG NINE*



Module percentage

24" x48" = 58% 12" x48" = 14% 24" x24" = 14% 12" x24" = 7% 12" x12" = 7%



Available colors

Bluestone Blue Select
Bluestone Full color

Travertine Cross Cut White
Travertine Cross Cut Cream

Travertine Cross Cut Cream
Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

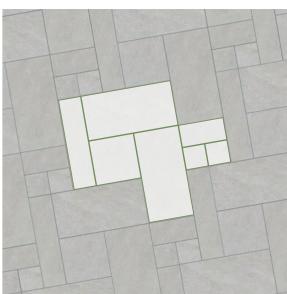
Arctic White

African Beige

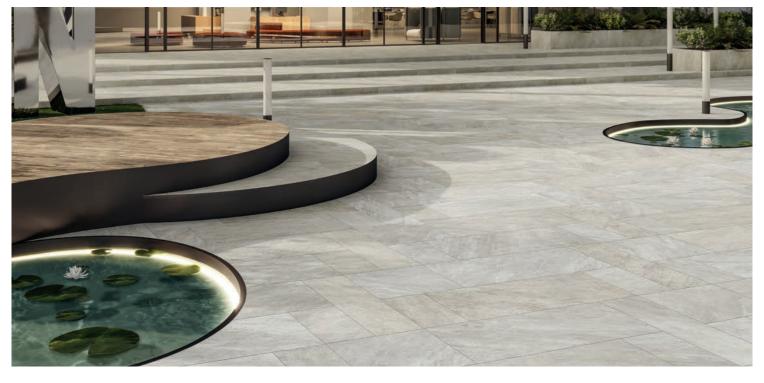
Star Grey

Indiana Buff Select
Indiana Grey Select

Montauk White
Montauk Grey
Montauk Black



M.P.D. BIG TEN*



Module percentage

24"x48" = 58% 12"x48" = 14% 24"x24" = 14% 12"x24" = 14%



* Modular products with 6 mm joint (approx 1/4").

Available colors

Bluestone Blue Select
Bluestone Full color

Bluestone Full color

Travertine Cross Cut White

Travertine Cross Cut Cream
Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

Arctic White
African Beige

Star Grey
Indiana Buff Select

Indiana Grey Select
White Avenue

Cosmopolitan Ash
Fashion Black

Montauk White Montauk Grey t White Montauk Black t Cream



140

^{*} Modular products with 6 mm joint (approx 1/4").



M.P.D. BIG ELEVEN*



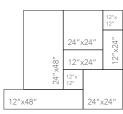
Montauk White

Montauk Grey

Montauk Black

Module percentage

24"x48"= 31% 12"x48"= 15% $24'' \times 24'' = 31\%$ 12"x24"= 15% 12"x12"= 8%



Available colors

Bluestone Blue Select Bluestone Full color Travertine Cross Cut White

Travertine Cross Cut Cream Travertine Cross Cut Silver

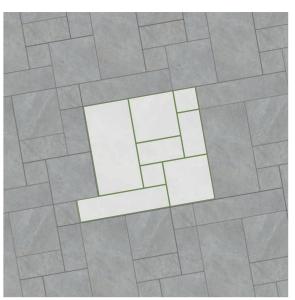
Limestone

Michelangelo Extra White Arctic White

African Beige

Star Grey Indiana Buff Select

Indiana Grey Select

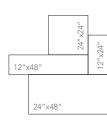


M.P.D. BIG TWELVE*



Module percentage

24"x48"= 22% 12"x48"= 45% 24"x24"= 22% 12"x24"= 11%



Bluestone Blue Select Bluestone Full color

Travertine Cross Cut White Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone Michelangelo Extra White

Arctic White African Beige Star Grey

Indiana Buff Select Indiana Grey Select

White Avenue

Cosmopolitan Ash Fashion Black

Available colors

Montauk White Montauk Grey Montauk Black



^{*} Modular products with 6 mm joint (approx 1/4").

^{*} Modular products with 6 mm joint (approx 1/4").



M.P.D. BIG THIRTEEN*



Montauk White

Montauk Grey

Montauk Black

Module percentage

24"x48"= 62% 12"x48"= 30% 12"x12"= 8%

24"x48"

Available colors

Bluestone Blue Select Bluestone Full color Travertine Cross Cut White

Travertine Cross Cut Cream

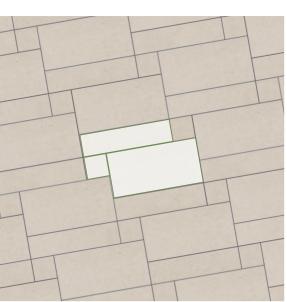
Travertine Cross Cut Silver Limestone

Michelangelo Extra White

Arctic White African Beige

Star Grey Indiana Buff Select

Indiana Grey Select



M.P.D. BIG FOURTEEN*



Module percentage

24"x48"= 67% 12"x48"= 33%

12"x48" 12"x48" 24"x48"

Bluestone Blue Select Bluestone Full color

Travertine Cross Cut White Travertine Cross Cut Cream

Travertine Cross Cut Silver Limestone

Michelangelo Extra White

Arctic White African Beige

Star Grey

Indiana Buff Select Indiana Grey Select

White Avenue

Cosmopolitan Ash Fashion Black

Available colors

Montauk White

Montauk Grey Montauk Black



^{*} Modular products with 6 mm joint (approx 1/4").

^{*} Modular products with 6 mm joint (approx 1/4").

M.P.D. BIG FIFTEEN*



Module percentage

24"x48"= 38% 12"x48"= 19% 24"x24"= 19% 12"x24"= 19% 12"×12"= 5%

Available colors

Bluestone Blue Select Bluestone Full color

Montauk Grey Travertine Cross Cut White Montauk Black

Montauk White

Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

Arctic White African Beige

Star Grey

Indiana Buff Select

Indiana Grey Select



M.P.D. BIG SIXTEEN*



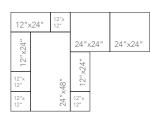
Montauk White

Montauk Grey

Montauk Black

Module percentage

24"x48"= 31% 24"x24"= 31% 12"x24"= 23% 12"x12"= 15%



* Modular products with 6 mm joint (approx 1/4").

Available colors

Bluestone Blue Select

Bluestone Full color

Travertine Cross Cut White Travertine Cross Cut Cream

Travertine Cross Cut Silver Limestone

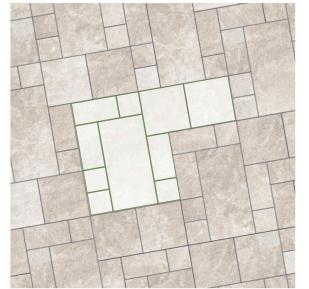
Michelangelo Extra White

Arctic White African Beige

Star Grey

Indiana Buff Select

Indiana Grey Select



^{*} Modular products with 6 mm joint (approx 1/4").

M.P.D. BIG SEVENTEEN*



Montauk White

Montauk Grey

Montauk Black

Module percentage

24"x48"= 33,5% 12"x48"= 33,5% 24"x24"= 17% 12"x24"= 8% 12"×12"= 8%

12"x48"	12"x 12"	12"x 12"
	12"x24"	
24"x48"		
12"x48"	24">	24"

Available colors

Bluestone Blue Select Bluestone Full color Travertine Cross Cut White

Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone

Michelangelo Extra White Arctic White

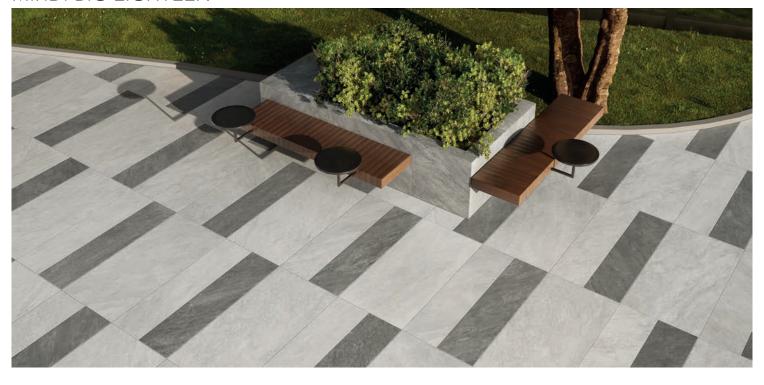
African Beige Star Grey

Indiana Buff Select

Indiana Grey Select

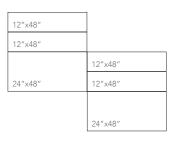


M.P.D. BIG EIGHTEEN*



Module percentage

24"x48"= 50% 12"x48"= 50%



Bluestone Blue Select Bluestone Full color

Travertine Cross Cut White Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone Michelangelo Extra White

Arctic White African Beige

Star Grey Indiana Buff Select ■ Indiana Grey Select

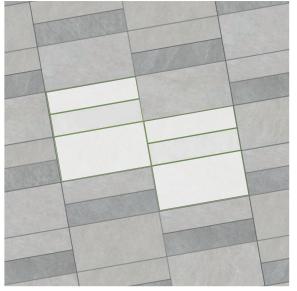
White Avenue Cosmopolitan Ash

Fashion Black

Available colors

Montauk White

Montauk Grey Montauk Black

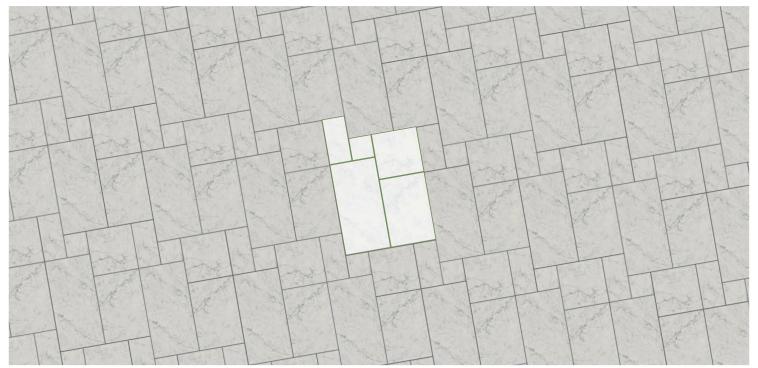


^{*} Modular products with 6 mm joint (approx 1/4").

^{*} Modular products with 6 mm joint (approx 1/4").



M.P.D. BIG NINETEEN*



Module percentage

24"x48" = 38%

24"x24" = 19% 12"x12" = 5%

24"x36" + 12"x24" (MIX) = 38% **



Modular products with 6 mm joint (approx 1/4").
 NOTE: The 24"x36" and 12"x24" sizes (MIX) are palletized together on the same single pallet containing the correct percentages of each size.

Available colors

Bluestone Blue Select

Bluestone Full color

Montauk White Montauk Grey Travertine Cross Cut White Montauk Black

Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

Arctic White

African Beige

Star Grey

Indiana Buff Select

Indiana Grey Select

Module percentage

% HP1

24"x24" = 18%

12"x12" = 4%

24"x36" + 12"x24" (MIX) = 78% **

M.P.D. BIG TWENTY*



% HP2

24"x36"= 52% 24"x24" = 18%

12"x12"= 4%

12"x24"= 26%

Modular products with 6 mm joint (approx 1/4").
 NOTE: The 24"x36" and 12"x24" sizes (MIX) are palletized together on the same single pallet containing the correct percentages of each size.

Available colors HP1

Bluestone Blue Select

Bluestone Full color

Travertine Cross Cut White Travertine Cross Cut Cream

Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

Arctic White

African Beige

Star Grey

Indiana Buff Select Indiana Grey Select

Montauk White

Montauk Grey

Montauk Black

Available colors HP2

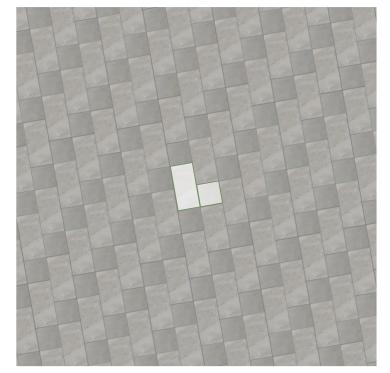
Thermal Bluestone Blue Select

Thermal Bluestone Full Color

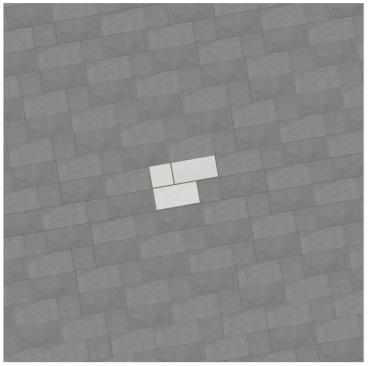


M.P.D. MULTI PATTERN DESIGN SMALL

M.P.D. SMALL ONE*



M.P.D. SMALL TWO*



Module percentage

12"x24" = 67% 12"x12" = 33%



Available colors

Bluestone Blue Select Bluestone Full color Thermal Bluestone Blue Select Montauk White Thermal Bluestone Full Color

Montauk Grev Montauk Black

California Gold

Travertine Cross Cut White Travertine Cross Cut Cream

Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

Arctic White African Beige

Star Grey

Indiana Buff Select

Indiana Grey Select Indiana Variegated

Module percentage

12"x12" = 20%

Rustic Gold

12"x 12" 12"x24"

Available colors

12"x24" = 80%

 Bluestone Full color Thermal Bluestone Blue Select Montauk White Thermal Bluestone Full Color Travertine Cross Cut White

Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone

Michelangelo Extra White Arctic White

African Beige Star Grey

Indiana Buff Select Indiana Grey Select

Indiana Variegated

Bluestone Blue Select

California Gold Rustic Gold

Montauk Grev Montauk Black

≥ 24"x24"

Available colors

M.P.D. SMALL THREE*

 $24" \times 24" = 50\%$ 12"x24" = 50%

Module percentage

Limestone

Arctic White African Beige

Star Grey ● Vintage Slab Barge Gold Silver Quartz

Bluestone Blue Select

 Bluestone Full color Thermal Bluestone Blue Select Cosmopolitan Ash

White Avenue

Artistic Beige

Fashion Black

Fashion Grev

Diamond White

Indiana Buff Select

Indiana Grey Select

Indiana Variegated

California Gold

Montauk White

Montauk Grey

Montauk Black

Rustic Gold

Thermal Bluestone Full Color Travertine Cross Cut White Travertine Cross Cut Cream Travertine Cross Cut Silver

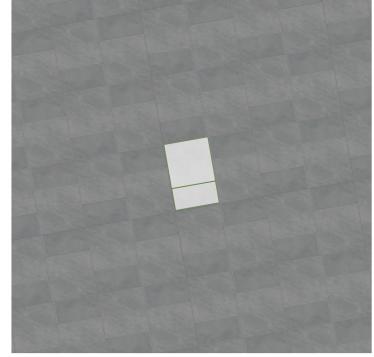
Michelangelo Extra White

Module percentage

 $24'' \times 24'' = 67\%$

12"x24" = 33%

M.P.D. SMALL FOUR*



Available colors

Bluestone Blue Select Bluestone Full color

Artistic Beige Thermal Bluestone Blue Select Cosmopolitan Ash Thermal Bluestone Full Color Fashion Black Travertine Cross Cut White Diamond White Travertine Cross Cut Cream Fashion Grev Travertine Cross Cut Silver Indiana Buff Select Indiana Grey Select Limestone Michelangelo Extra White Indiana Variegated Arctic White California Gold African Beige Rustic Gold Montauk White Star Grey Vintage Slab Montauk Grev Barge Gold Montauk Black Silver Quartz

White Avenue

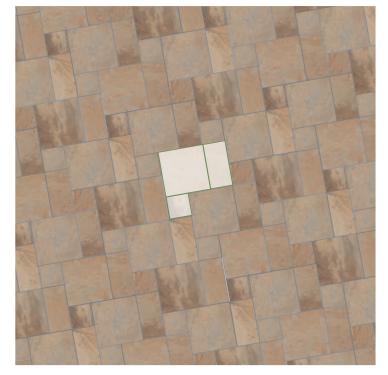
^{*} Modular products with 6 mm joint (approx 1/4").

^{*} Modular products with 6 mm joint (approx 1/4").

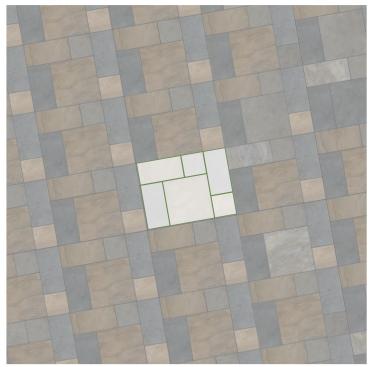
M.P.D. MULTI PATTERN DESIGN SMALL

M.P.D. SMALL EIGHT*

M.P.D. SMALL FIVE*



M.P.D. SMALL SIX*



Module percentage Available colors

24"x24" = 57% 12"x24" = 29% 12"x12" = 14%



Bluestone Blue Select Bluestone Full color Thermal Bluestone Blue Select Montauk White Thermal Bluestone Full Color

Travertine Cross Cut White

Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

Arctic White

African Beige Star Grey

Indiana Buff Select

Indiana Grey Select

Indiana Variegated

California Gold

Rustic Gold Montauk Grev

> 12"x24" 24"x24"

Module percentage

Montauk Black

 $24" \times 24" = 33\%$

12"x24" = 50% 12"x12" = 17%

Thermal Bluestone Blue Select Montauk White

Available colors

Bluestone Blue Select

Bluestone Full color

Thermal Bluestone Full Color Travertine Cross Cut White

California Gold

Rustic Gold

Montauk Grev

Montauk Black

Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone

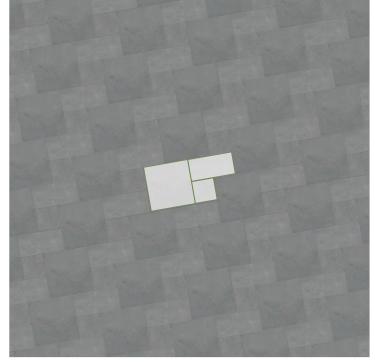
Michelangelo Extra White Arctic White African Beige

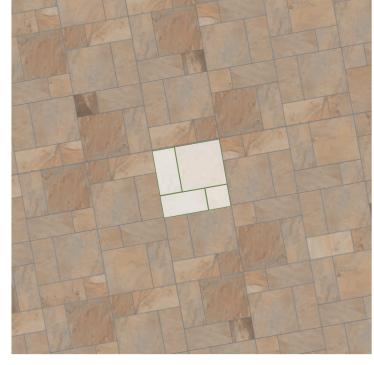
Star Grey

Indiana Buff Select Indiana Grey Select

Indiana Variegated

M.P.D. SMALL SEVEN*





Module percentage

 $24" \times 24" = 57\%$

12"x12" = 14%

Available colors

12"x24" = 29%

Bluestone Blue Select Bluestone Full color Thermal Bluestone Blue Select Montauk White Thermal Bluestone Full Color

Travertine Cross Cut White Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone Michelangelo Extra White

Arctic White African Beige

Star Grey Indiana Buff Select

Indiana Grey Select

Indiana Variegated

Module percentage

24"x24" = 44% 12"x24" = 45% 12"x12" = 11%

California Gold

Rustic Gold

Montauk Grev

Montauk Black

≥ 24"x24"

Available colors

Bluestone Blue Select

 Bluestone Full color Thermal Bluestone Blue Select Montauk White

Thermal Bluestone Full Color Travertine Cross Cut White

California Gold

Rustic Gold

Montauk Grev

Montauk Black

155

Travertine Cross Cut Cream Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

Arctic White

African Beige Star Grey

Indiana Buff Select

■ Indiana Grey Select

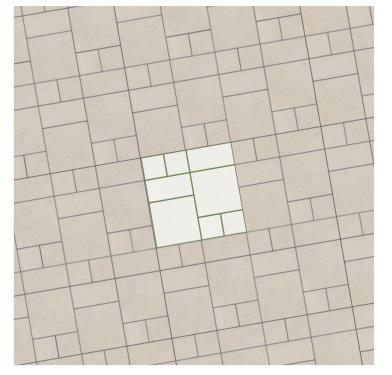
Indiana Variegated

* Modular products with 6 mm joint (approx 1/4").

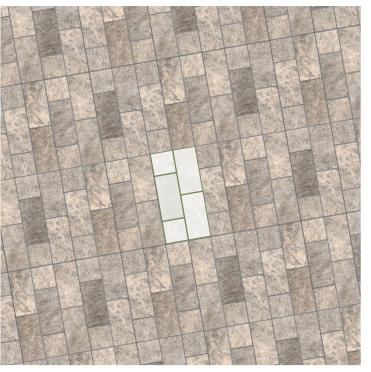
^{*} Modular products with 6 mm joint (approx 1/4").

THICKNESS PORGELAIN PAVERS

M.P.D. SMALL NINE*



M.P.D. SMALL TEN*



Module percentage

 $24'' \times 24'' = 50\%$ 12"x24" = 25% 12"x12" = 25%



Available colors

Bluestone Blue Select Bluestone Full color

Thermal Bluestone Full Color

Travertine Cross Cut White

Travertine Cross Cut Silver

Limestone

Michelangelo Extra White

Star Grey

Indiana Buff Select

Indiana Grey Select Indiana Variegated

California Gold

Montauk Black

Rustic Gold Thermal Bluestone Blue Select Montauk White Montauk Grey

Travertine Cross Cut Cream

Arctic White African Beige

Module percentage

12"x24" = 75%

12"x12" = 25%

Bluestone Full color

Thermal Bluestone Full Color Travertine Cross Cut White

Travertine Cross Cut Cream

Travertine Cross Cut Silver

Limestone Michelangelo Extra White

Arctic White African Beige

Star Grey

Indiana Buff Select Indiana Grey Select

Indiana Variegated

Available colors

Bluestone Blue Select

California Gold Rustic Gold

Thermal Bluestone Blue Select Montauk White Montauk Grey

Montauk Black

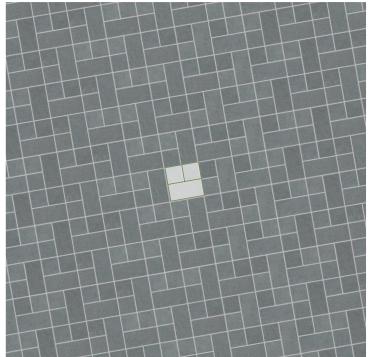


OUTDOOR FLOOR DESIGN Frontier20 Travertine Cross Cut Silver - 24"x24" Frontier20 Travertine Cross Cut Silver - 12"x24" WALL DESIGN Brick World Soho Black - 3"x12"

* Modular products with 6 mm joint (approx 1/4").

I30 UYP

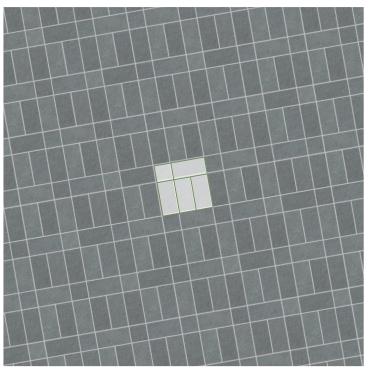




Module percentage

9"x18" = 50% 9"x9" = 50%

M.P.D. MINI TWO*



Available color

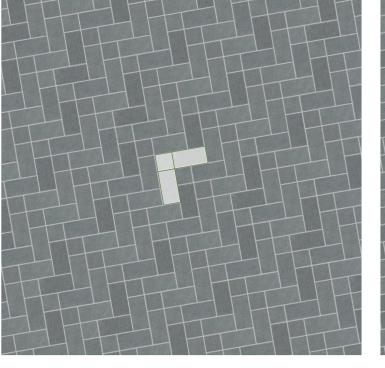
Tumbled Bluestone

Available color Module percentage

Tumbled Bluestone

9"x18" = 89% 9"x9" = 11%

M.P.D. MINI THREE*



Available color

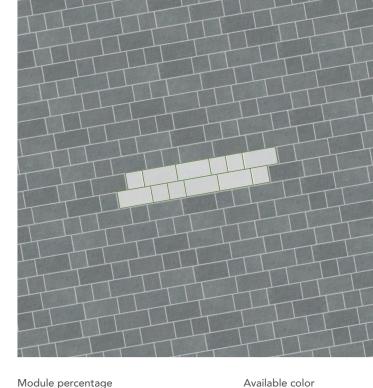
Tumbled Bluestone

Module percentage

9"x18" = 80% 9"x9" = 20%



M.P.D. MINI FOUR*



Tumbled Bluestone

Module percentage

9"x18" = 67% 9"x9" = 33%

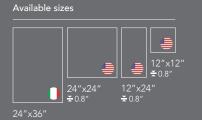
^{9&}quot;x 9"x18" 9"x18" 9"x 9"x 9"x 9"x 9"x 9"x 18"

^{*} Modular products with 6 mm joint (approx 1/4").

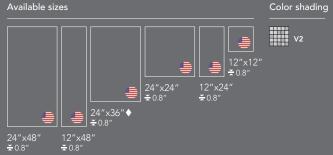
20 ₹ THICKNESS PORCELAIN PRODUCT RANGE. PROJECT FLOOR DESIGN Frontier20 Essence Brown - 12"x48" Frontier20 Essence Brown Stair Tread - 12"x48" Frontier20 Essence Brown Coping Corner -\12"x48" Frontier20 Essence Brown Riser - 6"x48"

BLUESTONE DESIGN PROJECT









The color of pavers printed in this catalog may differ from actual pavers. Paver color reproductions in this catalog are representative only. Slight tone and shade variations are inherent in porcelain pavers. Before selecting a color, we recommend that you contact your local representative, who will provide you with a sample piece of the requested paver.

This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

Color shading

V2

BLUESTONE DESIGN PROJECT

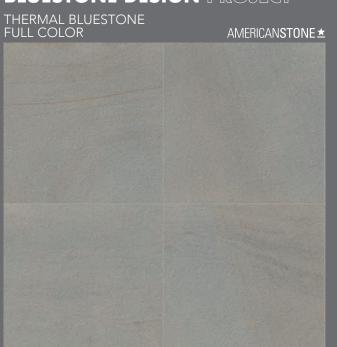






24"x24" ₹ 0.8"

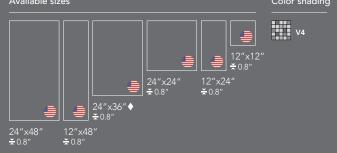
BLUESTONE DESIGN PROJECT











BLUESTONE DESIGN PROJECT









V3

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This porcelain paver product is manufactured with a V3/V4 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

Color shading

V3

24"x24" ₹ 0.8"





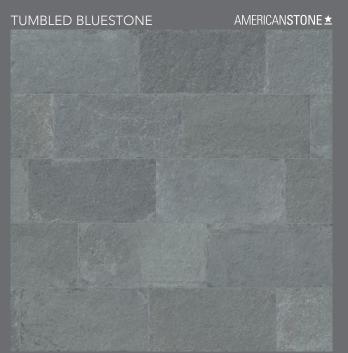




V3

COLORED BODY PORCELAIN PAVERS - Rectified Monocaliber

BLUESTONE DESIGN PROJECT





Color shading





BLUESTONE DESIGN PROJECT TUMBLED BLUESTONE COBBLESTONE MULTISIZE



Available size



24"x24" x 0.8"

Color shading





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This porcelain paver product is manufactured with a V3 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.



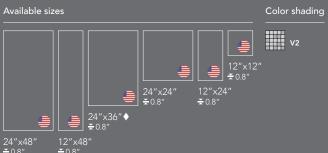






LIMESTONE LOOK





Color shading

V4



♦ NOTE: 24"x36" is sold as mix (24"x36" + 12"x24") along with 12"x24". The two sizes are palletized on the same pallet and sold together.

SLATE LOOK



Available sizes



12"x24" 素0.8" 24"x24" x 0.8"









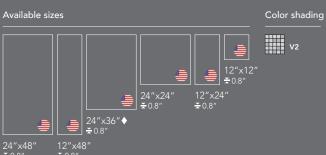


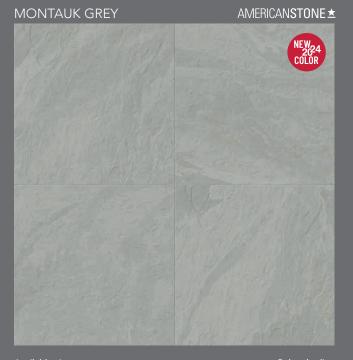


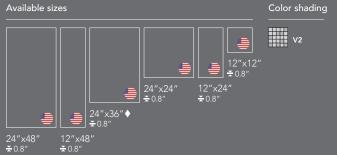


SLATE DESIGN PROJECT







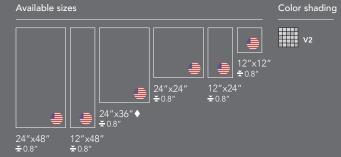


The color of pavers printed in this catalog may differ from actual pavers. Paver color reproductions in this catalog are representative only. Slight tone and shade variations are inherent in porcelain pavers. Before selecting a color, we recommend that you contact your local representative, who will provide you with a sample piece of the requested paver.

This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

SLATE DESIGN PROJECT





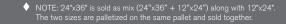


Color Shading









SLATE DESIGN PROJECT



Available sizes Color shading V4





SLATE DESIGN PROJECT



Available sizes



24"x24" ≚ 0.8"

Color shading





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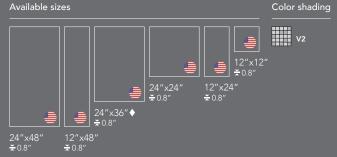
TRAVERTINE CROSS CUT DESIGN PROJECT

TRAVERTINE CROSS CUT WHITE AMERICANSTONE ±





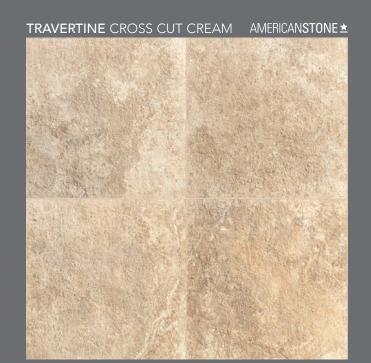


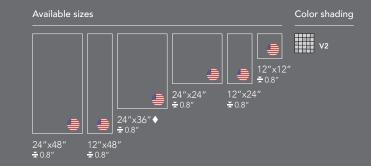


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This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

TRAVERTINE CROSS CUT DESIGN PROJECT



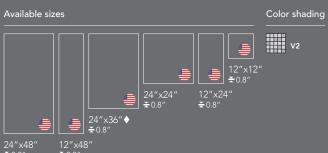




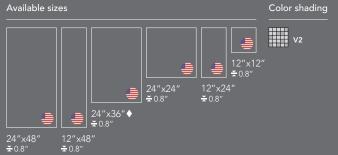


INDIANA SALEM DESIGN PROJECT









INDIANA SALEM DESIGN PROJECT









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This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

Color Shadin









FRONTIER20

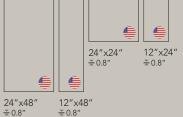


COLORED BODY PORCELAIN PAVERS - Rectified Monocaliber

STONE LOOK



Available size



Color shading



COSMOPOLITAN ASH

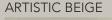
Available size Color shading







STONE LOOK





Available size



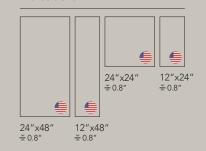
Color shading



FASHION BLACK



Available size



Color shading



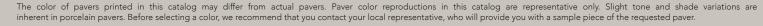
Color Shading



SLIGHT VARIATION







This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

FRONTIER20



COLORED BODY PORCELAIN PAVERS - Rectified Monocaliber

TERRAZZO LOOK

DIAMOND WHITE



Available size



24"×24" ₹ 0.8"

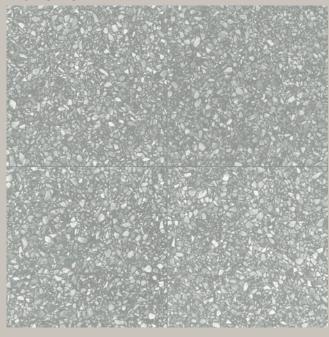
Color shading

V2

The color of pavers printed in this catalog may differ from actual pavers. Paver color inherent in porcelain pavers. Before selecting a color, we recommend that you contact your local representative, who will provide you with a sample piece of the

This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

FASHION GREY



Available size



24"×24" ¥ 0.8"







Color shading

V2



FRONTIER20 - DECO



COLORED BODY PORCELAIN PAVERS - Rectified Monocaliber

STONE LOOK

PATCHWORK WHITE



Available size



24"x24" ₹0.8"

Matches with

White Precious Artistic Avenue Ivory Beige

V3

Color shading

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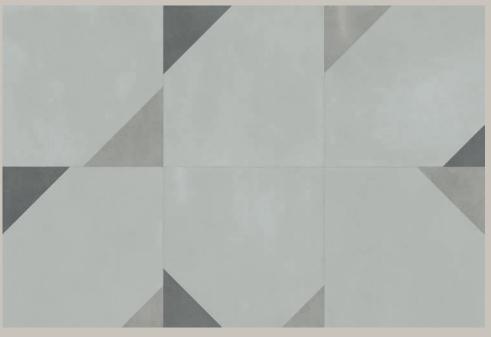
This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.





STONE LOOK

PATCHWORK ASH



Available size



24"x24" ₹0.8"

Matches with



Color shading

V3

Color Shading









FRONTIER20 - DECO



COLORED BODY PORCELAIN PAVERS - Rectified Monocaliber

STONE LOOK

PATCHWORK MIX



Available size



24"×24" ₹0.8"

Matches with

White Artistic Cosm. Fashion

Avenue Beige Ash Black

Color shading

V3

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This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference. Color Shading





PROJECT

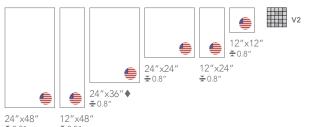
OUTDOOR FLOOR DESIGN Frontier20 Patchwork Mix - 24"x24" WALL DESIGN Masterplan Precious Ivory - 24"x48"

QUARTZITE DESIGN PROJECT

ARCTIC WHITE



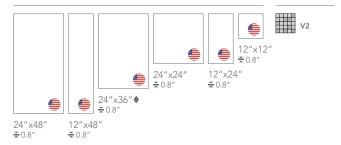
Available sizes Color shading



AFRICAN BEIGE



Available sizes Color shading



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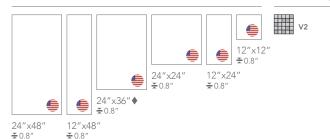
This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

QUARTZITE DESIGN PROJECT

STAR GREY



Available sizes



Color shading



Color Shading









QUARTZ LOOK

BARGE GOLD



Available sizes



SILVER QUARTZ



Color shading

V3



Available sizes





Color shading

V3

STONE LOOK

NATURAL IVORY



Available size





MODERN GREY



Available size



V2

₹0.8″

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This porcelain paver product is manufactured with a V2/V3 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

Color Shading









Color shading

V2

CONCRETE LOOK

FREEDOM WHITE



Available size



Color shading





24"x24" ₹0.8"

PASSION SILVER



Available size

Color shading



CONCRETE LOOK

SIMPLY GREY



Available sizes



Color shading





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This porcelain paver product is manufactured with a V1/V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

Color Shading







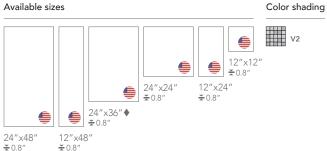


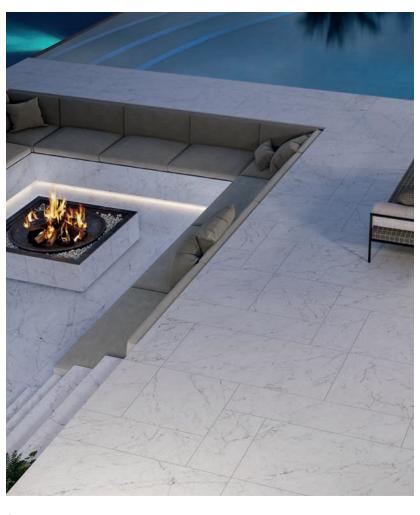
MARBLE LOOK

MICHELANGELO EXTRA WHITE



Available sizes





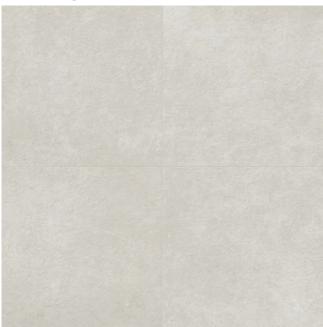
♦ NOTE: 24"x36" is sold as mix (24"x36" + 12"x24") along with 12"x24". The two sizes are palletized on the same pallet and sold together.

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This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

LIMESTONE LOOK

INTERNATIONAL WHITE



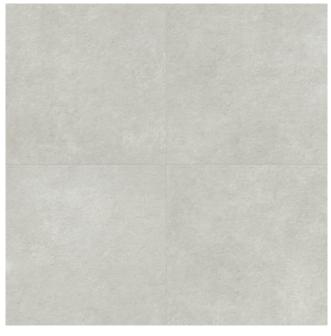
Available size





Color shading

MINIMALIST GREIGE



Available size



Color shading



Color Shading









STONE LOOK



Available size



24"x24" ₹0.8″

DESERT



Available size

Color shading

V2



24"x24" ₹0.8"

Color shading



24"x24"

STONE LOOK

ABSOLUTE



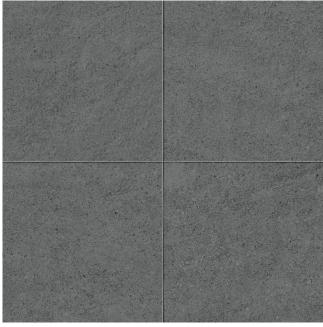
Available size



Color shading



COSMOS



Available size



₹0.8″

Color shading



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This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

Color Shading









FRONTIER20

20 E THICKNESS PORCELAIN PAVERS

COLORED BODY PORCELAIN PAVERS - Rectified Monocaliber

WOOD LOOK

SOUL WALNUT



Color shading

Available size

12"x48" ₹0.8"



SOUL GREY



Available size

12"x48" ¥0.8"

Color shading

V2

The color of pavers printed in this catalog may differ from actual pavers. Paver color reproductions in this catalog are representative only. Slight tone and shade variations are inherent in porcelain pavers. Before selecting a color, we recommend that you contact your local representative, who will provide you with a sample piece of the requested paver.

This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.

WOOD LOOK

ESSENCE GREY



ESSENCE BROWN



Color Shading









WOOD LOOK

WALNUT



Available size



Z4 XZ4 ₹0.8″

PEPPER



Color shading

V3



Available size

24"×24" ₹ 0.8"

Color shading



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This porcelain paver product is manufactured with a V3 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible color difference.



INSTALLATION INFORMATION AND RECOMMENDATIONS.



ADDITIONAL RECOMMENDATIONS FOR THE INSTALLATION, ORDINARY CLEANING AND MAINTENANCE.

Landmark Ceramics recommends carrying out the procedures for the ordinary cleaning of Frontier20 floor surfaces using water and commercially available neutral detergents: the inclination of the surface and the space between adjacent slabs for dry-system installation favor the natural flow of water. However, it is important to take into consideration that any type of floor surface is subject to the surface tension effect of liquids: it is the same property of water that gives the tendency to transform into spherical droplets and which cause the curved top surface of a glass full of water. The surface tension can obstacle the complete drainage of water and cause a temporary stagnation of liquid on the slab edges. In order to avoid this problem, Landmark Ceramics recommends ensuring adequate inclination of the surface during installation so as to encourage the flow of water between adjacent slabs. Please remember in any case that, in view of the distinctive advantages of porcelain stoneware, Frontier20 absorbs practically no water, which makes it highly frost-proof. This may lead to localized water pooling, mainly on the edges of the pavers, independently of the manner and quality of the laying. Laying is also recommended with a minimum gap of 4 mm (5/32"). Should liquid deposit on the surface, it is recommended to push it towards grout lines using a brush or remove it with a wet and dry vacuum cleaner.

Specific details and instructions are given for each of the following installation options. Different climates and geographical locations will affect the thickness of the base. Depending on the location, contractors will lay the standard base thickness to install porcelain pavers for the needs of the area. When installing porcelain pavers, the bedding course sand must be pre-compacted and then struck off with a screed to the required thickness as shown in the drawings. Before the laying of the porcelain pavers, the sand layer underneath must be pre-compacted. The sand layer needs a 5 to 6% moisture content to insure a smooth strike off finish. **Compacting dry sand will not give the desired results.**

- → Only use a paver saw with a wet cut porcelain blade to wet cut porcelain pavers.
- → Before installing your porcelain pavers in sand set installations, pre-compact and strike off your sand leveling course.
- → Plastic ³/₁₆" (4 mm) spacers must always be used to install pavers on sand set and permeable installations.
- → Never install pavers with porcelain to porcelain contact.
- → The use of plate compactors is not recommended to be used on the porcelain pavers.

PORCELAIN PAVERS JOINT FILLING.

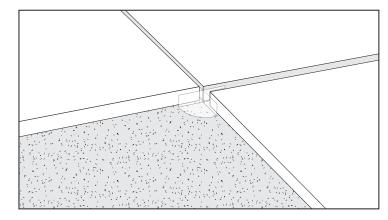
When installing porcelain paver on sand set base, fill the 4 mm (approx. 3/16") paver joints with these options:

Traditional sand

Fill the open joints with traditional dry sand until completely filled. Sweep any excess sand off the pavers. Refilling of the joints with sand may be needed in the future due to wind and rain erosion.

Polymeric sand

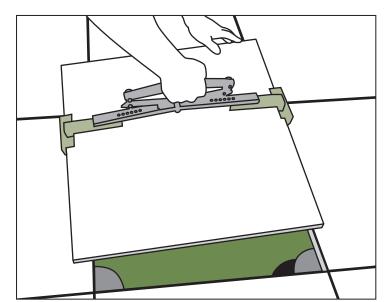
Polymeric sand is a blend of polymers which harden when subjected to moisture. Sweep the sand into the open joints until completely filled. All excess sand and dust must be swept from the surface. Use a blower for the final dust removal to make certain all excess sand is removed. Any residual sand or dust can result in staining of the surface. Once the filling of the joints and the cleaning of the surface is complete, mist the pavement with water which activates the polymer and cures the mixture.

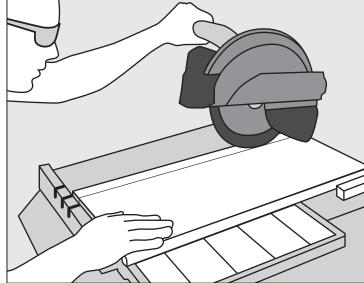


HANDLING AND SPECIALTY TOOLS.

Porcelain paver pallets are shipped with a very strong plastic covering and the individual units are packaged in protective cardboard boxes. The protective cardboard boxes guard them from the possibility of chipping. The handling of multiple loose stones can result in damaging or chipping of the pavers. Protect any un-used boxed pavers from the elements once the plastic shipping cover is removed. This insures the integrity of the protective cardboard boxes. Wet cut paver saw is used to cut paver accurately and cleanly to fit around edges and corners.

The saw must be equipped with a diamond blade manufactured for wet cutting porcelain and designed to safely cut a 24" (60 cm) length porcelain paver. A paver clamp to easily handle the installation and removal of pavers. Gloves are highly recommended while handling and installing porcelain slabs to protect the hands from injury. Notched trowels and grout float tools for cementitious adhesive and grout Installation. Follow the adhesive and grout manufacturer's recommendations to select the appropriate tools needed for application.





IMPORTANT NOTE: LEGAL DISCLAIMER

The nominal measurements include 4 mm (approx ³/₁₆") for product spacers which are sold separately. Although extreme care has been taken to ensure the accuracy of all measurements set forth herein, manufacturer assumes no liability relating thereto.

IMPORIANT NOTES

- 1. Use the manufacturer's instructions when choosing polymeric sand for your project.
- 2. The use of cement blended sand and polymeric sand can reduce plant growth and insect infiltration within
- Whether using traditional sand or a cemented blended sand, ensure the gradation of the sand is fine enough to pass through and fill the joints.

PORCELAIN PAVERS CUTTING GUIDE



LINEAR CUT.

The videos linked below show how to properly cut thick porcelain pavers (porcelain tiles with 20 mm thickness) currently used for outdoor installations. Cutting these porcelain thick pavers is very different than cutting standard thickness tiles. The extreme hardness of the material, combined with its thickness, are the main factors that will put cutting tools to the test. Based on the experience of many professional tile installers, what often happens is that the basic blades make one or two good cuts on very thick tiles and then lose their cutting power. This causes the diamond blade to be so ruined that it can't even be recovered with common abrasive stones. Many tile and brick installers have found a first solution for this: using segmented blades to cut these thicker tiles. These are more aggressive blades that easily cut this type of ceramics leaving though a very poor cutting finish. There is then the need to spend time after each cut to finish the cut edge of the tile, especially if it is going to be laid in a position that leaves that edge visible after installation. It is important that the cut is made using a professional wet saw cutting machine and that is it made by pushing (or pulling, depending on how the cutting saw is built) the blade parallel to the plane from the beginning of the cut, applying a horizontal force (figure 1 and 2) to the trolley while avoiding to push (or pull) with excessive force. Please note that the cut has to be performed at once with one passage. It is very important to pull down the blade without touching the tile and then pull/push the disc to cut the entire paver all at once.





FIGURE 1 FIGURE 2

It is not recommended (figure 3) to carry out the cut by applying a force perpendicular to the side of the cutting plane (basically pushing down the saw into the tile). In fact, performing a vertical cut could affect the internal tensions of the product and lead to tile breakage.



FIGURE 3

Another cutting method consists in making a groove about 2 / 3mm deep (figure 4) by applying a very light force perpendicular to the paver surface first and then making the final cut at once with one passage, as above reported in figure 1 and 2.



FIGURE 4

In both cases, it is always recommended to use high quality disc blades and to perform the revitalization operations of the latter whenever necessary to achieve a proper cut.

Landmark Ceramics recommends using a high quality blade specific for porcelain and revive it often. By using a low quality blade, or a blade not specifically made for porcelain, it might need to be revived 2 or even 3 times during the same cut. This can lead to extra costs related to the use of many diamond abrasive stones or, even worse, it can significantly increase the likelihood of breaking the paver during the cutting process. During cutting, Landmark Ceramics always recommends the use of abundant water before, during, and after the cutting phases to minimize the presence or dispersion of ceramic powder and to cool down the blade.

Once the cut has been completed, Landmark Ceramics recommends to clean the newly cut surface with water, in order to remove all the dust from the paver created by the cutting operation.

Please find below some links to videos of 20 mm porcelain pavers cutting:

https://www.youtube.com/watch?time_continue=2&v=rCK48yu8qV4

https://www.youtube.com/watch?time_continue=3&v=A231KShJnww

https://www.youtube.com/watch?v=G6FVJz08ajA

https://www.youtube.com/watch?v=FSMNtwxiLRI

PORCELAIN PAVERS CUTTING GUIDE



DRILLING HOLES WITH CORE BITS.

The creation of holes in traditional 9 / 10mm thick porcelain tile is a common practice, but it is very delicate and requires experience and technique. This is even more true for 20mm thick porcelain paver, being this pArcticular tile thicker and more resistant.

To carry out this specific cut, it is recommended to use drills or grinders together with high quality core bits for porcelain tile and paver. The use of low quality core bits could cause numerous breakages, together with an extremely accelerated wear of the tool due to the resistance of the 20mm porcelain stoneware.

First of all, it is suggested to place the tile on a rigid support that absorbs the vibrations generated by the work (for example a panel of wood or regenerated rubber on a wooden panel).

After positioning the drill with the core bit in the desired position (remember to check that the drill is not in hammer mode) it is crucial to mark the exact point with a pencil, then proceed to place the core bit by tilting it slightly on the paver (**figure 5**).





FIGURE 6

Do not place the core bit perpendicularly (figure 6) to the paver surface as it could lead to the breakage of the paver itself.

Once the core bit is in place and already moving, gently (and without pushing too much) make a continual and constant oscillatory movement until the hole from top to bottom thorough the paver is complete (figure 5).

Landmark Ceramics recommendation is to use a high quality core bit specific for porcelain.

By using a low quality core bit, or a core bit not specific for porcelain, the likelihood of breaking the paver during drilling operation could increase. During drilling, Landmark Ceramics always recommends the use of abundant water before, during, and after the drilling phase to minimize the presence or dispersion of ceramic powder and to cool down the cutter.

Once the hole has been made, Landmark Ceramics recommends to clean the hole with water, in order to remove all the dust from the surface of the paver created by the drilling.

It is also possible, whenever needed, to adjust the shape of the hole created with specific tools that soften the cut made by milling eventual sharp/irregular edges of the hole.

These tools are always made with artificial diamonds and should be specific for porcelain tiles and pavers.

Please find below a link to a video of 20 mm porcelain pavers drilling: https://www.youtube.com/watch?v=SVwzk894qdl

GENERAL RECOMMENDATIONS.

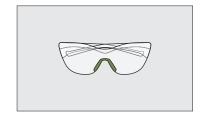
Landmark Ceramics recommends using high quality tools and blades, specifically designed for porcelain. This is because 20mm thick porcelain is very strong and compact and does not behave, during cutting and drilling operations, like traditional thickness porcelain.

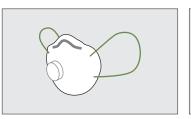
During cutting and/or drilling, Landmark Ceramics always recommends the use of abundant water before, during and after the drilling phases to minimize the presence or dispersion of ceramic powder and to cool the blade/core bit.

Landmark Ceramics also recommends to use certified wet or suction tools to reduce and minimize the dispersion of ceramic powder.

Once the necessary operations are finished, it is very important to clean the surface of the tile from the dust to prevent it from being trapped by the filler needed for the joints.

Landmark Ceramics always recommends the use of safety glasses, mask, gloves and steel toe shoes.









CLEANING INFORMATION FOR PORCELAIN PAVERS INSTALLED OVER CONCRETE

PORCELAIN PRODUCTS CARE AND MAINTENANCE

After any thin set installation of porcelain tile and pavers over concrete, best practices require to perform, after grouting, a first acid deep cleaning. For more information on how to perform a correct first cleaning after grouting, as well as on the right cleaning products to use, and ordinary maintenance of porcelain tiles and pavers once installed, we strongly recommend to refer to our Landmark cleaning guide. Alternatively, you can also see paragraph A, B and C here under. Failing to follow these instructions could lead to maintenance issues, most of the times derived from grout residues left on the surface of the tiles/pavers which create a film on the tiles/pavers surface itself that tends to retain dirt. If that occurs, the only way to possibly solve the issue is to perform a deep floor cleaning, using acid-based cleaners specific for porcelain and following a specific cleaning procedure described here under (See paragraph D). Please note that from time to time, depending on the type (cement-based vs epoxy), quantity and aging of the grout residue left on the tile/pavers surface, it could be really hard or even impossible to fully recover from the problem. That is why Landmark Ceramics highly suggests a first acid deep cleaning right after installing and grouting the tiles/pavers.

A) FIRST FLOOR DEEP CLEANING AFTER INSTALLATION

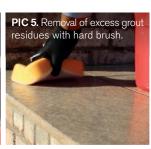
After Grouting the Joints (pic. 1) It is important to remove the excess grout with a sponge and clear water (pic. 2). After 12/48 hours, the grout in the joints will have "set up" / hardened significantly. There will be a noticeable residual "haze". Typically, a diluted acid cleaner specifically for removing "Grout Haze", combined with a soft scrubbing pad will remove the majority if not all the "Haze". Change your acid/water solution frequently for best results. It is also recommended to keep a bucket of clean water to remove the acid/water solution. It is recommended to keep and use clean dry towels to help remove as much residual water and keep the floor as dry as possible. Please refer to the cleaning chemical company's suggested methods and dilution rates. (pic. 3). For areas with excess grout or grout that becomes adhered to the face of the tile, further cleaning with an Acid/ Water Solution may be necessary. Please refer to the Cleaning Chemical Company's instructions as not all acids or chemicals are the same. The excess grout residue (pic. 4-5) must be removed so that it does not dry and stick on the surface. It is necessary to change the cleaning water frequently and rinse well. Care must be taken on inlayed, polished and especially Anti Slip products similar to Frontier20. The use of a floorwashing machine combined with the use of a diluted acid detergent helps reach the spaces between adjacent tiles and clean them properly. If such a cleaning procedure is not carried out, or if such cleaning is carried out too late, the grout residue creates an absorbent film, which holds dirt, making the surface difficult to clean: in this case, Landmark Ceramics will not be liable for any damage caused to the surface.











B) DAY TO DAY CLEANING

After the post-laying cleaning operation has been thoroughly carried out, as far day to day cleaning we strongly advise against the use of waxes, oily soaps, impregnating products and various treatments (water and oil repellent) on the porcelain stoneware product, as their application is unnecessary. As is often the case in certain off the shelf detergents, they contain waxes and gloss inducing additives which, after various washes, can deposit a bright coat on the floor. Sometimes, even one drop of foods such as Coca Cola, water, wine etc. ...) is sufficient to eliminate this coat, restoring the tile's original appearance, a stain effect is produced in certain zones. In these cases, the floor must be de-waxed, using products to de-wax the applied waxes, following the producer's instructions. For films left by soap, lime scale, dirt, use an acid detergent, suitably diluted in water (read the product instructions carefully). It is also important to point out that Hydrofluoric acid (HF) and its derivatives can irredeemably damage porcelain stoneware. For routine cleaning, Landmark recommends the use of bleach or ammonia, suitably diluted in water; for polished porcelain stoneware, dry the floor after washing to prevent unsightly smudges. TIP: Since rinsing well with plenty of clean water is a fundamental part of the day to day cleaning procedure, Landmark advises against the use of products which state that they "do not need rinsing"

CLEANING AGENTS



TYPE OF STAIN	SOLUTION	DETERGENTS	MANUFACTURER		
		INORGANIC STAINS			
Cement		DETERGENT WITH AN ACID BASIS *			
Carbon Calcium Efflorescence Chalk Metallic residues Rust	Acid	DETERDEK or similar	UNITED STATES > Fila Chemicals USA, Corp.10800 N.W. 21st Street #170 Miami, FL 33172 USA Tel. +1-305-513-0708 email filausa@filasolutions.com		
Cement-based grout Colored grout Wall paint		KERANET (liquid) or similar	MAPEI Americas Headquarters 1144 E. Newport Center Drive Deerfield Beach, Florida 33442		
		ORGANIC STAINS			
		LIMITED FOAM TYPE PRODUCT **			
Coca Cola Ice Cream Coffee Wine Beer Animal fats Vegetable fats	Alkaline and neutral	PS87 or similar	UNITED STATES > Fila Chemicals USA, Corp.10800 N.W. 21st Street #170 Miami, FL 33172 USA Tel. +1-305-513-0708 email filausa@filasolutions.com		
Wustard Mayonnaise Ketchup Jam Linseed oil Lipstick Wax		FILACLEANER or similar	UNITED STATES > Fila Chemicals USA, Corp.10800 N.W. 21st Street #170 Miami, FL 33172 USA Tel. +1-305-513-0708 email filausa@filasolutions.com		
		Ammonium	Universal		
RESIDUAL RINGS of organic nature	Saline solution	Sodium hypochloride (bleach for white laundry)	Universal		
Silicone oils Machine Oil Resins and glazes		FILASOLV or similar	UNITED STATES > Fila Chemicals USA, Corp.10800 N.W. 21st Street #170 Miami, FL 33172 USA Tel. +1-305-513-0708 email filausa@filasolutions.com		
Coal and natural rubber		Aceton	Universal		
Encres et feutres		NITRO - THINNER	Universal		
		TURPENTINE	Universal		
		TRICHLORETHYLENE	Universal		
Tire		CIFAMMONIACAL	Universal		
TIIC		HAND CLEANSER	Universal		
Silicone and chewin-gum		Ice+scraper			

N.B. When using the above products, the instructions on the package should be followed.

" Limited foam type product: a limited foam type product degreasing and general cleaning, suitable for all types of stains but especially for remove of vegetable and animals fats.

Detergent with an acid base: a detergent with an acid basis, specifically recommended after bath floor or wall installation, for the decalcioficant cleaning and the regular maintenance.

CLEANING INFORMATION FOR PORCELAIN PAVERS INSTALLED OVER CONCRETE



C) EXTRAORDINARY CLEANING

In the case of particular and/or particularly stubborn stains, we recommend using specific detergents as those indicated in chart here under reported. It should furthermore not be forgotten that the removal of any type of stain is easier when the stain is still fresh. It is always important to test the detergents on a small area before applying to the entire surface, particularly in the case of porcelain stoneware with a lapped or polished finish

D) FLOOR DEEP CLEANING RECCOMANDATIONS TO BE USED IN CASE OF GROUT RESIDUES LEFT ON TILE/PAVERS SURFACE

1. Preliminary Cleaning Procedure: To begin with, it is important to clean the floor with a traditional detergent (Some examples of suitable detergents

you can consider are Deterdek from Fila, Keranet from Mapei) and rinse thoroughly in order to remove any dirt that is present on the tile/pavers aside from the grout left on them. This should be done carefully by following these steps:

- I. Clean the floor with water to remove dust and residues
- II. Apply an abundant quantity of detergent (such as the one pictured below) to clean the floor, following instructions provided on the detergent's bottle and making sure that, during the entire cleaning process, the detergent does not get in contact with grass or water of nearby swimming pools (if any)
- III. Brush strongly to remove the dirt (using a scotch-brite, ideally a motor-brush with scotch brite for big surfaces)
- IV. Rinse well with running water (it is recommend to use a vacuum cleaner to avoid burning the grass)
- V. Once well rinsed, dry the surface
- 2. Acidic Cleaning Procedure: Perform the acid cleaning procedure as indicated in the guide provided in the link above, hereunder summarized:
 - I. Apply a professional acidic cleaner for grout haze on the floor. Some examples of suitable acidic cleaners you can consider are DETERDEK from Fila, KERANET from Mapei, or professional acidic cleaners like the one pictured below:
 - II. Apply an abundant quantity of acidic cleaner on the entire floor, following instructions provided on the cleaner's bottle (for a better result, do not dilute with water), and making sure that, during the entire cleaning process, the cleaner (since it is an acid-based cleaner) does not get in contact with grass or water of nearby swimming pools (if any)
 - III. Once applied, leave the product on the floor for about 20-30 minutes.
 - IV. Brush strongly to remove the dirt (using a scotch brite, ideally a motor-brush with scotch brite for big surfaces). It is very important to apply a strong and prolonged mechanical action (tile by tile) on the floor while brushing. Please note that cleaning without a strong mechanical action (e.g. cleaning using a simple mop) is going to be useless and ineffective.
 - V. Rinse the floor, making sure everything is absorbed, so that nothing will get in contact with grass or swimming pool water
 - VI. Repeat everything from point "2.i" as many times as necessary to achieve the desired result
 - VII. Dry the floor's surface

E) ADDITIONAL NOTES & RECCOMANDATIONS

1. Please note that if the grouting was done well before the time of attempted cleaning, the grout residue left on the tile surface would have had time to settle and mature. In this case:

- It is particularly important, during the acid cleaning process, to let the acid settle in on the floor for a few minutes before brushing, so that the acid can soften the grout.
- It is also crucial to brush the tiles using the right tools and to apply on the floor a strong and prolonged mechanical action (tile by tile).
- It is very likely that a single deep acid cleaning will not be sufficient. In this case, it will be necessary to repeat the operation several times in order to eliminate all the grout residues. Keep in mind that the grout residue might not be immediately visible when the floor is clean, but can only be seen when the grout gets dirty. Therefore, even if the floor may appear clean after the first deep cleaning process, it could still have grout residue left on the surface of tile/pavers, that will get visible once they'll get dirty again. If that is the case, it will be necessary to repeat the deep cleaning procedure more than once until reaching a satisfactory result.
- 2. While performing the deep cleaning process, please be aware of any surrounding grass (making sure that the acid cleaner does not get in contact with it).
- 3. In case a deep cleaning is needed around a pool, make sure that during the entire cleaning process the acid cleaner does not get in contact with the water of the swimming pool.
- **4.** Never use sealers of any kind on the surface of the porcelain tiles and pavers. Sealers are unnecessary and, furthermore, sealing will change the D.C.O.F. (Dynamic Co-efficient of Friction) of the pavers, resulting in a surface that will become more slippery. Furthermore, since Porcelain has such a low absorption rate, the sealer will unlikely stick and will most likely come off over time.
- **5.** Bright colored products, in particular white and extra-white tiles, are very delicate and, although for all intent and purpose are hygienically clean, However, they can get dirty more easily than darker tiles. It is therefore necessary to remember that these particular products require careful regular maintenance.

WARNINGS

The above suggestions are a result of research, laboratory tests and several years' experience. However, the cleaning features of the materials may vary significantly according to the different installation methods, conditions of use, types of surface and destination. As a general rule, the higher the anti-slip values of the tiles are, the greater cleaning inconveniences may arise. The professional operator in charge of maintenance and cleaning shall always check the surface condition before proceeding with any cleaning and/or maintenance operation (we would suggest to test some tiles before installation).

PORCELAIN PAVERS: ADDITIONAL RECOMMENDATIONS FOR THE INSTALLATION, ORDINARY CLEANING AND MAINTENANCE.

Ceramics recommends carrying out the procedures for the ordinary cleaning of Frontier20 floor surfaces using water and commercially available neutral detergents: the inclination of the surface and the space between adjacent slabs for dry-system installation favor the natural flow of water. However, it is important to take into consideration that any type of floor surface is subject to the surface tension effect of liquids: it is the same property of water that gives the tendency to transform into spherical droplets and which cause the curved top surface of a glass full of water. The surface tension can obstacle the complete drainage of water and cause a temporary stagnation of liquid on the slab edges. In order to avoid this problem,

Ceramics recommends ensuring adequate inclination of the surface during installation so as to encourage the flow of water between adjacent slabs. Please remember in any case that, in view of the distinctive advantages of porcelain stoneware, Frontier20 absorbs practically no water, which makes it highly frost-proof. This may lead to localized water pooling, mainly on the edges of the pavers, independently of the manner and quality of the laying. Laying is also recommended with a minimum gap of 4 mm (5/32"). Should liquid deposit on the surface, it is recommended to push it towards grout lines using a brush or remove it with a wet and dry vacuum cleaner.

PERFORMANCE COMPARISON PORCELAIN PAVERS VS. COMPETITOR OUTDOOR PAVING MATERIALS

FEATURES	FRONTIER20 PORCELAIN PAVERS	WOOD PAVERS	CLAY BRICK	CIP (CAST IN PLACE) CONCRETE	CONCRETE PAVERS	NATURAL STONE
Stainable	No	Yes	Yes (Highly)	Yes	Yes	Yes (Highly)
Freeze Thaw Proof	Yes	No	No	No	No	No
Salt Resistant	Yes	No	Salt Will Degrade	No	No	No
Acid Resistant	Yes	No	Acid Will Burn	No	No	No
Scratch Resistant	Highly	No	Somewhat	No	No	No
Moisture Absorption	< 0,5%	Highly Varried	5%	5%	5-10%	≥ 5%
Easy To Repair	Yes	Yes	No	Can Not	No	No
Uv Resistant	Unaffected	No	Yes	If Sealed	Yes/No	Unaffected
Needs Sealed	Never	Yes	Recommended	Recommended	Recommended	Recommended
Pressure Washer Safe	> 1500 PSI	No	Not Recommended	> 1500 PSI	No	No
Environmentally Friendly	Facility 98% Green	Many Exotic Rainforest Species	No	Large Carbon Foot Print	Possible Fly Ash Content	Mined Or Imported
Recycled Content	5% In Each Paver	No	Not Possible	Not Possible	If Possible Less Than 5%	Not Possible

PORCELAIN PAVER PERFORMANCE DATA (20 mm)

PHYSICAL PROPERTIES	TEST ASTM	NORTH AMERICAN STANDARD A137.3*	RESULTS
Water absorption *	C373	≤ 0.5%	COMPLY WITH ANSI A137.
DCOF Average dynamic coefficient of friction **	ANSI A.326.3	As reported	EW - Exterior, Wet
CLUB	EN 16165 (EX DIN 51097)		A+B+C
Skid Resistance	EN 16165 (EX DIN 51130)	-	R11
Resistance to freeze/thaw cycling *	C1026	As reported	RESISTANT
Resistance to thermal shock	C484	As reported	RESISTANT
Warpage (edge)	C485	Warpage ± 0.4% or ± 0.05 in	COMPLY WITH ANSI A137
Warpage (diagonal)	C485	Warpage ± 0.4% or ± 0.07 in	COMPLY WITH ANSI A137
Wedging	C502	± 0.25% or ± 0.03 in	COMPLY WITH ANSI A137
Chemical resistance	C650	As reported	UNAFFECTED
Resistance to stain	C1378	As reported	UNAFFECTED
Thickness	C499	Range: 0.04 in	COMPLY WITH ANSI A137
Breaking strength	C1050	2000 lbf	COMPLY WITH ANSI A137
Module of Ropture	C1050	5000 psi	COMPLY WITH ANSI A137

* Average values referred to our production and related to the matt finish of the product.

** As far as values relating to the matt finish of the product and to tests carried out by certified external laboratories whose results are available upon request at Headoffice, we are willing to check the lot you are interested in purchasing.

- Be sure to use pavers belonging to the same caliber.

- Test results are available on request.

WARNINGS.

- Outdoor pavings installed unglued above the ground level are subject to the action of the wind, with the risk, in some cases, of becoming airborne. The manufacturer recommends to require the assistance of a qualified professional in order to check the suitability of the installation system above the ground adopted, in accordance with the local laws and regulations and the conditions of use. Failure to do so could result in serious injury or property damage.
 If the application of the 20 mm slabs requires the ceramic product used in structural installations, the project engineer and/or customer must carefully assess the project requirements with regard to the technical specifications of the slabs. to prevent the risk of damage or injury, the manufacturer recommends: with regard to a raised floor installation a ceramic slab may fracture on impact if a heavy object falls on it from any significant height, therefore the manufacturer recommends to check the specific intended use before starting the installation and to follow table for raised installation provided below, in certain conditions, reinforcing must be applied on the back of the slabs (double fiberglass mesh) supplied and applied by the manufacturer; with reference to any dry installation system of flooring above the ground level, the manufacturer recommends to comply with local regulations and conditions of use with regard to wind-load, loadbearing, seismic events, etc. Failure to comply with these recommendations may lead to improper use of the product and could cause serious damage or injury.
 Failure to adhere to the manufacturer's instructions for installation of slabs on raised pedestal systems may result in serious injury. Failure to adhere to the manufacturer's instructions for installation of slabs on raised pedestal systems may result in serious injury.

















