



**MBRICO**

**PREMIUM EXTERIOR PORCELAIN PAVERS**

**MOTHER NATURE...  
MEET YOUR MATCH.**





**PORCELAIN PAVERS  
LIKE NO OTHERS.**







  
**EASY TO INSTALL**

  
**EASY TO KEEP CLEAN**  
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**

  
**EASY TO REPLACE AND REMOVE**  
can be easily removed and repositioned in a new area.

  
**DRIVE OVER\***  
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**  
Due to the baked on glazing process nothing can be absorbed including stains.

  
**RESISTANT TO THERMAL SHOCK**

  
**SCRATCH RESISTANT**

  
**FADE RESISTANT**

  
**FROST RESISTANT**

  
**RESISTANT TO SALTS**

  
**RESISTANT TO ACID AND CHEMICALS**

  
**ECO-FRIENDLY**  
20% recycled content in our usa made porcelain pavers.

  
**NO SEALING NEEDED**

  
**SAVING OVER TIME**  
Low maintenance cost.



# FOR RESIDENTIAL.

- Walkways
- Driveways
- Courtyards
- Paths on grass or gravel
- Garages
- Patios and porches
- Terraces and balconies
- Access ramps
- Verandas
- Outdoor pools

## PROJECT

### FLOOR DESIGN

Frontier20 Michelangelo Extra White - 24"x48"  
Frontier20 Michelangelo Extra White - 12"x48"  
Frontier20 Michelangelo Extra White - 24"x24"  
Frontier20 Michelangelo Extra White - 12"x24"  
Frontier20 Michelangelo Extra White Stair Tread - 12"x24"  
Frontier20 Michelangelo Extra White Riser - 8"x24"

### WALL DESIGN

Veneer World Alpine Alaska - 6"x24"



# FOR PUBLIC SPACES.

- Public outdoor areas
- Swimming pools
- Outdoor restaurants
- 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 - 24"x24"

Frontier20 Star Grey - 12"x24"

Frontier20 Star Grey - 12"x12"

Frontier20 Star Grey Grip Stair Tread - 12"x48"

Frontier20 Star Grey Riser - 6"x48"

### FIRE PIT DESIGN

Frontier20 Star Grey - 12"x48"



20<sup>MM</sup> THICKNESS  
PORCELAIN PAVERS

# 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

FLOOR DESIGN  
Frontier20 Modern Grey - 24"x24"

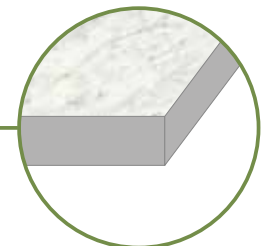


**±20mm THICKNESS**  
PORCELAIN PAVERS

**VERSATILE  
MATCHING  
SOLUTIONS.**

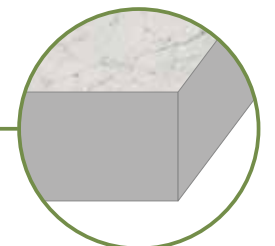
Continuity of style allows architects and designers to easily transition from inside beauty to outdoor functionality.

**INDOOR  
PORCELAIN TILE**



± 9 mm

**OUTDOOR  
PORCELAIN PAVER**



± 20mm



# COMPLETE LAYING VERSATILITY.

The Frontier20 product line is so simply perfect, elegant and functional, that the challenge of installation is not “How can I install Frontier20?” but rather, **“Where else do I want to install Frontier20?”**. Frontier20 may be installed using the traditional mortared bed, the more modern over sand and limestone, to the eco friendly permeable method, or even the budget conscious elevated deck or pedestal application.

## PROJECT

### OUTDOOR FLOOR DESIGN

Frontier20 Travertine Cross Cut White - 24"x48"  
Frontier20 Travertine Cross Cut White - 24"x24"  
Frontier20 Travertine Cross Cut White - 12"x24"  
Frontier20 Travertine Cross Cut White - 12"x12"  
Frontier20 Travertine Cross Cut White Grip Stair Tread - 12"x24"  
Frontier20 Travertine Cross Cut White Riser - 8"x24"

### WALL DESIGN

Brick World Soho Black - 3"x12"  
Frontier20 Travertine Cross Cut White - 24"x48"

### INDOOR FLOOR DESIGN

Charme Calacatta Gold - 24"x48"

### FLOWER BEDS

Frontier20 Travertine Cross Cut White - 24"x48"

### INDOOR FLOOR & WALL DESIGN

Charme Calacatta Gold - 24"x48"



# 01

## DRY LAYING.

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

### 01.1 ON GRASS



### 01.2 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.



# 03

## INSTALLATION OVER DECKING.

Traditional deck made with wood and porcelain pavers.



# 04

## RAISED FLOORS.

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





# 01 DRY LAYING.

## ADVANTAGES.

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

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**.

## LOCATIONS.

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



DRY LAYING ON GRASS



### PROJECT

#### FLOOR DESIGN

Frontier20 Travertine Cross Cut Noce - 24"x24"  
Frontier20 Travertine Cross Cut Noce Coping - 24"x12"  
Frontier20 Travertine Cross Cut Noce Coping Corner - 24"x12"

#### WALL DESIGN

Spirit Old Maple - 8"x40"



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

The stratigraphic images are just an example of the type of application and technical features of Frontier20. Landmark Ceramics recommends to refer to the specific norms valid in the various countries to carry out a state-of-the-art installation. Download Landmark Frontier20 Installation guide from [outdoor.landmarkceramics.com](https://outdoor.landmarkceramics.com) for practical installation information.

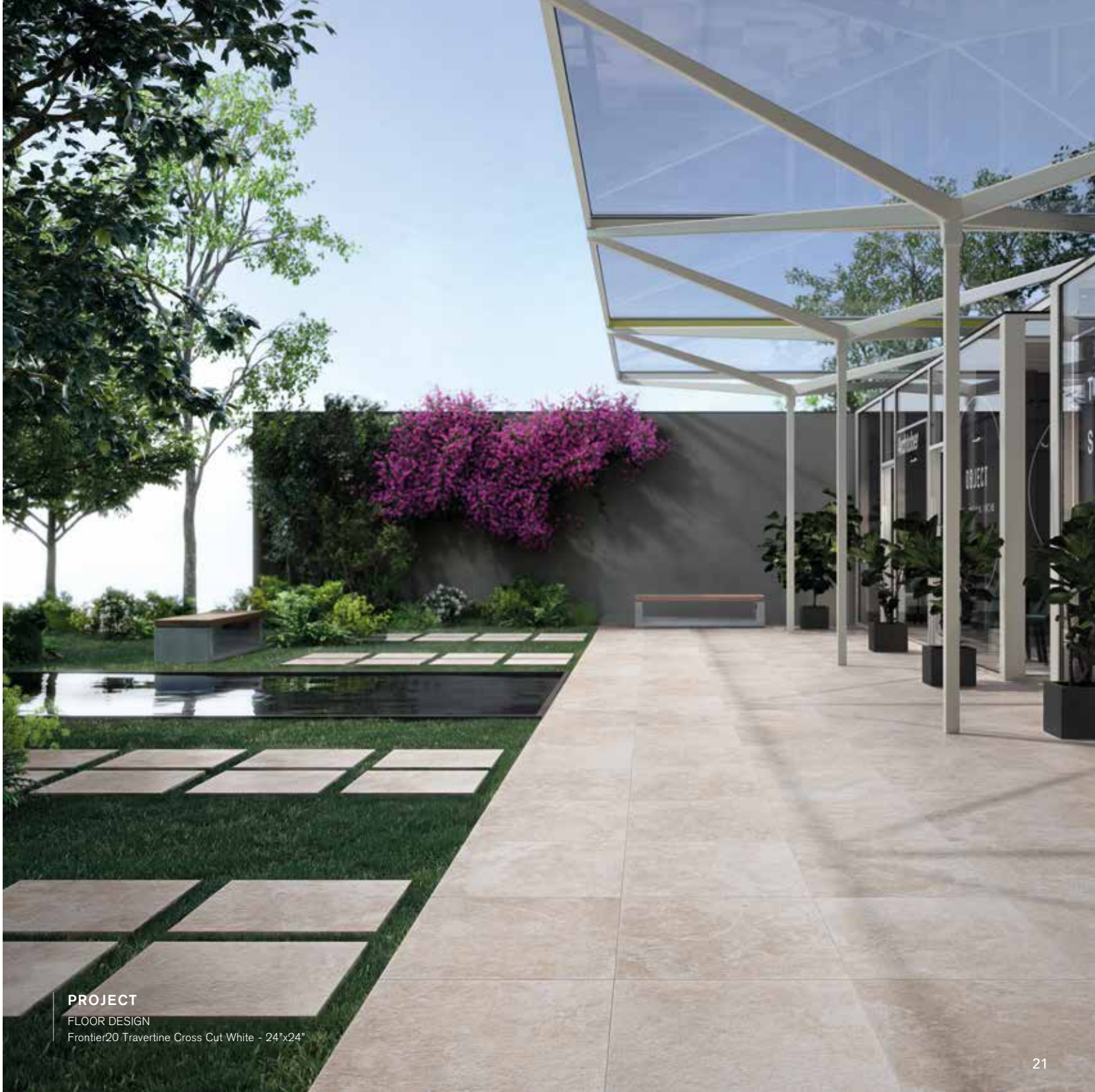
**DRY LAY OVER GRASS  
ON COMPACTED ROAD BASE INSTALLATION**  
(PEDESTRIAN FOOT TRAFFIC)

**PRACTICAL INSTALLATION**  
Follow the drawing below.

- Compacted base road is composed of ¾ compacted gravel.
- Sand bed course poured onto compacted gravel and screed to have smooth surface.



- A** FRONTIER20 PORCELAIN ¾" NOMINAL (20MM) PAVERS.
- B** 1" SAND BEDDING COURSE SCREED WITH SMOOTH SURFACE.
- C** COMPACTED ROAD.



**PROJECT**  
FLOOR DESIGN  
Frontier20 Travertine Cross Cut White - 24"x24"



## 01.2 DRY LAYING 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  $\frac{3}{16}$ " (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** 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
- E** FILTER FABRIC

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 WITH HIGH DENSITY PANELS

(PEDESTRIAN FOOT TRAFFIC)

## PRACTICAL INSTALLATION

Follow the drawing below.

- ➔ The edge restraint system is .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  $\frac{3}{16}$ " (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"
- E** FILTER FABRIC
- F** 1' INCH PERIPHERAL ANCHOR
- G** SUBSTRATE

WARNING:

Please remember that high density panel can reduce the heat dispersion accumulated by pavers exposed to direct sun or any other source of heat. For this reason we recommend to contact landmark ceramics at [outdoor.landmarkceramics.com/contact.php](http://outdoor.landmarkceramics.com/contact.php) for any questions you might have.

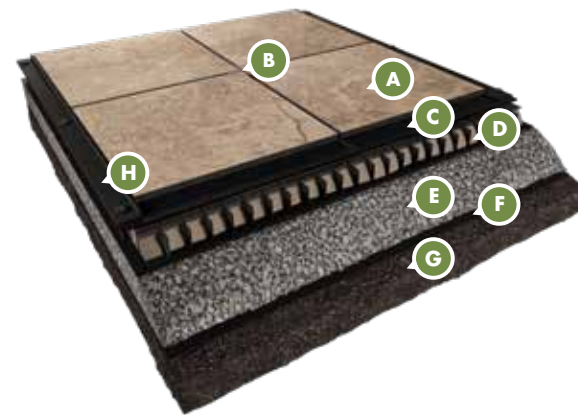
## INSTALLATION WITH GRATE FULFILLED WITH SAND OVER COARSE

(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.



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

The stratigraphic images are just an example of the type of application and technical features of Frontier20. Landmark Ceramics recommends to refer to the specific norms valid in the various countries to carry out a state-of-the-art installation. Download Landmark Frontier20 Installation guide from [outdoor.landmarkceramics.com](http://outdoor.landmarkceramics.com) for practical installation information.









# 02 INSTALLATION OVER REINFORCED CONCRETE\*.

Mbrico porcelain 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.

## ADVANTAGES.

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

## LOCATIONS.

- |            |                 |
|------------|-----------------|
| → YARDS    | → PARKING AREAS |
| → PORCHES  | → CYCLE TRACKS  |
| → TERRACES | → PAVEMENTS     |
| → RAMPS    | → SQUARES       |
| → GARAGES  |                 |



INSTALLATION OVER REINFORCED CONCRETE

## THIN SET MORTAR APPLICATION OVER REINFORCED CONCRETE

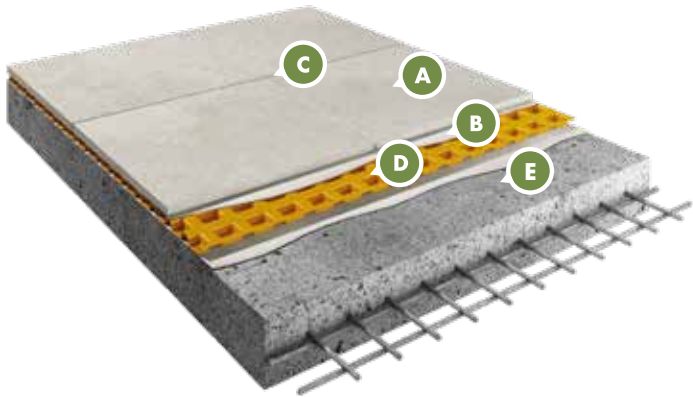
### PRACTICAL INSTALLATION

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.



**A** FRONTIER20 PORCELAIN  
3/4" NOMINAL (20MM) PAVERS

**B** THINSET

**C** 3/16" MINIMUM GROUT JOINT

**D** UNCOUPLING MEMBRANE

**E** EXISTING OR NEW CONCRETE  
(REINFORCED). 4" MINIMUM

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# 04 RAISED FLOORS.

## 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 Mbrico porcelain pavers 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 ¾" - 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 ¾" NOMINAL (20MM) PAVERS
- B PEDESTAL
- C EXISTING SLAB OR 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.

The stratigraphic images are just an example of the type of application and technical features of Frontier20. Landmark Ceramics recommends to refer to the specific norms valid in the various countries to carry out a state-of-the-art installation. Download Landmark Frontier20 Installation guide from [outdoor.landmarkceramics.com](https://outdoor.landmarkceramics.com) for practical installation information.

## INSTALLATION OVER LOW HEIGHT SUPPORTS (UP TO ¾" - 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 ¾" NOMINAL (20MM) PAVERS
- B PEDESTAL
- C CONCRETE BASE
- D SUBSTRATE

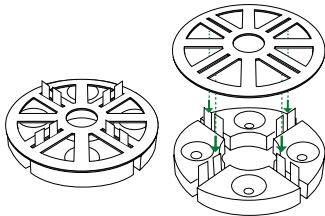


# RAISED FLOORS INSTALLATION SYSTEM.




## LOW HEIGHT SUPPORTS.

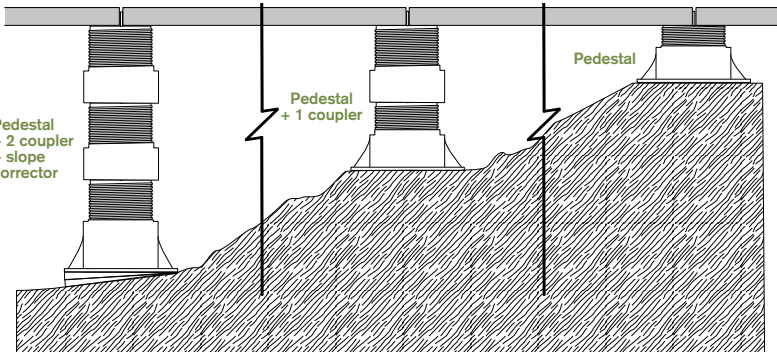
System made up of disks of variable thickness. Utilize for low height installation (up to 3/4").

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



## ADJUSTABLE HEIGHT SUPPORTS.

	AVAILABLE HEIGHT
	
	
	0" - 1" per foot slope

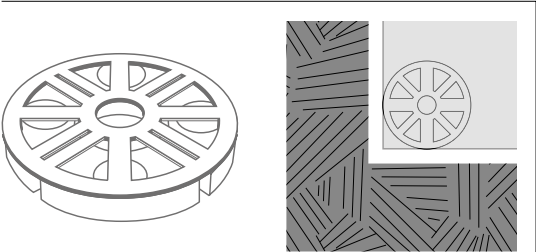


# RAISED FLOORS INSTALLATION SYSTEM.

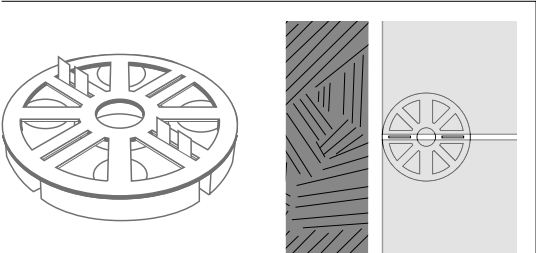
**20** THICKNESS  
PORCELAIN PAVERS

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. Mbrico porcelain tile recommends to strictly follow the instructions for the raised installation

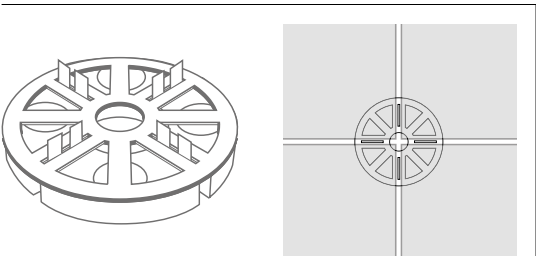
### Wall corner



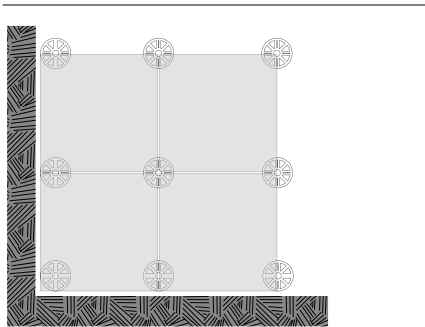
### Wall border



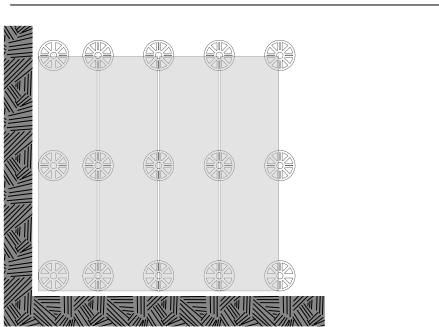
### Floor center



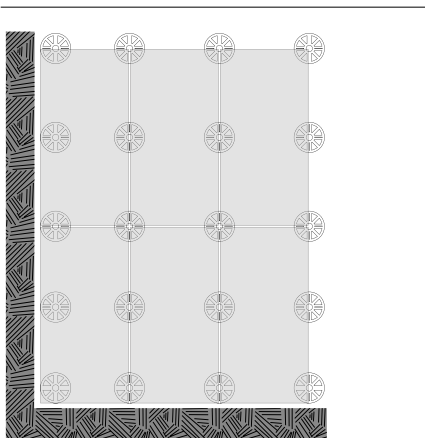
### 24"x24" - 12"x24" - 12"x12"



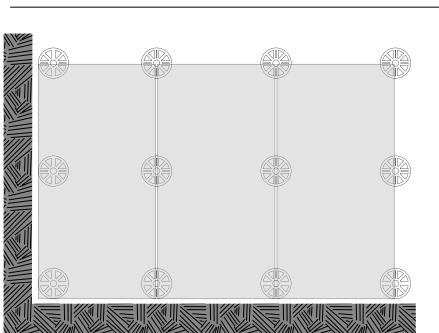
### 12"x48"



### 18"x36"



### 24"x48"



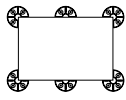


# RAISED FLOORS INSTALLATION SYSTEM.

## WARNINGS.

If the application of the 20mm 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

Failure to comply with these recommendations may lead to improper use of the product and could cause serious damage or injury.  
For further information and recommendations concerning the installation systems please contact your Mbrico representative.

SUPPORTS REQUIREMENTS			
	SIZE	UP TO ¾" (20MM)	ABOVE ¾" (20MM)
	12"x12" (300x300 mm)	4 supports 0,32 pcs/sq ft	Please contact Mbrico Tile or Visit the Rooftop Track System Specifications
	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	
	18"x36" (450x900 mm)	6 supports 0,56 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	

## NOTE.

In case of breakage, paver must be replaced immediately.

## RECOMMENDATIONS FOR THE INSTALLATION, ORDINARY CLEANING AND MAINTENANCE OF FRONTIER20.

Mbrico Porcelain recommends carrying out the procedures for the ordinary cleaning of porcelain 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, Mbrico Porcelain 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 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 of outdoor spaces. The trim tiles represent the ideal solution for the 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

#### FLOOR DESIGN

Frontier20 Silver Quartz - 24"x24"  
Frontier20 Silver Quartz Linear Cover Drain Set - 24"x24"  
Frontier20 Silver Quartz Coping - 24"x12"  
Frontier20 Silver Quartz Coping Corner - 24"x12"  
Frontier20 Silver Quartz Stair Tread - 24"x12"  
Frontier20 Silver Quartz Stair Tread Grip - 24"x12"  
Frontier20 Silver Quartz Riser - 24"x8"  
Frontier20 Silver Quartz Cover - 24"x12"  
Frontier20 Silver Quartz End Cover - 24"x12"

STAIR TREAD  
P. 39

GRIP STAIR TREAD  
P. 39

RISER  
P. 39

END COVER  
P. 43

COVER  
P. 43

COPING CORNER  
P. 41

COPING  
P. 41

LINEAR COVER DRAIN SET  
P. 41



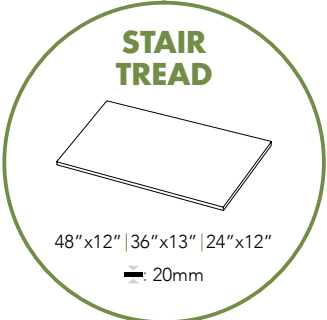
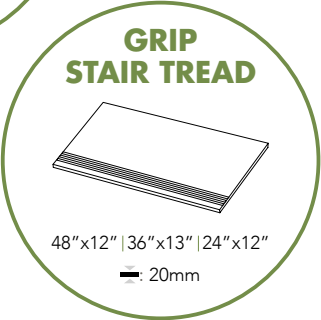
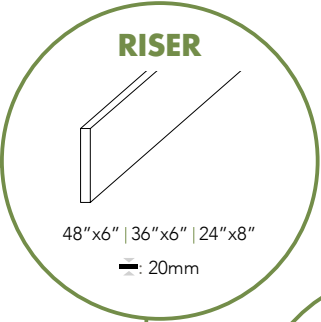
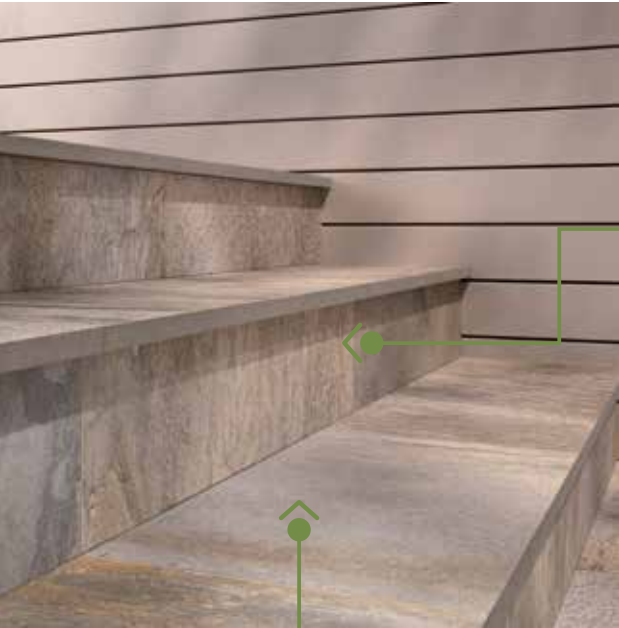
# STAIRS WITH AN IN-DEMAND AESTHETIC THAT IS ALSO HIGH PERFORMING.

## 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.

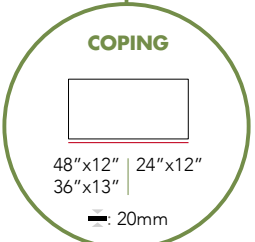
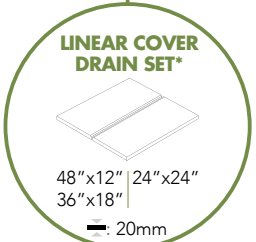
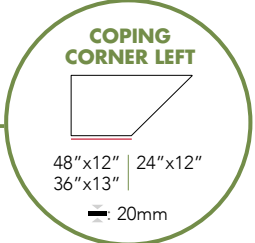
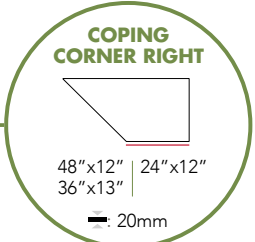
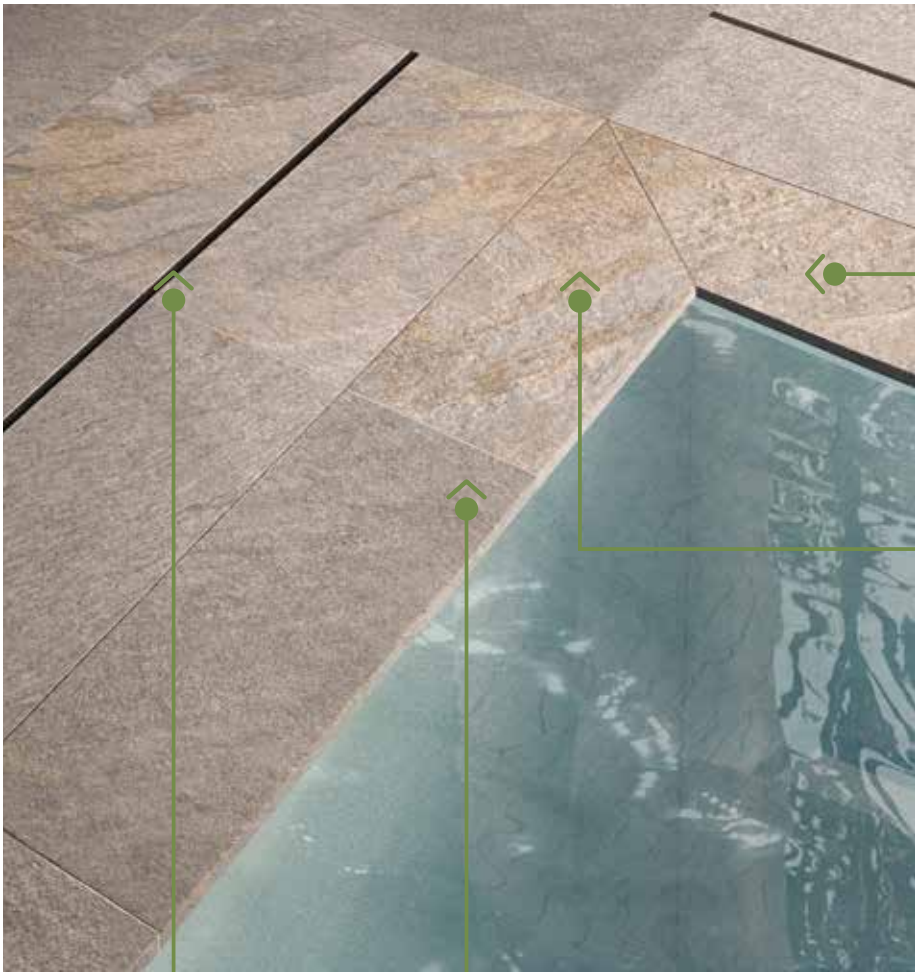
## SYSTEM.

- 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, 47 for more details.





# WALL COVERS: PROTECTION FROM WATER AND VISUAL CONTINUITY.

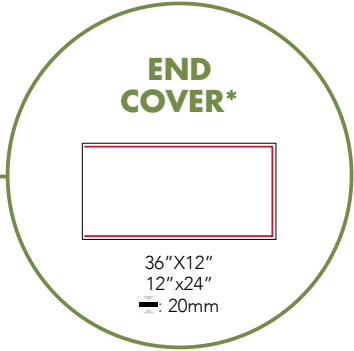
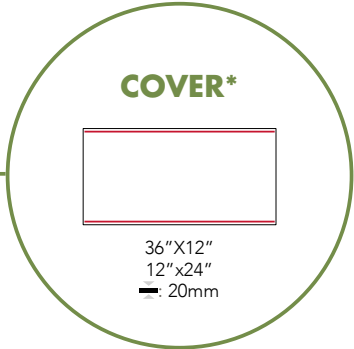
## SYSTEM.

- COVER
- END-COVER

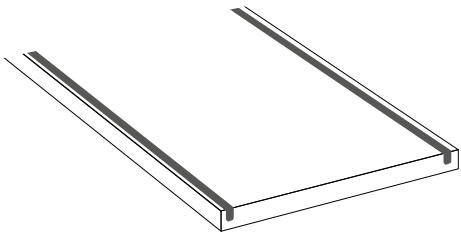
## ADVANTAGES.

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

\* Both Cover and End-Cover have dripstone and undecorated borders.



## DRIPOSTONE

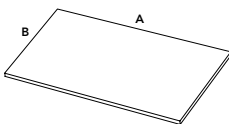




TRIM TILES RANGE 24"x24"



STAIRS

STAIR TREAD\*



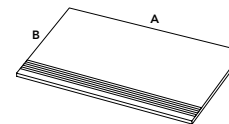
TRIM DIMENSIONS

A: 24"  
B: 12"





RectifiedBullnose

GRIP STAIR TREAD\*



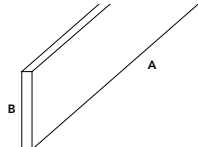
TRIM DIMENSIONS

A: 24"  
B: 12"




RectifiedBullnose

RISER\*




TRIM DIMENSIONS

A: 24"  
B: 8"

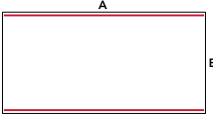


Rectified




WALL COVERS

COVER\*



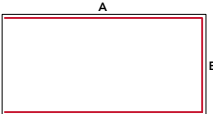
TRIM DIMENSIONS

A: 24"  
B: 12"



Undecorated border and dripstone

END COVER\*



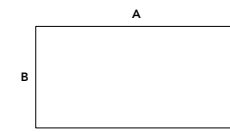
\* Available in standard version (with undecorated borders).

20mm THICKNESS PORCELAIN PAVERS

TRIM TILES RANGE 24"x24"



POOLS

COPING\*



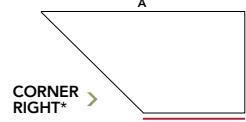
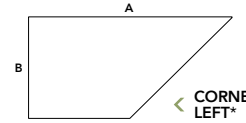
TRIM DIMENSIONS

A: 24"  
B: 12"





RectifiedBullnose

COPING CORNER\*



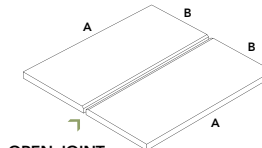
TRIM DIMENSIONS

A: 24"  
B: 12"




RectifiedBullnose

LINEAR COVER DRAIN SET\*




TRIM DIMENSIONS

A: 24"  
B: 11.63"



Open joint width 0.28" (9/32")



\* Available in standard version (with undecorated borders).

44

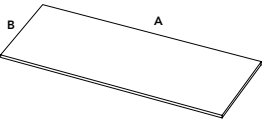
45



TRIM TILES RANGE 18"x36"

STAIRS

STAIR TREAD\*



TRIM DIMENSIONS

A: 36"  
B: 13"

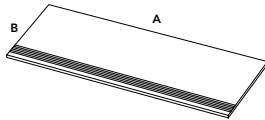


Rectified



Bullnose

GRIP STAIR TREAD\*



TRIM DIMENSIONS

A: 36"  
B: 13"



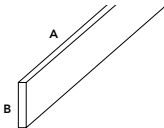
Rectified



Bullnose

STAIRS

RISER\*



TRIM DIMENSIONS

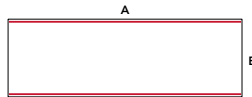
A: 36"  
B: 6"



Rectified

WALL COVERS

COVER\*



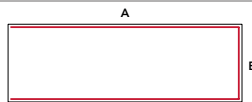
TRIM DIMENSIONS

A: 36"  
B: 12"



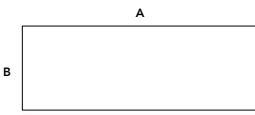
Undecorated border and dripstone

END COVER\*



POOLS

COPING\*



TRIM DIMENSIONS

A: 36"  
B: 13"

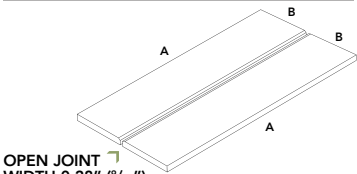


Rectified



Bullnose

LINEAR COVER DRAIN SET\*



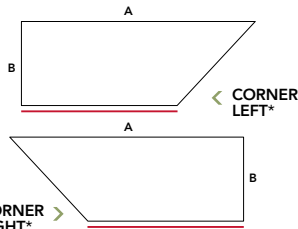
TRIM DIMENSIONS

A: 36"  
B: 8.71"



Open joint width 0.28" (7/32")

COPING CORNER\*



TRIM DIMENSIONS

A: 36"  
B: 13"



Rectified



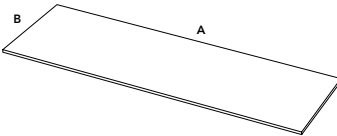
Bullnose

\* Available just in standard version (with undecorated borders).

TRIM TILES RANGE 12"x48"

STAIRS

STAIR TREAD\*



TRIM DIMENSIONS

A: 48"  
B: 12"

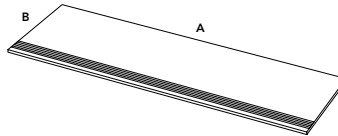


Rectified



Bullnose

GRIP STAIR TREAD\*



TRIM DIMENSIONS

A: 48"  
B: 12"



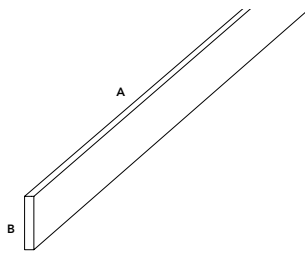
Rectified



Bullnose



RISER\*



TRIM DIMENSIONS

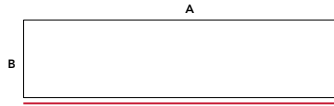
A: 48"  
B: 6"



Rectified

POOLS

COPING\*



TRIM DIMENSIONS

A: 48"  
B: 12"

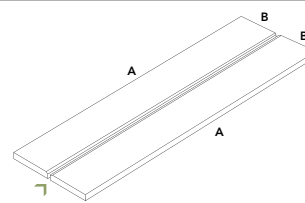


Rectified



Bullnose

LINEAR COVER DRAIN SET\*



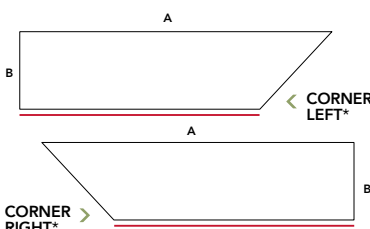
TRIM DIMENSIONS

A: 48"  
B: 5.76"



Open joint width 0.28" (7/32")

COPING CORNER\*



TRIM DIMENSIONS

A: 48"  
B: 12"



Rectified



Bullnose

\* Available just in standard version (with undecorated borders).



# 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.

- 01 **WIDE LOOKS RANGE**
- 02 **A WIDE RANGE OF SIZES**
- 03 **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"



02  
**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 **18"x36"**, **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**
- OUTDOOR FLOOR DESIGN  
Frontier20 Limestone - 24"x48"  
Frontier20 Limestone - 12"x48"  
Frontier20 Limestone - 12"x12"  
Frontier20 Limestone Grip Stair Tread - 12"x48"  
Frontier20 Limestone Riser - 6"x48"
- WALL DESIGN  
Veneer World Pro Ledgestone Alpine Alaska - 6"x24"  
Frontier20 Limestone Wall Cover - 12"x24"
- FLOWER BEDS DESIGN  
Veneer World Pro Ledgestone Ridge Black - 6"x24"



**24"x48"**



**12"x48"**



**24"x24"**



**12"x24"**



**12"x12"**



**24"x36"**



**18"x36"**



**9"x18"**



**9"x9"**



# 04.1 BLUESTONE DESIGN PROJECT.

## PROJECT

OUTDOOR FLOOR DESIGN

Frontier20 Thermal Bluestone Full Color - 12"x24"

Frontier20 Thermal Bluestone Full Color - 24"x24"



## 04.1 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.





04.2 **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.

URBAN LEDGESTONE  
 ARCTIC WHITE

URBAN LEDGESTONE  
 AFRICAN BEIGE

URBAN LEDGESTONE  
 STAR GREY

URBAN LEDGESTONE  
 VOLCANIC BLACK

**PROJECT**

OUTDOOR FLOOR DESIGN  
 Frontier20 Michelangelo Extra White - 24"x48"  
 Frontier20 Michelangelo Extra White Riser - 6"x48"  
 WALL DESIGN  
 Veneer World Urban Ledgestone Explore Volcanic Black - 6"x24"



# 04.3 TRAVERTINE CROSS CUT DESIGN PROJECT.

## PROJECT

### OUTDOOR FLOOR DESIGN

Frontier20 Travertine Cross Cut Cream - 24"x48"  
Frontier20 Travertine Cross Cut Cream - 12"x48"  
Frontier20 Travertine Cross Cut Cream - 24"x24"  
Frontier20 Travertine Cross Cut Cream - 12"x24"  
Frontier20 Travertine Cross Cut Cream - 12"x12"  
Frontier20 Travertine Cross Cut Cream Stair Tread - 12"x48"  
Frontier20 Travertine Cross Cut Cream Riser - 6"x48"

### WALL DESIGN

Frontier20 Travertine Cross Cut Cream - 12"x48"  
Vision Dove - 24"x48"



# 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"x48"

Frontier20 Star Grey - 12"x48"

Frontier20 Star Grey - 24"x24"

Frontier20 Star Grey - 12"x24"

Frontier20 Star Grey - 12"x12"

Frontier20 Arctic White - 12"x48"



# TECHNICAL INFORMATION.

## PROJECT

OUTDOOR FLOOR DESIGN

Frontier20 Blue Select Bluestone - 24"x24"

Frontier20 Blue Select Bluestone Coping - 12"x24"

Frontier20 Blue Select Bluestone Coping Corner - 12"x24"

WALL DESIGN

Veneer World Pro LedgeStone Bluestone Blue Select - 6"x24"



# INSTALLATION INFORMATION AND RECOMMENDATIONS.

## INSTALLATION INFORMATION AND RECOMMENDATIONS.

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 install 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  $\frac{3}{16}$ " (4 mm) spacers ( $\frac{1}{4}$ " - 6mm for MPD installation) must always be used to install pavers on sand set and permeable installations. The photo on the right illustrates the use of the  $\frac{3}{16}$ " spacer to support and space the 4 paver corners.
- Never install pavers with porcelain to porcelain contact.
- The use of plate compactors is not recommended to be used on the porcelain pavers.

## JOINT FILLING

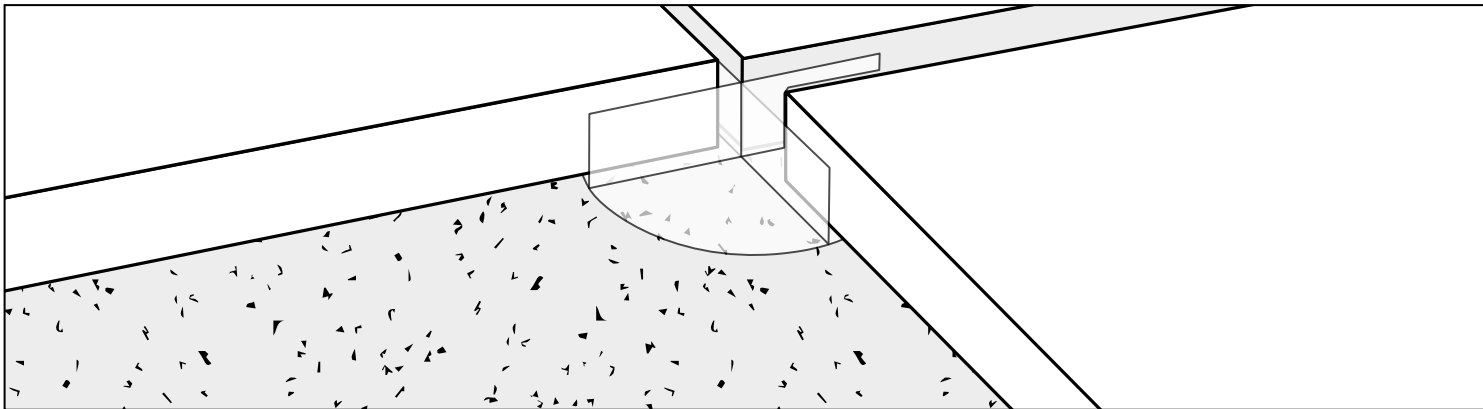
When installing porcelain paver on sand set base, fill the paver joints with these options:

### 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

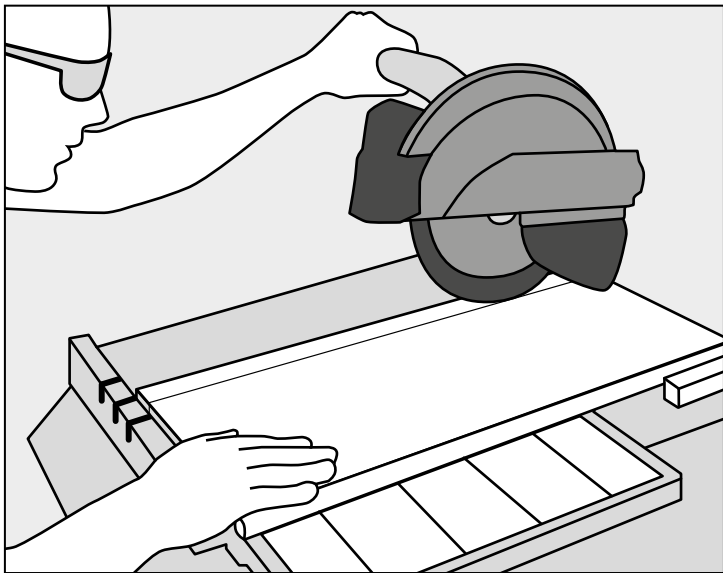
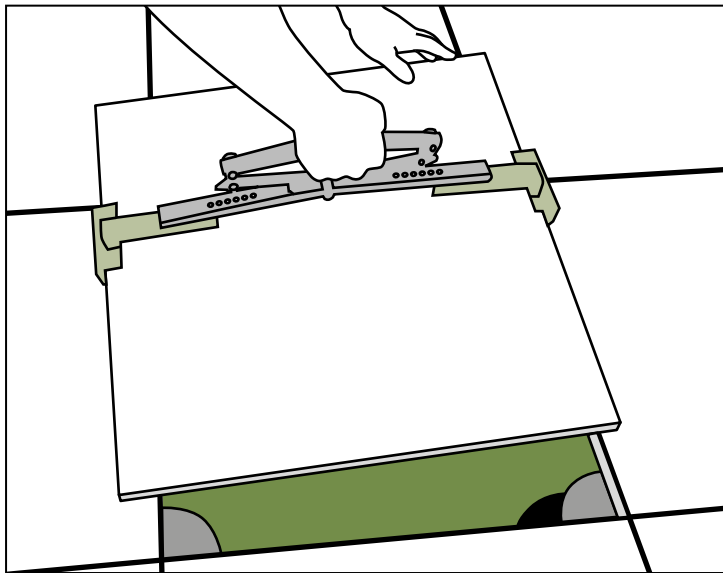
Polymeric sand is a blend of polymers which harden when subjected to moisture. Sweep the sand into the open joints until completely filled. All excess sand and dust must be swept from the surface. Use a blower for the final dust removal to make certain all excess sand is removed. Any residual sand or 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  $\frac{3}{16}$ " ) 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.













IMPORTANT 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 the joint infill material.  
3. 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.



PERFORMANCE COMPARISON PORCELAIN PAVERS VS. COMPETITOR OUTDOOR PAVING MATERIALS

FEATURES	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	20% In Each Paver	No	Not Possible	Not Possible	If Possible Less Than 5%	Not Possible

PAVER PERFORMANCE DATA

PHYSICAL PROPERTIES		TEST ASTM	NORTH AMERICAN STANDARD A137.1*	RESULTS
	Water absorption *	C373	≤ 0.5%	COMPLY WITH ANSI A137.1
	DCOF Average dynamic coefficient of friction **	BOT 3000 test	≥ 0.6	≥ 0.6
	Skid Resistance	DIN 51097	-	A+B+C
		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 A137.1
	Warpage (diagonal)	C485	Warpage ± 0.4% or ± 0.07 in	COMPLY WITH ANSI A137.1
	Wedging	C502	± 0.25% or ± 0.03 in	COMPLY WITH ANSI A137.1
	Chemical resistance	C650	As reported	UNAFFECTED
	Resistance to stain	C1378	As reported	UNAFFECTED
	Thickness	C499	Range: 0.04 in	COMPLY WITH ANSI A137.1
	Breaking strength	C648	250 lbf or greater	COMPLY WITH ANSI A137.1

\* 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.  
- The information provided can be subject to change. Please refer to **outdoor.landmarkceramics.com** for the latest, most accurate and up-to-date information.

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.
- For further information and recommendations concerning the installation systems please refer to **outdoor.landmarkceramics.com** website.



