



FRONTIER<sup>20</sup>

M.P.D.

MULTI PATTERN  
DESIGN

 **LANDMARK**  
CERAMICS

A new **landmark** in the porcelain industry

Landmark Ceramics is an American company, based in Tennessee that has set out to research, manufacture and sell top quality porcelain ceramics in North America, taking advantage of the proven experience of the Gruppo Concorde, an international leader in the sector. Technological innovation, market presence, attention to detail, the welfare of people and the environment, efficient service and a thorough product range make Landmark a new benchmark in the North American market for those who are looking for a reliable partner for any building and architecture project using US made top quality porcelain material.

# 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 revitalized to offer a superior industry leading product. Frontier20 offers a dimension never seen before to your outdoor living area.



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LEARN MORE ABOUT





# M.P.D.

## MULTI PATTERN DESIGN.

**\_MPD, multi pattern design**, is the result of a deep study in the field of multi size installation for outdoor and the full commitment of landmark ceramics to give you the widest size offering made in the USA. Multi size Installation has always been a fundamental element in the design of exteriors floors which allows architects and designers to shape landscape outdoors with new creative solutions.

With the Multi-Pattern Design project, Landmark offers to landscape architects, contractor professionals and homeowners an unparalleled offering of formats, from the precious 9"x9" and 9"x18" to the more classic 12"x12", 12"x24" and 24"x24", up to the big 12"x48", 24"x36" and 24"x48". A broad range of options, that can be freely used and blended to develop always original outdoor floor 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"

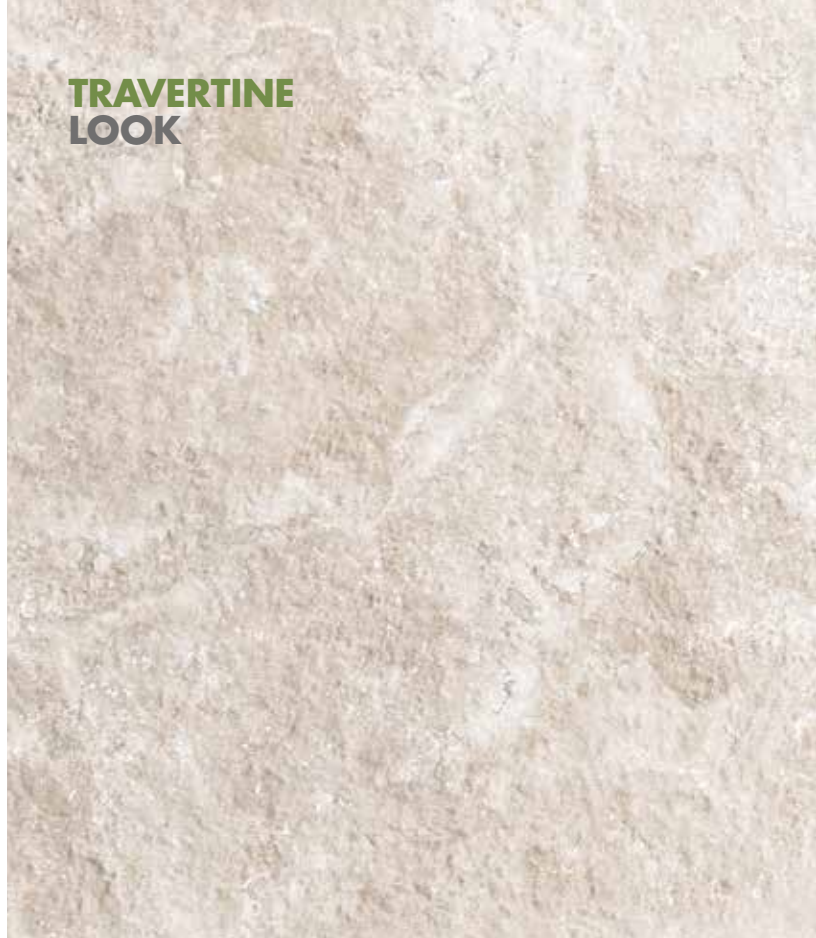
Frontier20 Arctic White - 12"x48"



# THE DESIGN SOLUTION YOU WANT IN THE LOOK YOU LOVE.

**\_MPD is a vast and complete multi size design project**, embracing various moods and a wide range of looks, from stone to wood, from marble to cement, from travertine to quartzite. Thanks to its broad and versatile range of looks, graphics and textures, Frontier20 is able to recreate the beauty of every detail from the material of inspiration, and mirror it in one of the dozens of design proposal included in its range. MPD is freedom to choose, because it offers infinite solutions, supporting the design you want to create by using the look you love.

**TRAVERTINE  
LOOK**



**FLAGSTONE  
LOOK**



**LIMESTONE  
LOOK**



**QUARTZ  
LOOK**



**BLUESTONE  
LOOK**



**MARBLE  
LOOK**



**SLATE  
LOOK**





# MADE TO FIT EVERY SPACE.

Thanks to its high-technology and top-quality standard parameters, Frontier20 pavers used in any of the Multi-Pattern proposals are:

- **Calibrated** - all pavers have a precise size and tolerance among different pieces are minimal (less than 0.5 mm).
- **Modular** - every size is studied to be combined with all other sizes.
- **Rectified** - every paver has straight and clean edges, for an easier installation and a cleaner and more refined final result.
- **Uniform in thickness** - all pavers are very uniform in thickness, to allow an easy, precise, cost effective and worry-free installation whether in dry applications (on gravel, sand or gravel), on pedestals or when mortared down on a concrete base.

## 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"



**MODULAR SIZES**



**UNIFORM THICKNESS**



**RECTIFIED EDGES**



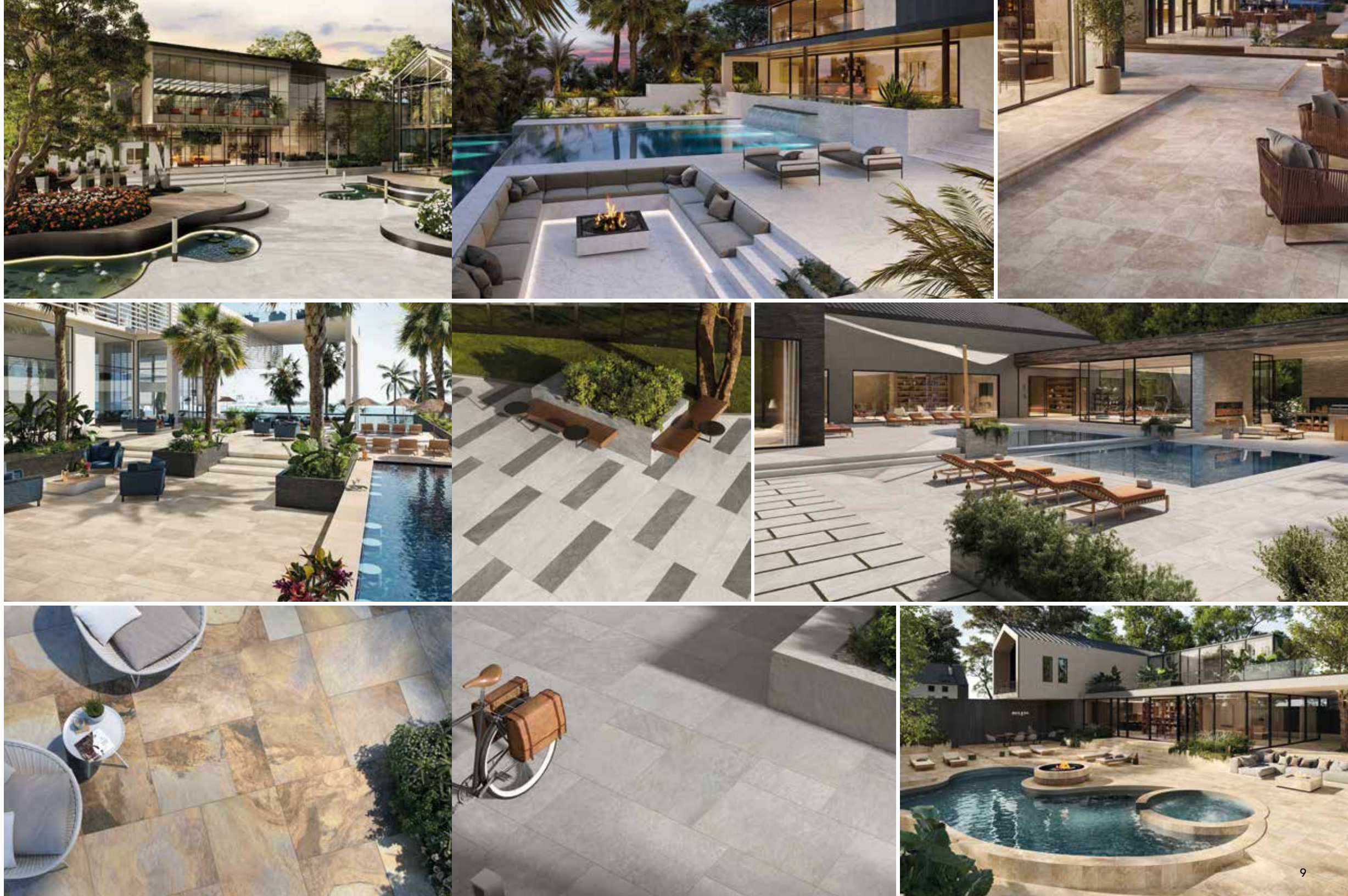
**MONO CALIBER**



# MULTIPLE PATTERNS, ENDLESS POSSIBILITIES, PURE DESIGN FREEDOM.

With Frontier 20 you have a broad and vast choice of authentic and beautiful looks, and from today, with MPD Project, you can also count on a broad range of sizes, easy to be combined together, for endless multi-size installation possibilities. Upgrade your projects and bring them to the next level!

MPD is pure design freedom, to be used almost anywhere, in **commercial** applications, such as public areas, as well as for **residential** installations, ensuring perfect balance between highest aesthetic requirements and technical performances, and always matching even the most demanding expectations.





BIG, SMALL  
OR MINI.  
INFINITE DESIGN  
SOLUTIONS FOR  
YOUR SPACE.

The Multi Pattern Design (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.

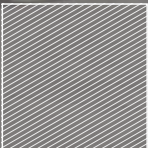
M.P.D.  
BIG



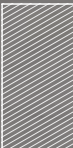
24"x48"



12"x48"



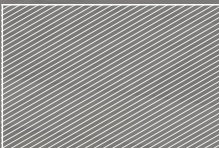
24"x24"



12"x24"



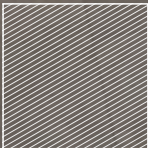
12"x12"



24"x36"



M.P.D.  
SMALL



24"x24"



12"x24"



12"x12"



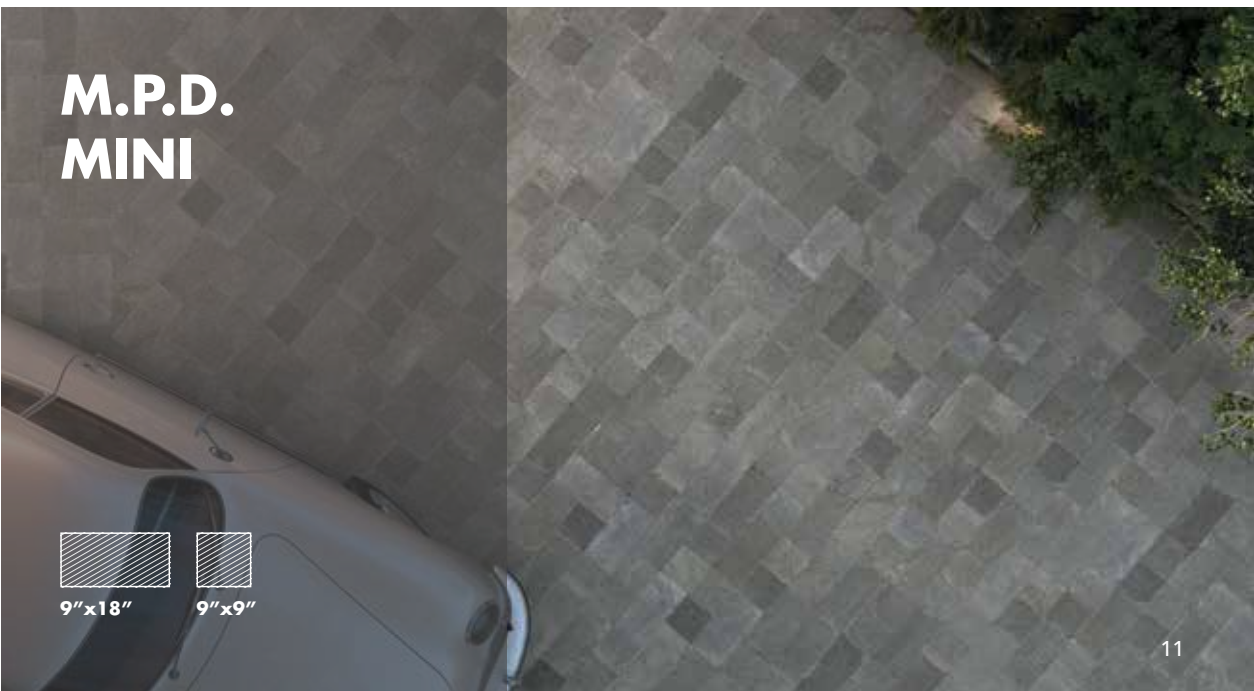
M.P.D.  
MINI



9"x18"



9"x9"





**20mm THICKNESS**  
**PORCELAIN PAVERS**

# MULTI PATTERN DESIGN BIG

## 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

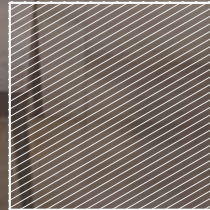
Charme Calacatta Gold - 24"x48"



**24"x48"**



**12"x48"**



**24"x24"**



**12"x24"**



**12"x12"**



**24"x36"**

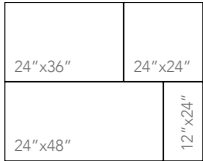


M.P.D. BIG ONE\*



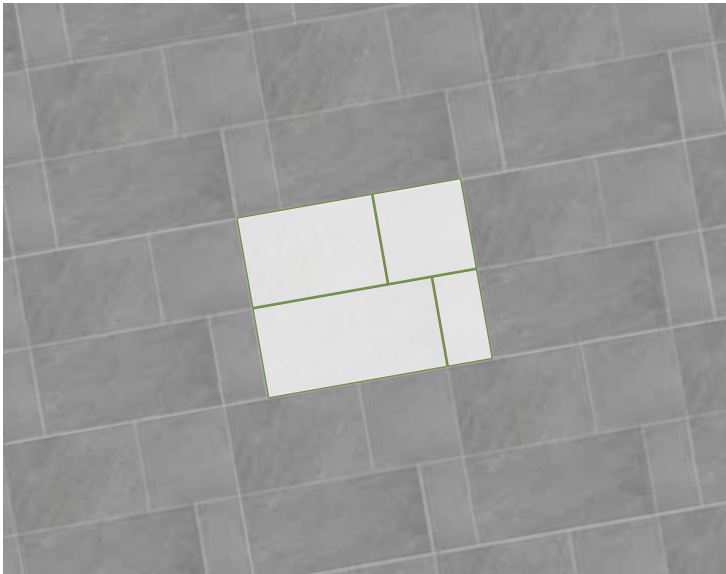
Module percentage

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



Available colors

- Bluestone Blue Select
- Bluestone Full color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey



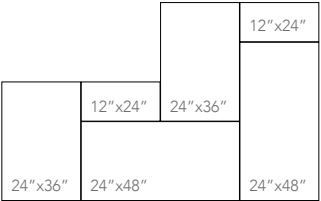
\* Modular products with 6 mm joint (approx 1/4").  
\*\* NOTE: The 24"x36" and 12"x24" sizes (MIX) are palletized together on the same single pallet containing the correct percentages of each size.

M.P.D. BIG TWO\*



Module percentage

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



Available colors

- Bluestone Blue Select
- Bluestone Full color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey



\* 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.

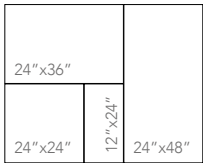


M.P.D. BIG THREE\*



Module percentage

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



Available colors

- Bluestone Blue Select
- Bluestone Full color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey



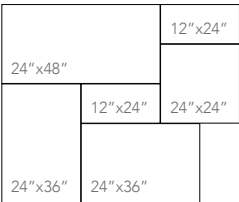
\* Modular products with 6 mm joint (approx 1/4").  
\*\* NOTE: The 24"x36" and 12"x24" sizes (MIX) are palletized together on the same single pallet containing the correct percentages of each size.

M.P.D. BIG FOUR\*



Module percentage

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



Available colors

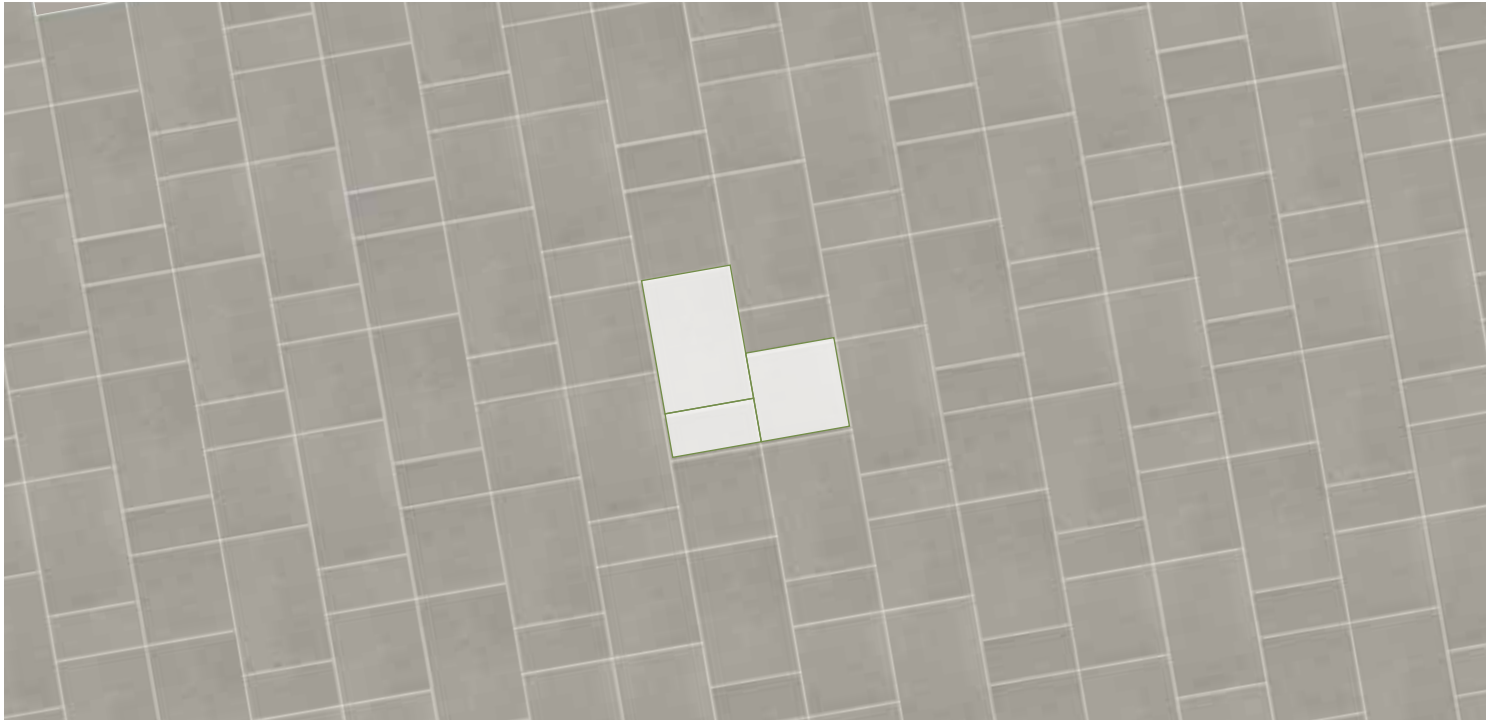
- Bluestone Blue Select
- Bluestone Full color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey



\* 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.



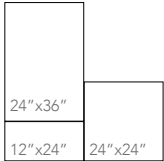
M.P.D. BIG FIVE\*



Module percentage

**% HP1**  
24"x24" = 33%  
24"x36" + 12"x24" (MIX) = 67% \*\*

**% HP2**  
24"x36" = 50%  
24"x24" = 33%  
12"x24" = 17%



Available colors HP1

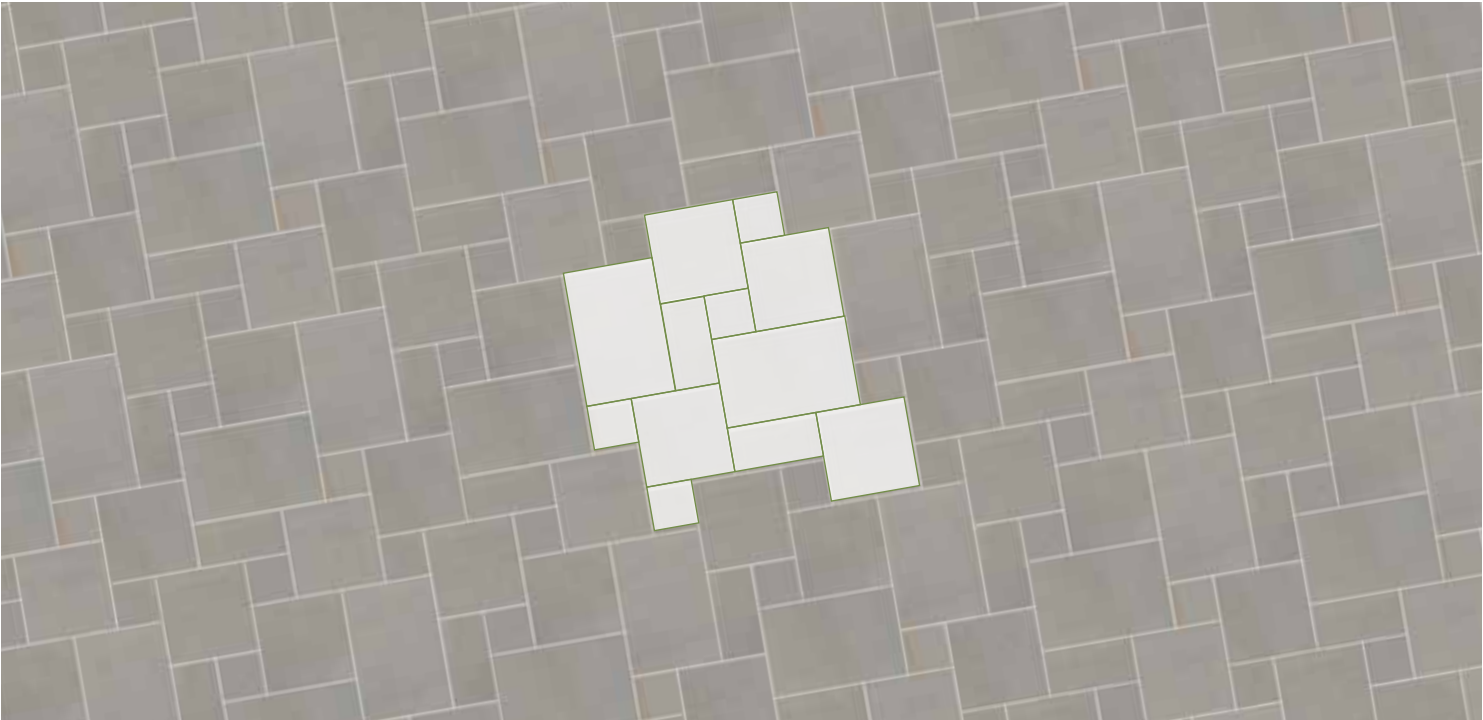
- Bluestone Blue Select
- Bluestone Full color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey

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.

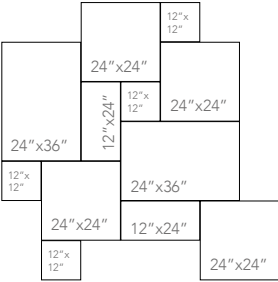
M.P.D. BIG SIX\*



Module percentage

**% HP1**  
24"x24" = 45%  
12"x12" = 11%  
24"x36" + 12"x24" (MIX) = 44% \*\*

**% HP2**  
24"x36" = 33%  
24"x24" = 45%  
12"x24" = 11%  
12"x12" = 11%



Available colors HP1

- Bluestone Blue Select
- Bluestone Full color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey

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.



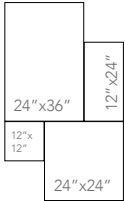
M.P.D. BIG SEVEN\*



Module percentage

**% HP1**  
24"x24" = 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

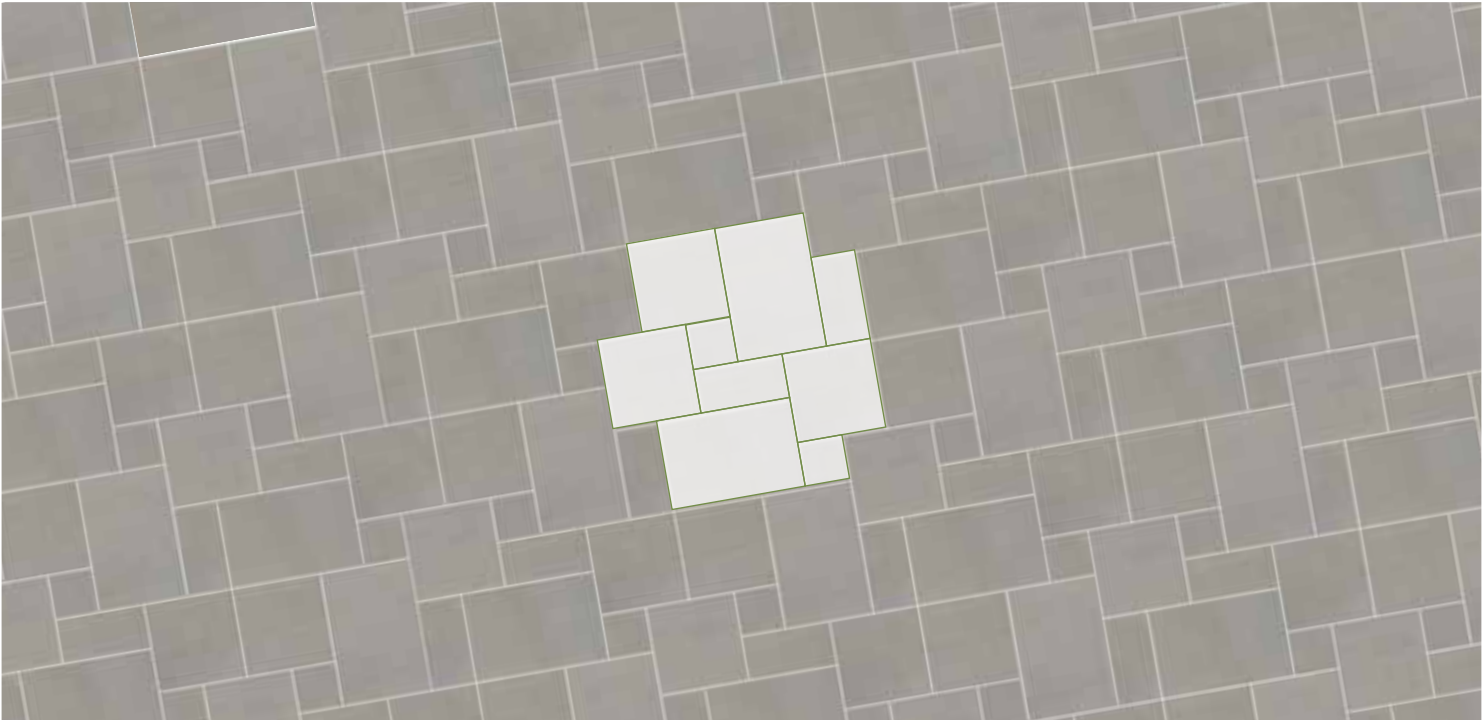
- Bluestone Blue Select
- Bluestone Full color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey

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.

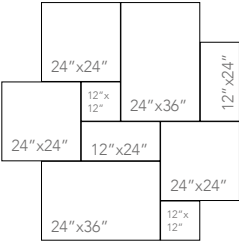
M.P.D. BIG EIGHT\*



Module percentage

**% HP1**  
24"x24" = 40%  
12"x12" = 7%  
24"x36" + 12"x24" (MIX) = 53% \*\*

**% HP2**  
24"x36" = 40%  
24"x24" = 40%  
12"x24" = 13%  
12"x12" = 7%



Available colors HP1

- Bluestone Blue Select
- Bluestone Full color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey

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.

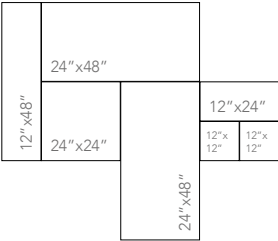


M.P.D. BIG NINE\*



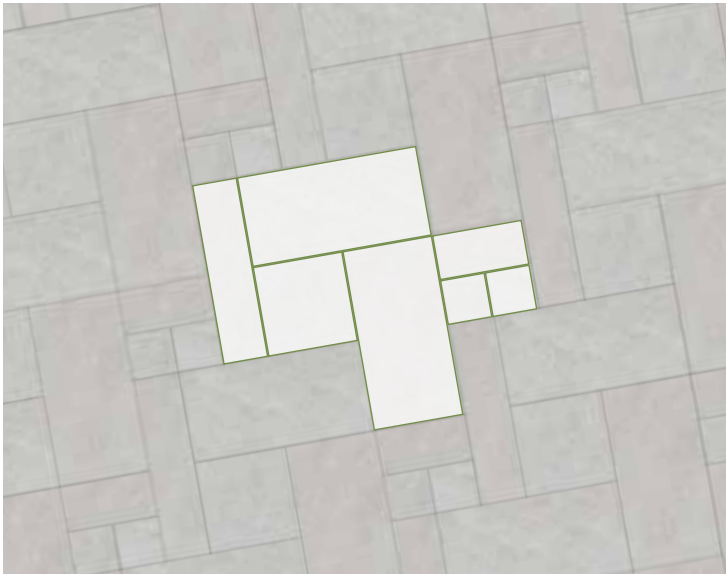
Module percentage

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 Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey



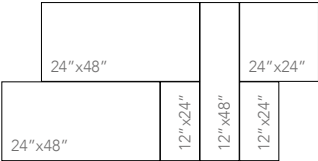
\* Modular products with 6 mm joint (approx 1/4").

M.P.D. BIG TEN\*



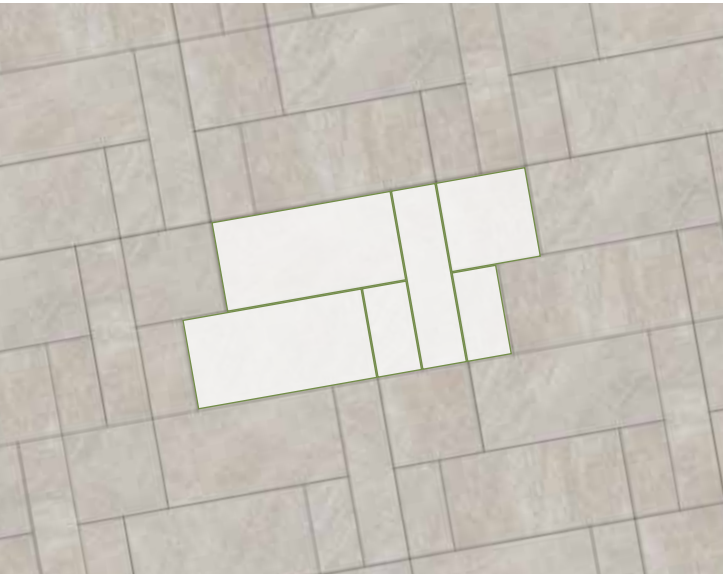
Module percentage

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



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



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

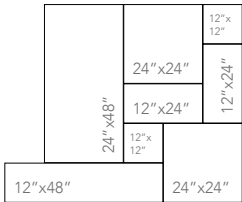


M.P.D. BIG ELEVEN\*



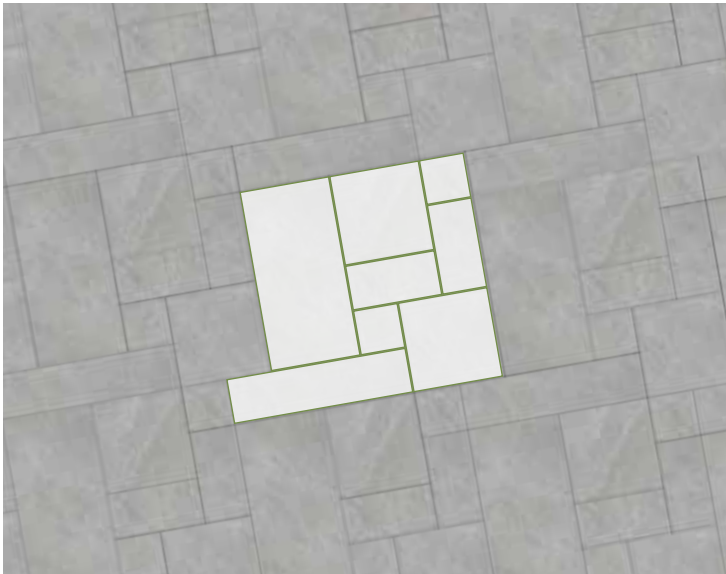
Module percentage

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



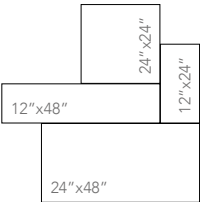
\* Modular products with 6 mm joint (approx 1/4").

M.P.D. BIG TWELVE\*



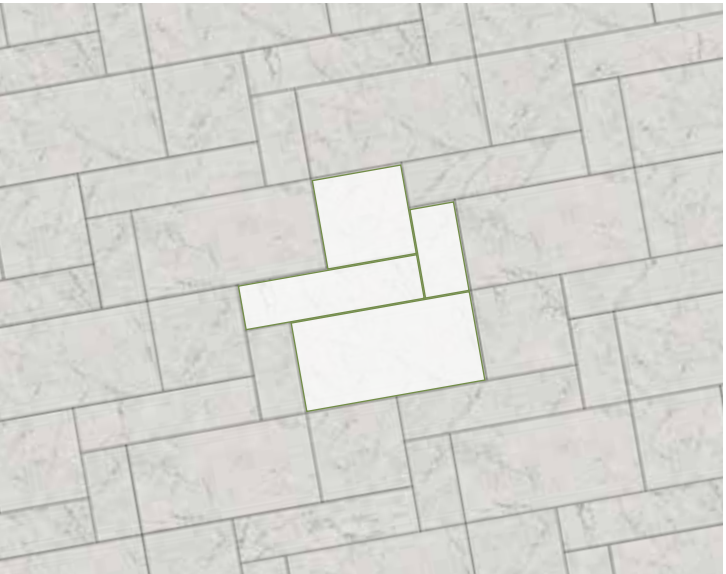
Module percentage

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



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



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

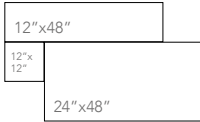


M.P.D. BIG THIRTEEN\*



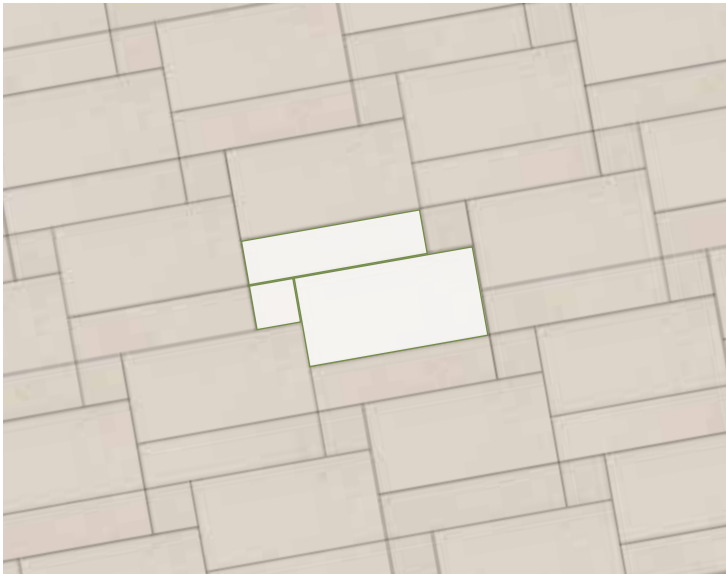
Module percentage

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



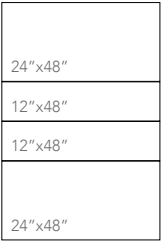
\* Modular products with 6 mm joint (approx 1/4").

M.P.D. BIG FOURTEEN\*



Module percentage

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



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



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

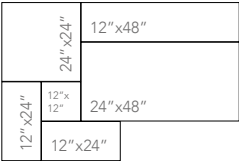


M.P.D. BIG FIFTEEN\*



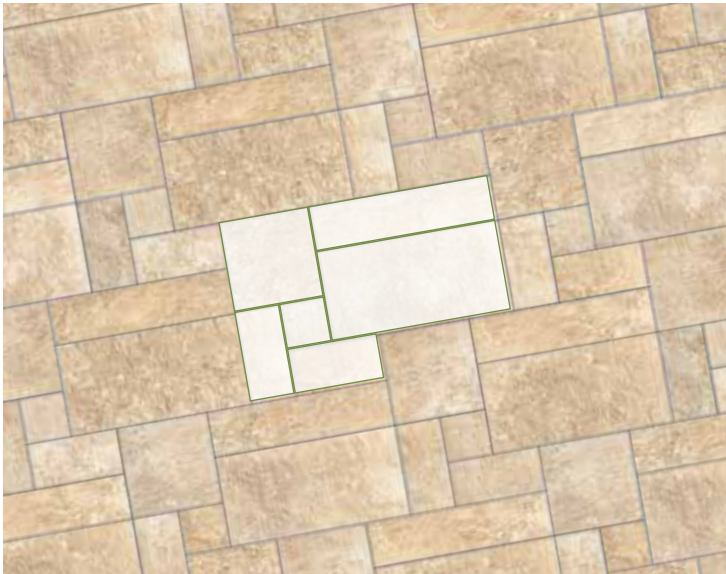
Module percentage

24"x48" = 38%  
12"x48" = 19%  
24"x24" = 19%  
12"x24" = 19%  
12"x12" = 5%



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



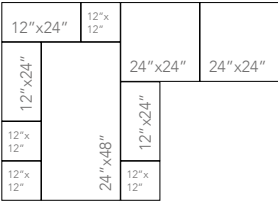
\* Modular products with 6 mm joint (approx 1/4").

M.P.D. BIG SIXTEEN\*



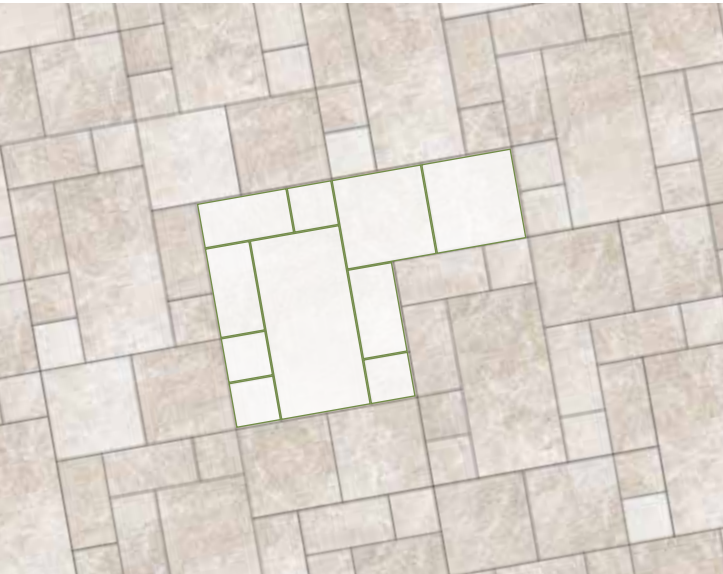
Module percentage

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



Available colors

- Bluestone Blue Select
- Bluestone Full color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey



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



M.P.D. BIG SEVENTEEN\*



Module percentage

24"x48" = 33,5%  
12"x48" = 33,5%  
24"x24" = 17%  
12"x24" = 8%  
12"x12" = 8%

12"x48"	12"x12"	12"x12"
24"x48"	12"x24"	
12"x48"	24"x24"	

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



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

M.P.D. BIG EIGHTEEN\*



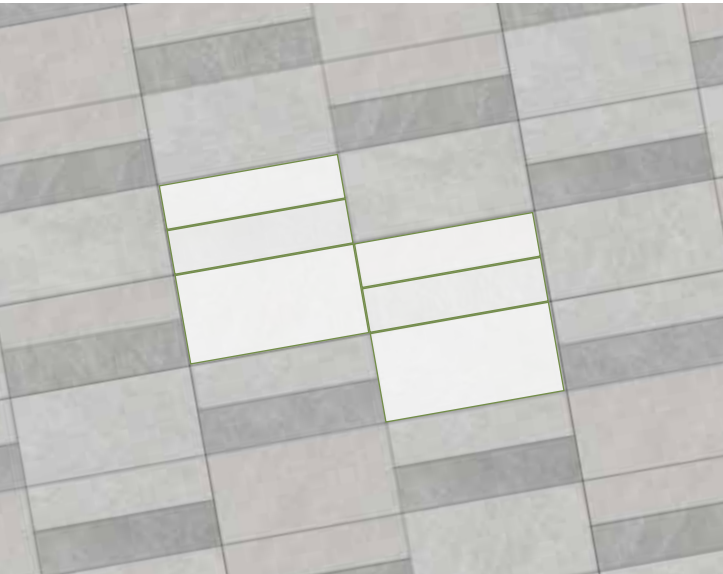
Module percentage

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

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

Available colors

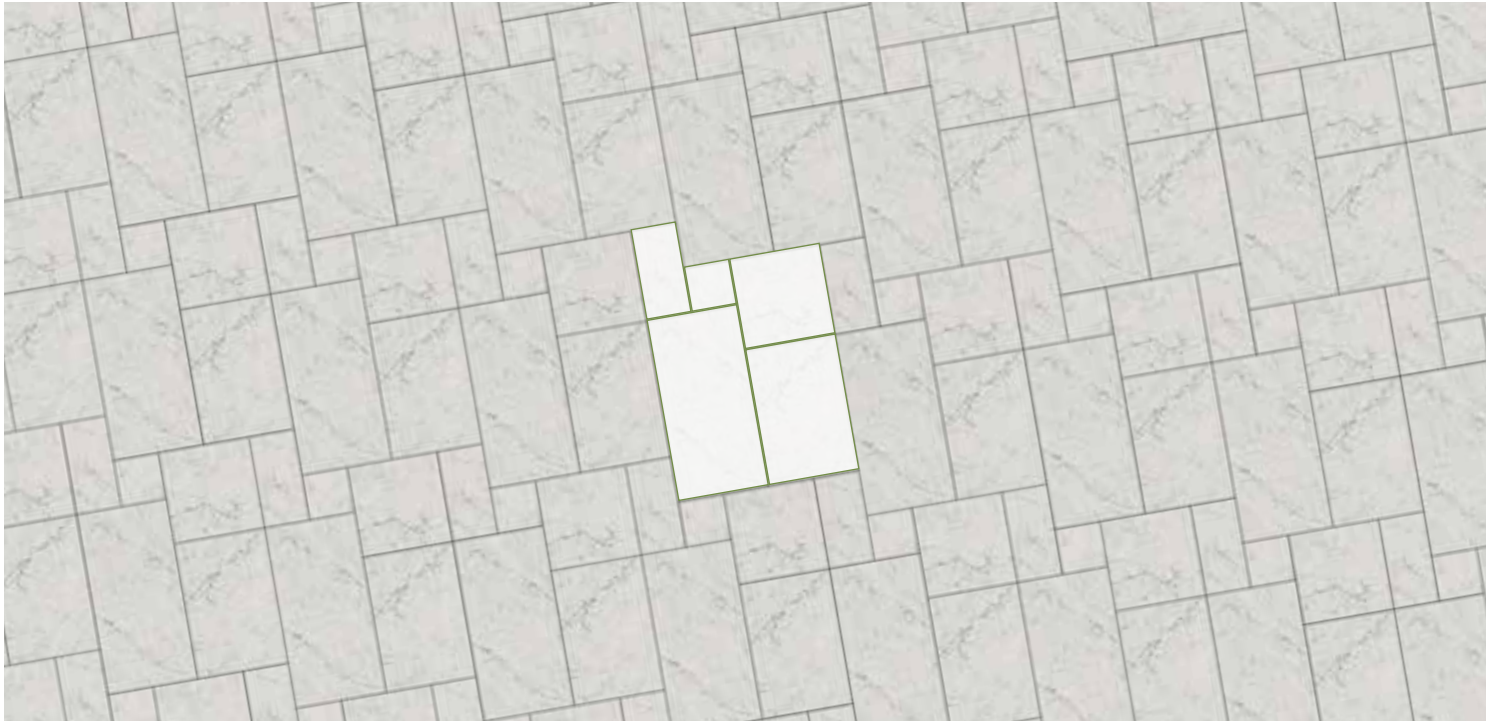
- Bluestone Blue Select
- Bluestone Full color
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey



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

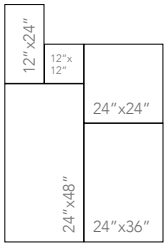


M.P.D. BIG NINETEEN\*



Module percentage

24"x48" = 38%  
24"x24" = 19%  
12"x12" = 5%  
24"x36" + 12"x24" (MIX) = 38% \*\*

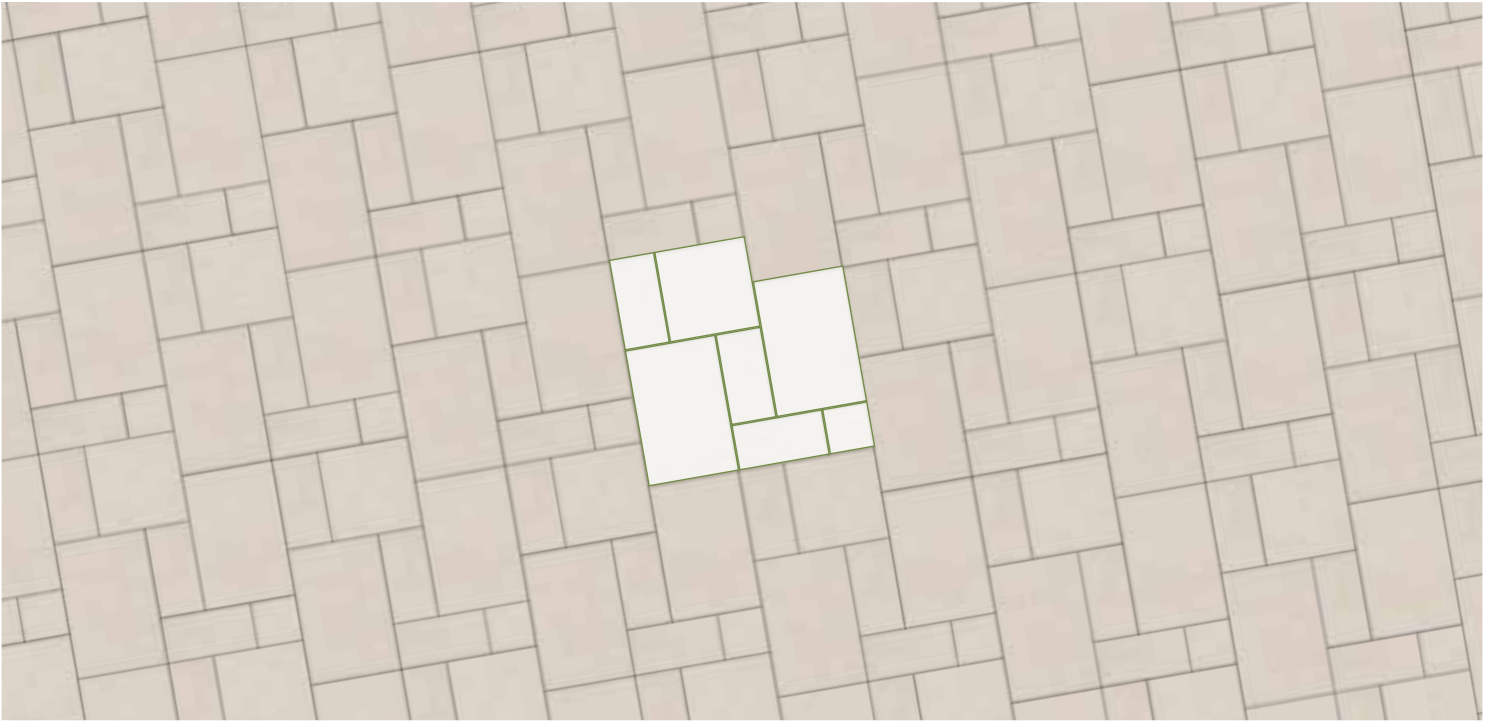


Available colors

- Bluestone Blue Select
- Bluestone Full color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey

\* 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.

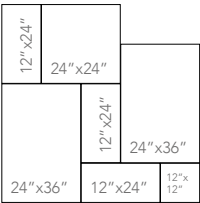
M.P.D. BIG TWENTY\*



Module percentage

**% HP1**  
24"x24" = 18%  
12"x12" = 4%  
24"x36" + 12"x24" (MIX) = 78% \*\*

**% HP2**  
24"x36" = 52%  
24"x24" = 18%  
12"x24" = 26%  
12"x12" = 4%



Available colors HP1      Available colors HP2

- Bluestone Blue Select
  - Bluestone Full color
  - Flagstone Pink-Tan
  - Travertine Cross Cut White
  - Travertine Cross Cut Cream
  - Travertine Cross Cut Silver
  - Limestone
  - Michelangelo Extra White
  - Arctic White
  - African Beige
  - Star Grey
- 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.



**20mm THICKNESS**  
**PORCELAIN PAVERS**

# MULTI PATTERN DESIGN SMALL

## 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

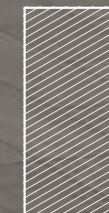
Brick World Soho Black - 3"x12"  
Frontier20 Travertine Cross Cut Silver - 24"x48"

### INDOOR FLOOR DESIGN

Spirit Old Maple - 8"x40"



24"x24"



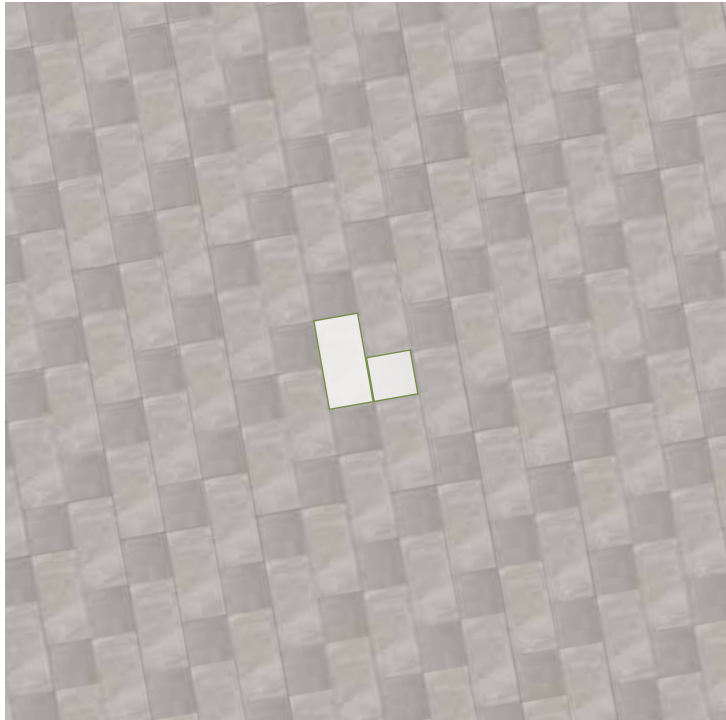
12"x24"



12"x12"



M.P.D. SMALL ONE\*



Module percentage

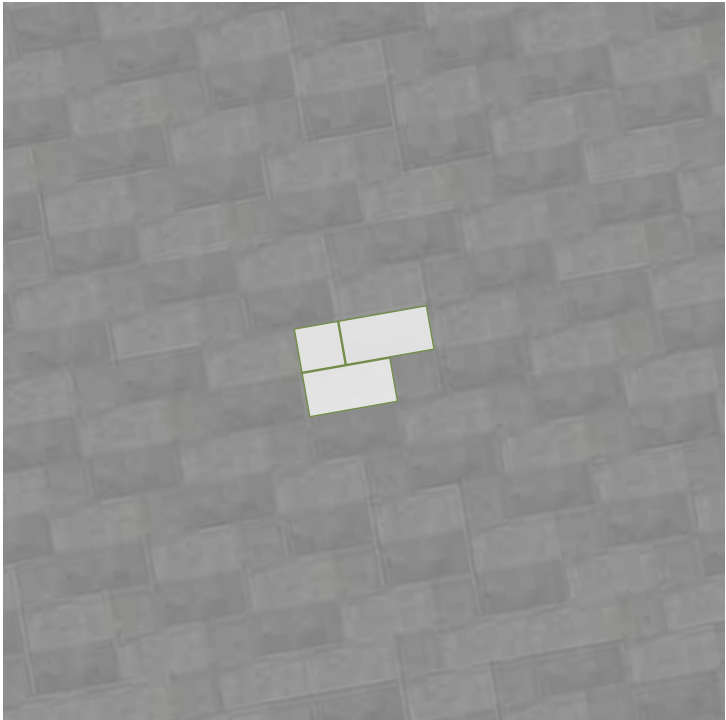
12"x24" = 67%  
12"x12" = 33%



Available colors

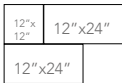
- Bluestone Blue Select
- Bluestone Full color
- Thermal Bluestone Blue Select
- Thermal Bluestone Full Color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey

M.P.D. SMALL TWO\*



Module percentage

12"x24" = 80%  
12"x12" = 20%



Available colors

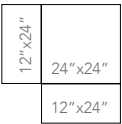
- Bluestone Blue Select
- Bluestone Full color
- Thermal Bluestone Blue Select
- Thermal Bluestone Full Color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey

M.P.D. SMALL THREE\*



Module percentage

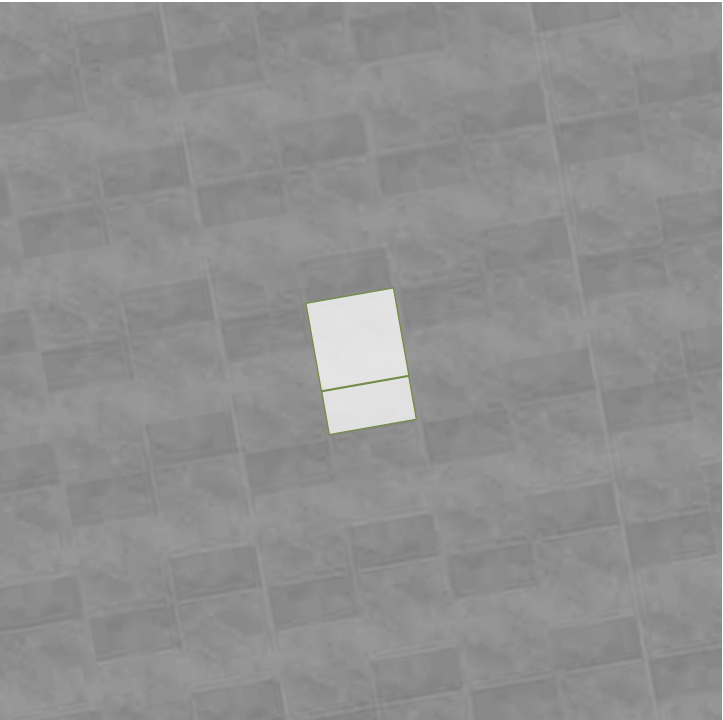
24"x24" = 50%  
12"x24" = 50%



Available colors

- Bluestone Blue Select
- Bluestone Full color
- Thermal Bluestone Blue Select
- Thermal Bluestone Full Color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey
- Vintage Slab
- Barge Gold
- Silver Quartz

M.P.D. SMALL FOUR\*



Module percentage

24"x24" = 67%  
12"x24" = 33%



Available colors

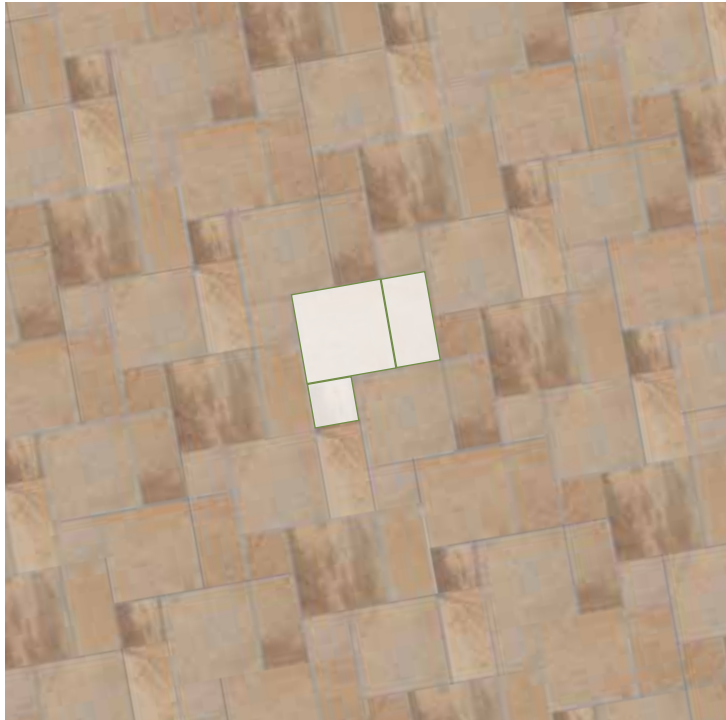
- Bluestone Blue Select
- Bluestone Full color
- Thermal Bluestone Blue Select
- Thermal Bluestone Full Color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey
- Vintage Slab
- Barge Gold
- Silver Quartz

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

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

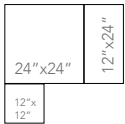


M.P.D. SMALL FIVE\*



Module percentage

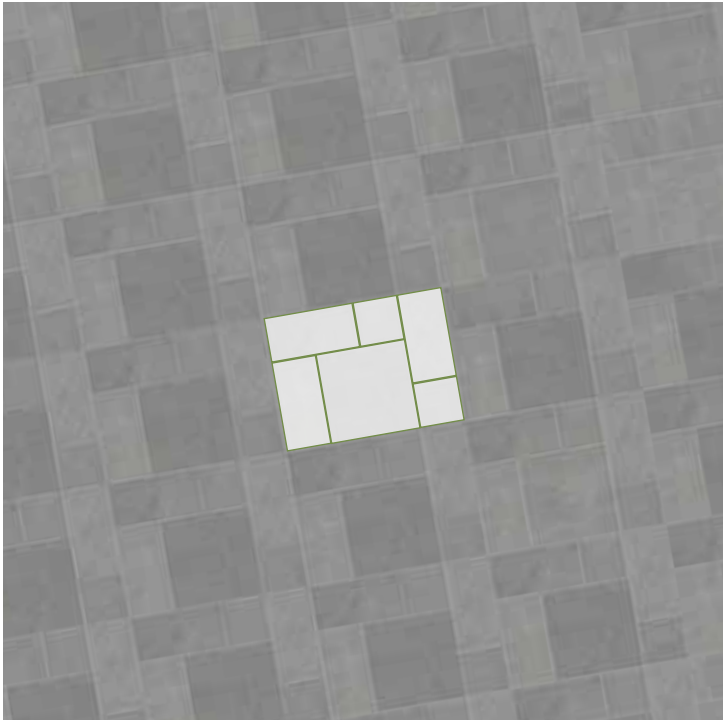
24"x24" = 57%  
12"x24" = 29%  
12"x12" = 14%



Available colors

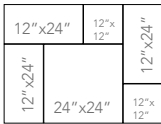
- Bluestone Blue Select
- Bluestone Full color
- Thermal Bluestone Blue Select
- Thermal Bluestone Full Color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey

M.P.D. SMALL SIX\*



Module percentage

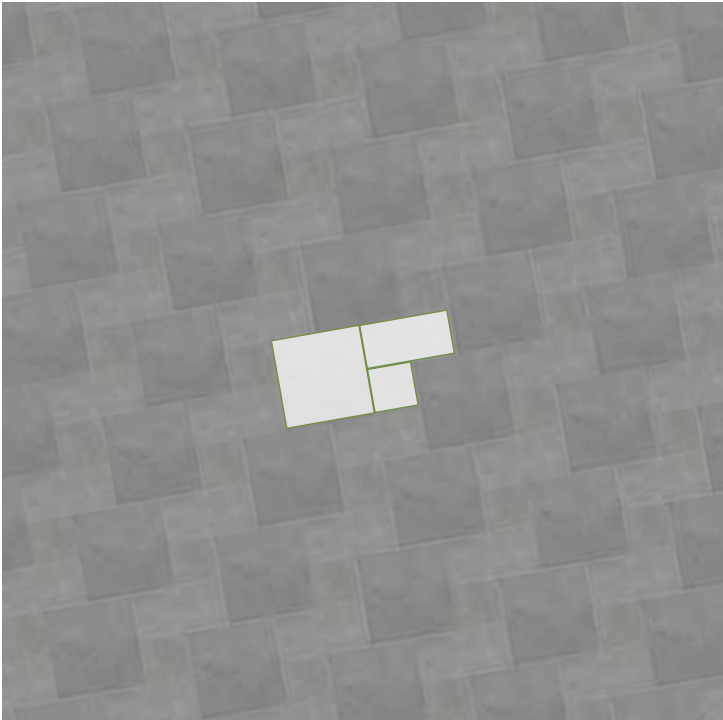
24"x24" = 33%  
12"x24" = 50%  
12"x12" = 17%



Available colors

- Bluestone Blue Select
- Bluestone Full color
- Thermal Bluestone Blue Select
- Thermal Bluestone Full Color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey

M.P.D. SMALL SEVEN\*



Module percentage

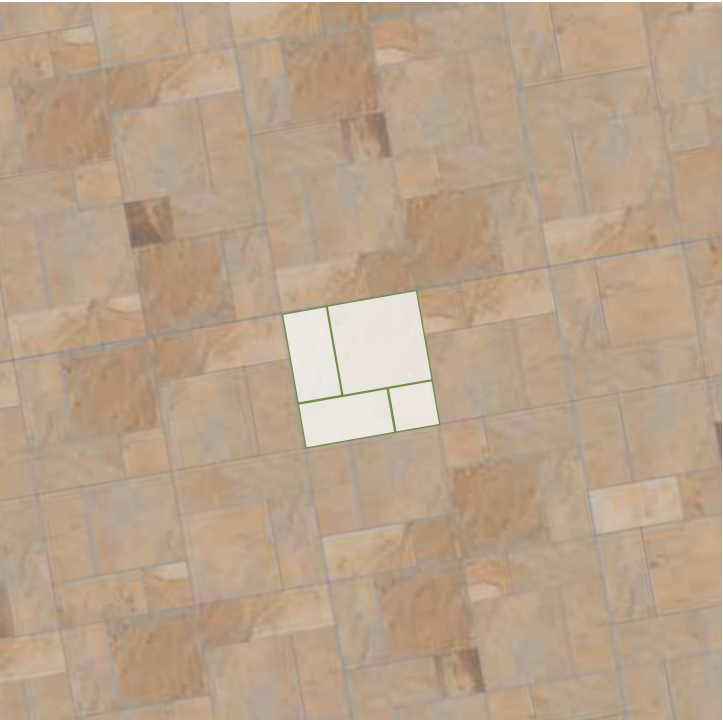
24"x24" = 57%  
12"x24" = 29%  
12"x12" = 14%



Available colors

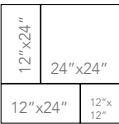
- Bluestone Blue Select
- Bluestone Full color
- Thermal Bluestone Blue Select
- Thermal Bluestone Full Color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey

M.P.D. SMALL EIGHT\*



Module percentage

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



Available colors

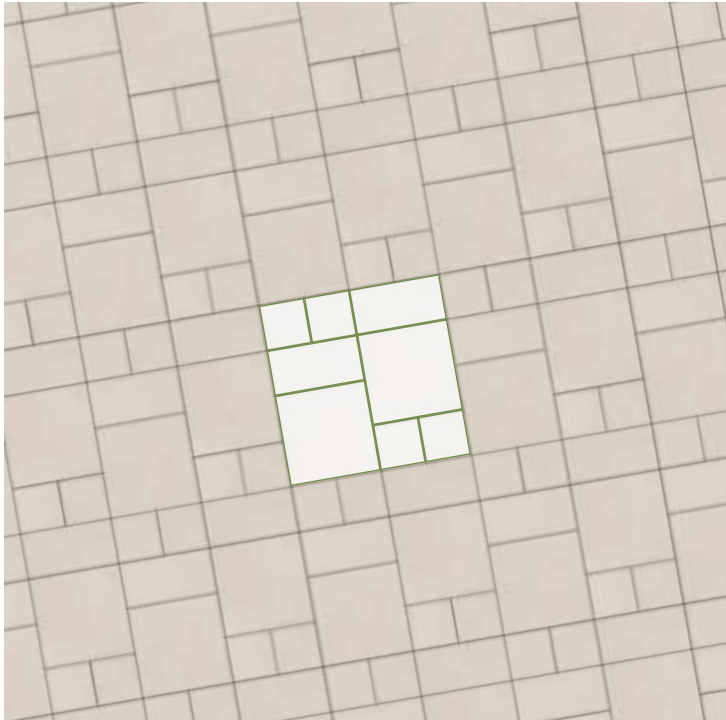
- Bluestone Blue Select
- Bluestone Full color
- Thermal Bluestone Blue Select
- Thermal Bluestone Full Color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey

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

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



M.P.D. SMALL NINE\*



Module percentage

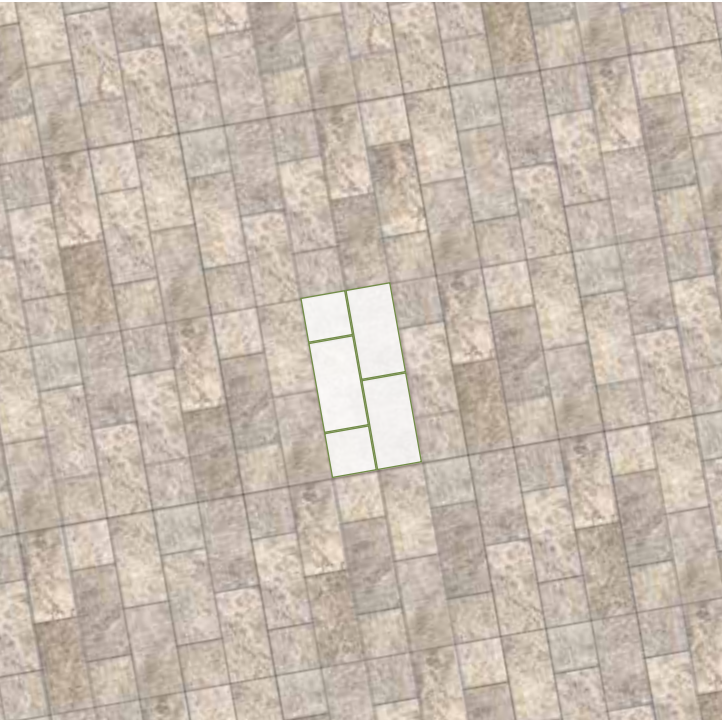
24"x24" = 50%  
12"x24" = 25%  
12"x12" = 25%

12"x 12"	12"x 12"	12"x24"
12"x24"		
24"x24"		12"x 12"

Available colors

- Bluestone Blue Select
- Bluestone Full color
- Thermal Bluestone Blue Select
- Thermal Bluestone Full Color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey

M.P.D. SMALL TEN\*



Module percentage

12"x24" = 75%  
12"x12" = 25%

12"x 12"	12"x24"
12"x24"	12"x 12"

Available colors

- Bluestone Blue Select
- Bluestone Full color
- Thermal Bluestone Blue Select
- Thermal Bluestone Full Color
- Flagstone Pink-Tan
- Travertine Cross Cut White
- Travertine Cross Cut Cream
- Travertine Cross Cut Silver
- Limestone
- Michelangelo Extra White
- Arctic White
- African Beige
- Star Grey



PROJECT

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").



**±20** **THICKNESS**  
**PORCELAIN PAVERS**

**MULTI PATTERN  
DESIGN**

**MINI**

**PROJECT**

OUTDOOR FLOOR DESIGN

Frontier20 Tumbled Bluestone - 9"x9"

Frontier20 Tumbled Bluestone - 9"x18"

Frontier20 Tumbled Bluestone Cobblestone Multisize - 24"x24"

WALL DESIGN

Vision Concrete - 24"x48"



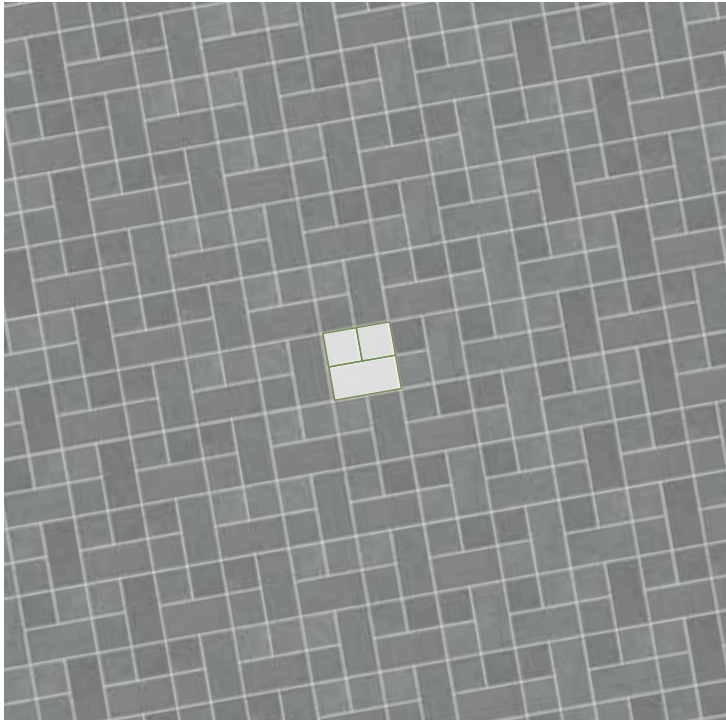
**9"x18"**



**9"x9"**



M.P.D. MINI ONE\*



Module percentage

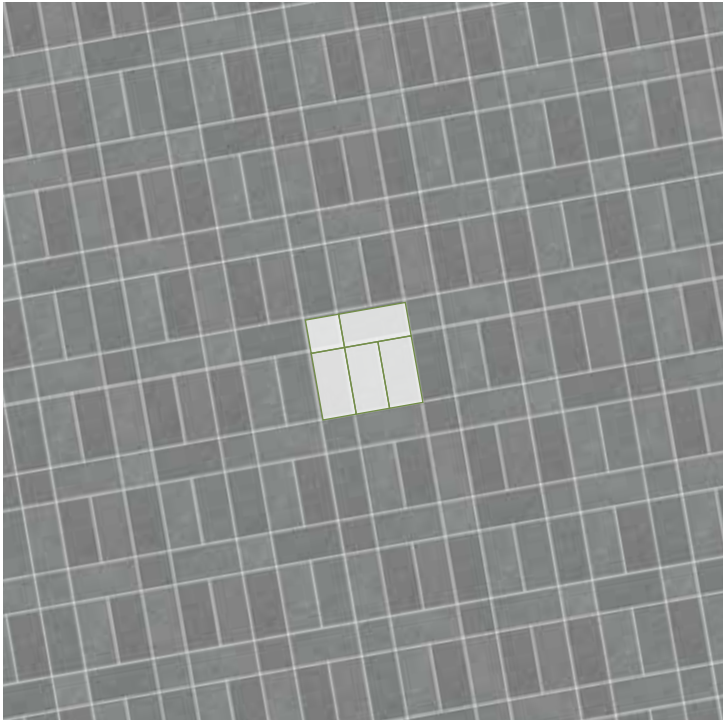
9"x18" = 50%  
9"x9" = 50%



Available color

Tumbled Bluestone

M.P.D. MINI TWO\*



Module percentage

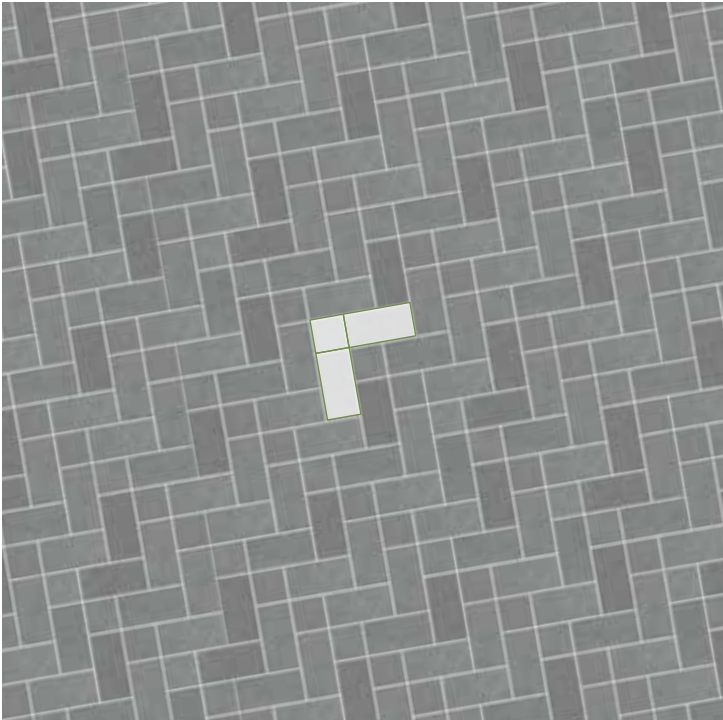
9"x18" = 89%  
9"x9" = 11%



Available color

Tumbled Bluestone

M.P.D. MINI THREE\*



Module percentage

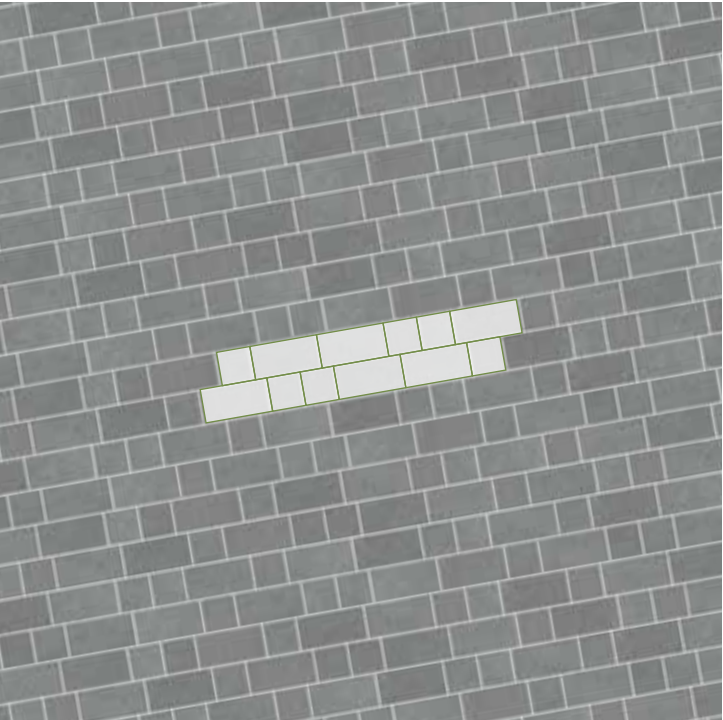
9"x18" = 80%  
9"x9" = 20%



Available color

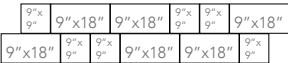
Tumbled Bluestone

M.P.D. MINI FOUR\*



Module percentage

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



Available color

Tumbled Bluestone

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

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



# PRODUCT RANGE.

## 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"



BLUESTONE DESIGN PROJECT

THERMAL BLUESTONE  
BLUE SELECT

AMERICANSTONE ★



Available sizes



Color shading



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.

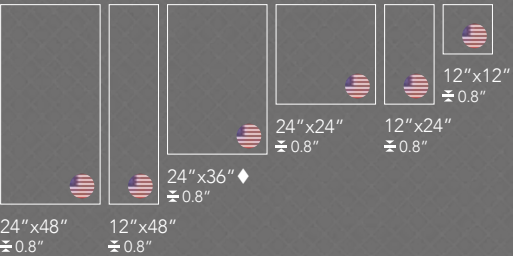
This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible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

BLUESTONE BLUE SELECT

AMERICANSTONE ★



Available sizes



Color shading



BLUESTONE DESIGN PROJECT

THERMAL BLUESTONE  
FULL COLOR

AMERICANSTONE ★



Available sizes



Color shading

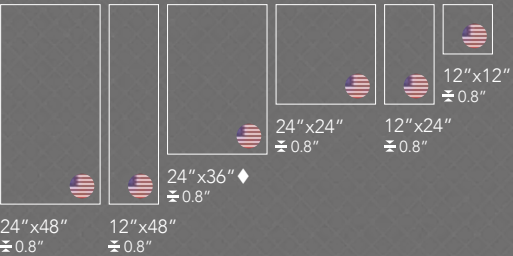


BLUESTONE FULL COLOR

AMERICANSTONE ★



Available sizes



Color shading



◆ 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.



COLORED BODY PORCELAIN PAVERS - Rectified Monocaliber

BLUESTONE DESIGN PROJECT

TUMBLLED BLUESTONE

AMERICANSTONE★



Available sizes



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.



PROJECT

OUTDOOR FLOOR DESIGN

- Frontier20 Tumbled Bluestone - 9"x9"
- Frontier20 Tumbled Bluestone - 9"x18"
- Frontier20 Tumbled Bluestone Cobblestone Multisize - 24"x24"

WALL DESIGN

- Vision Concrete - 24"x48"



COLORED BODY PORCELAIN PAVERS - Rectified Monocaliber

TRAVERTINE CROSS CUT DESIGN PROJECT

TRAVERTINE CROSS CUT WHITE AMERICANSTONE★



Available sizes

Color shading

24"x48"  
±0.8"

12"x48"  
±0.8"

24"x36" ♦  
±0.8"

24"x24"  
±0.8"

12"x24"  
±0.8"

12"x12"  
±0.8"

V2

TRAVERTINE CROSS CUT SILVER AMERICANSTONE★



Available sizes

Color shading

24"x48"  
±0.8"

12"x48"  
±0.8"

24"x36" ♦  
±0.8"

24"x24"  
±0.8"

12"x24"  
±0.8"

12"x12"  
±0.8"

V2

TRAVERTINE CROSS CUT DESIGN PROJECT

TRAVERTINE CROSS CUT CREAM AMERICANSTONE★



Available sizes

Color shading

24"x48"  
±0.8"

12"x48"  
±0.8"

24"x36" ♦  
±0.8"

24"x24"  
±0.8"

12"x24"  
±0.8"

12"x12"  
±0.8"

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.

Color Shading

V1  
UNIFORM APPEARANCE

V2  
SLIGHT VARIATION

V3  
MODERATE VARIATION

V4  
SUBSTANTIAL VARIATION

♦ 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.



FLAGSTONE LOOK

FLAGSTONE PINK-TAN

AMERICANSTONE ★



Available sizes



Color shading



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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.

SLATE LOOK

VINTAGE SLAB

AMERICANSTONE ★



Available sizes



Color shading



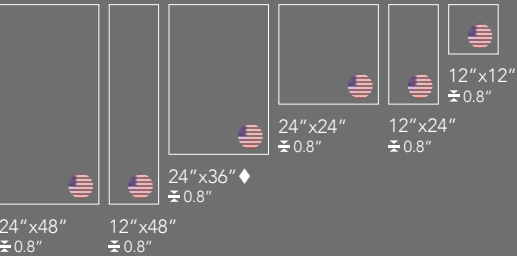
LIMESTONE LOOK

LIMESTONE

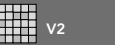
AMERICANSTONE ★



Available sizes



Color shading



Color Shading



◆ 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.



QUARTZITE DESIGN PROJECT

ARCTIC WHITE



Available sizes

24"x48"

±0.8"

12"x48"

±0.8"

24"x36"

±0.8"

24"x24"

±0.8"

12"x24"

±0.8"

12"x12"

±0.8"

Color shading

V2

AFRICAN BEIGE



Available sizes

24"x48"

±0.8"

12"x48"

±0.8"

24"x36"

±0.8"

24"x24"

±0.8"

12"x24"

±0.8"

12"x12"

±0.8"

Color shading

V2

STAR GREY



Available sizes

24"x48"

±0.8"

12"x48"

±0.8"

24"x36"

±0.8"

24"x24"

±0.8"

12"x24"

±0.8"

12"x12"

±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.

Color Shading

V1

UNIFORM APPEARANCE

V2

SLIGHT VARIATION

V3

MODERATE VARIATION

V4

SUBSTANTIAL VARIATION

◆ 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.

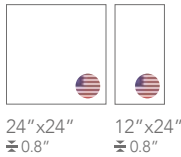


QUARTZ LOOK

BARGE GOLD



Available sizes



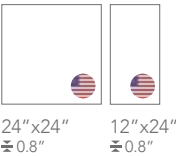
Color shading



SILVER QUARTZ



Available sizes



Color shading



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.

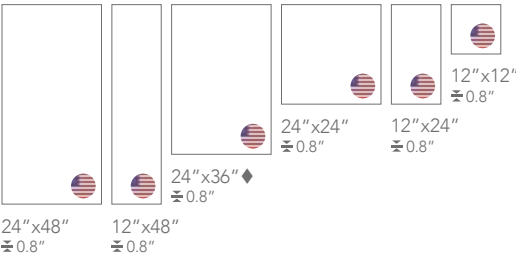
This porcelain paver product is manufactured with a V2 shade variation. Remember that the amount of color as well as the texture of each piece may vary from paver to paver. Inspect the product immediately upon delivery and select pavers from many boxes during installation to minimize and blend any possible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

MARBLE LOOK

MICHELANGELO EXTRA WHITE



Available sizes



Color shading



Color Shading



◆ 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.



# TRIM TILES TO LANDSCAPE THE OUTDOORS.

## PROJECT

### OUTDOOR FLOOR DESIGN

Frontier20 Arctic White - 24"x48"

Frontier20 Arctic White - 12"x48"

Frontier20 Arctic White - 24"x24"

Frontier20 Arctic White - 12"x24"

Frontier20 Arctic White - 12"x12"

Frontier20 Arctic White Grip Stair Tread Rectified - 12"x24"

Frontier20 Arctic White Riser Rectified - 8"x24"

### OUTDOOR POOL DESIGN

Frontier20 Arctic White Linear Cover Drain Set - 24"x11.63"

Frontier20 Arctic White Coping Rectified - 12"x24"

### WALL DESIGN

Veneer World Pro LedgeStone Ridge Black - 6"x24"

Veneer World Pro LedgeStone Bluestone Tumbled - 6"x24"

Vision Concrete - 24"x48"

Vision Concrete - 12"x24"

Vision Concrete - 24"x24"

### FLOWER BED WALL DESIGN

Veneer World Pro LedgeStone Tumbled - 6"x24"

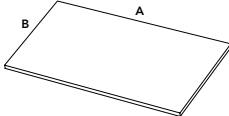


TRIM TILES RANGE 24"x24"


STAIRS

STAIR TREAD\*


TRIM DIMENSIONS



A: 24"  
B: 12"



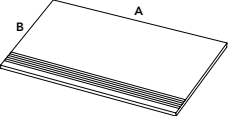
Rectified




Bullnose

GRIP STAIR TREAD\*


TRIM DIMENSIONS



A: 24"  
B: 12"



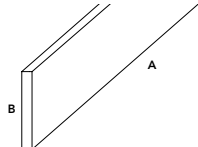
Rectified




Bullnose

RISER\*


TRIM DIMENSIONS



A: 24"  
B: 8"



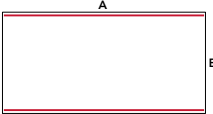
Rectified




WALL COVERS

COVER\*

TRIM DIMENSIONS

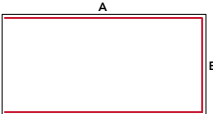



A: 24"  
B: 12"



Undecorated border and dripstone

END COVER\*





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

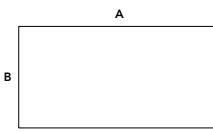
20mm THICKNESS PORCELAIN PAVERS

TRIM TILES RANGE 24"x24"


POOLS

COPING\*


TRIM DIMENSIONS



A: 24"  
B: 12"



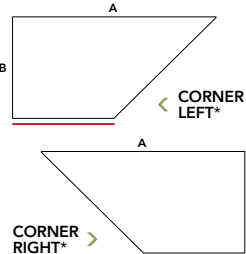
Rectified




Bullnose

COPING CORNER\*


TRIM DIMENSIONS



A: 24"  
B: 12"



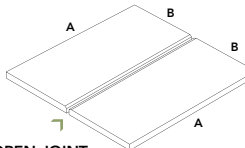
Rectified




Bullnose

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).

62

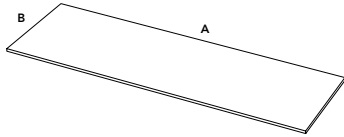
63



TRIM TILES RANGE 12"x48"


STAIRS

STAIR TREAD\*




A: 48"

B: 12"

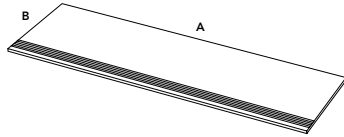


Rectified




Bullnose

GRIP STAIR TREAD\*




A: 48"

B: 12"



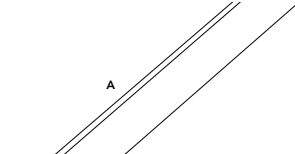
Rectified



Bullnose




RISER\*



A: 48"

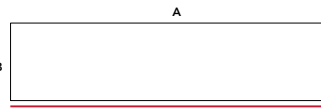
B: 6"



Rectified


POOLS

COPING\*




A: 48"

B: 12"

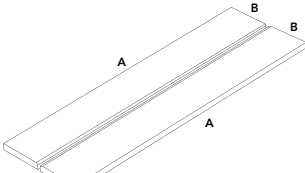


Rectified




Bullnose

LINEAR COVER DRAIN SET\*



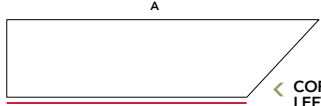
A: 48"

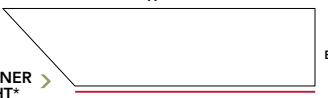
B: 5.76"



Open joint width 0.28" (9/32")


COPING CORNER\*






A: 48"

B: 12"



Rectified



Bullnose

OPEN JOINT WIDTH 0.28" (9/32")

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



PROJECT

- OUTDOOR FLOOR DESIGN
- Frontier20 Arctic White - 24"x48"
- Frontier20 Arctic White - 12"x48"
- Frontier20 Arctic White - 24"x24"
- Frontier20 Arctic White - 12"x24"
- Frontier20 Arctic White - 12"x12"
- OUTDOOR POOL DESIGN
- Frontier20 Arctic White Linear Cover Drain Set - 24"x11.63"
- Frontier20 Arctic White Coping Rectified - 12"x24"



# TECHNICAL INFORMATION.

## PROJECT

OUTDOOR FLOOR DESIGN

Frontier20 Thermal Bluestone Full Color - 12"x24"

Frontier20 Thermal Bluestone Full Color - 24"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

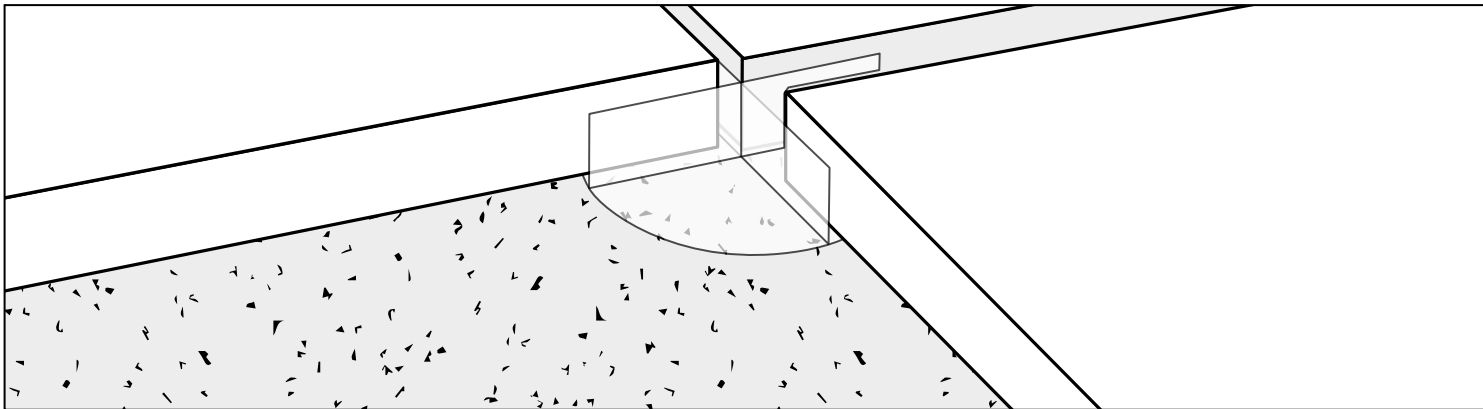
When installing porcelain paver on sand set base, fill the paver joints with these options:

### 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

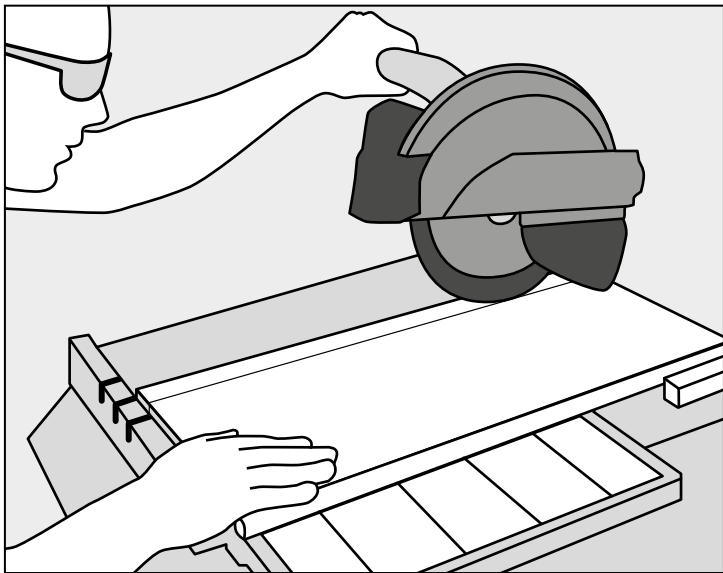
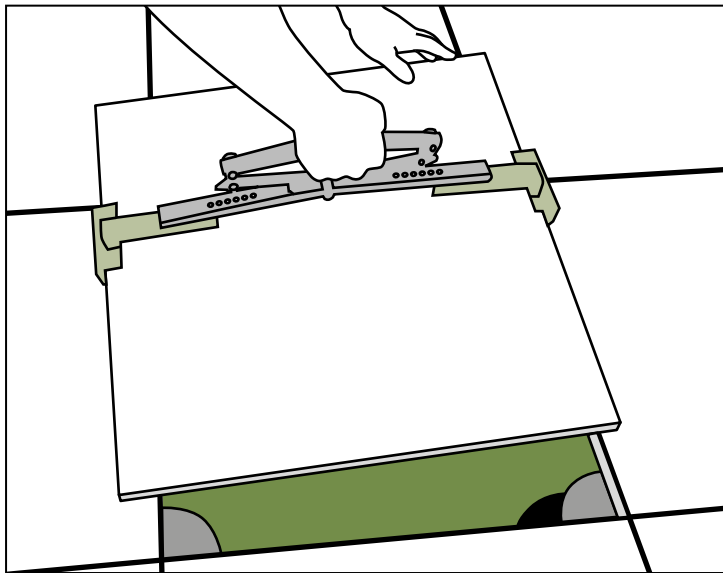
Polymeric sand is a blend of polymers which harden when subjected to moisture. Sweep the sand into the open joints until completely filled. All excess sand and dust must be swept from the surface. Use a blower for the final dust removal to make certain all excess sand is removed. Any residual sand or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



# 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 it is 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.**

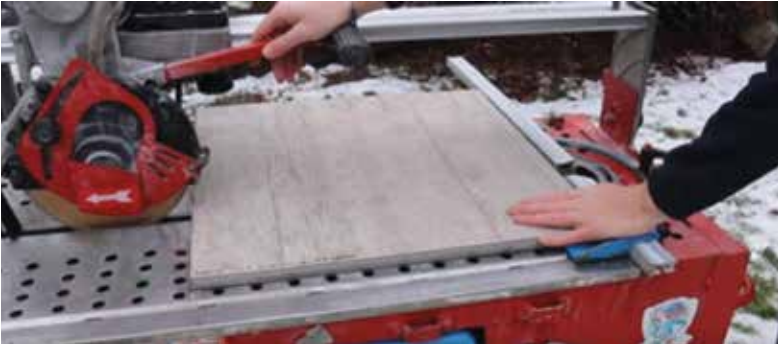


FIGURE 1



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=2&v=rCK48yu8qV4)  
[https://www.youtube.com/watch?time\\_continue=3&v=A231KShJnww](https://www.youtube.com/watch?time_continue=3&v=A231KShJnww)  
<https://www.youtube.com/watch?v=G6FVJz08ajA>  
<https://www.youtube.com/watch?v=FSMNtwxiLRI>



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 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.

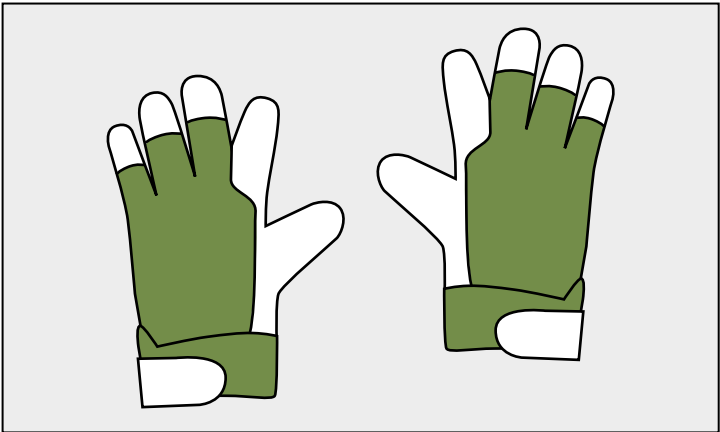
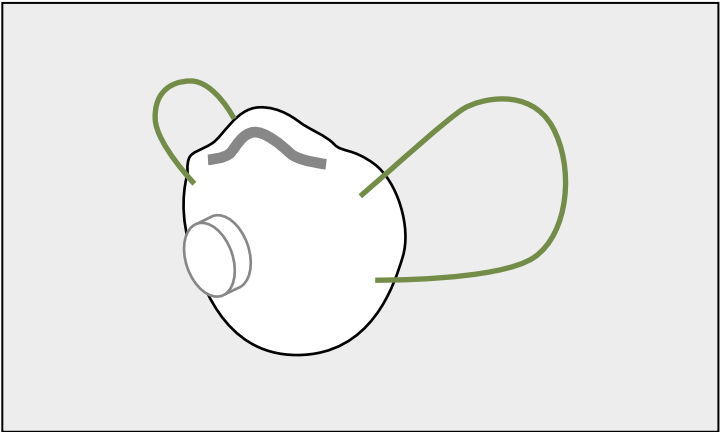
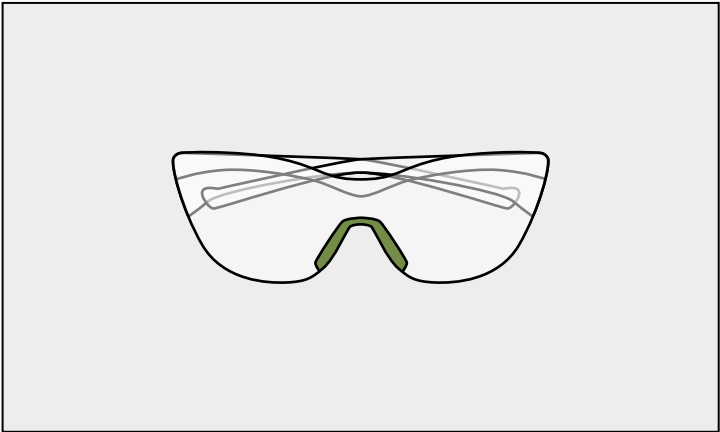
Once the core bit is in place and already moving, gently (and without pushing too much) make a continual and constant oscillatory movement until the hole from top to bottom thorough the paver is complete (figure 5). Landmark Ceramics recommendation is to use a high quality core bit specific for porcelain.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

### FIRST FLOOR DEEP CLEANING AFTER INSTALLATION OVER CONCRETE

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 floor-washing 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.

### ORDINARY CLEANING

Ordinary maintenance must be carried out using specialized detergents to remove stains but these detergents must not leave a wax, film or membrane residue. Rinsing well with plenty of clean water is a fundamental part of the cleaning procedure, therefore we advise against the use of products which state that they “do not need rinsing”.

### OTHER RECOMMENDATIONS

Bright colored products, in pArcticular 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 pArcticular products require careful regular maintenance. Sealers are unnecessary, especially in the case of our **Frontier20** Product line. Sealing will change the D.C.O.F. (Dynamic Co-efficient of Friction) resulting in a surface that will become more slippery. Also because Porcelain has such a low absorption the sealer will unlikely stick and most likely the sealer will flake off over time.



PIC 1. Fill joint with grout.



PIC 2. Remove excess grout with clean water.



PIC 3. Add specific acid cleaning agent for porcelain tile to clean water.



PIC 4. First floor deep cleaning after 12/48 h from installation.



PIC 5. Removal of excess grout residues with hard brush.

# CLEANING AGENTS



TYPE OF STAIN	SOLUTION	DETERGENTS	MANUFACTURER
INORGANIC STAINS			
Cement Carbon Calcium Efflorescence Chalk Metallic residues Rust Cement-based grout Colored grout Wall paint	Acid	DETERGENT WITH AN ACID BASIS *	
		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
		KERANET (liquid) or similar	MAPEI Americas Headquarters 1144 E. Newport Center Drive Deerfield Beach, Florida 33442
ORGANIC STAINS			
Coca Cola Ice Cream Coffee Wine Beer Animal fats Vegetable fats Mustard Mayonnaise Ketchup Jam Linseed oil Lipstick Wax	Alkaline and neutral	LIMITED FOAM TYPE PRODUCT **	
		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
		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 Coal and natural rubber Encres et feutres		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
		Aceton	Universal
		NITRO - THINNER	Universal
		TURPENTINE	Universal
		TRICHLORETHYLENE	Universal
		CIF AMMONIACAL	Universal
Tire	HAND CLEANSER	Universal	
Silicone and chewin-gum	Ice+scraper		

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













\* **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.

\*\* **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.



PERFORMANCE COMPARISON PORCELAIN PAVERS VS. COMPETITOR OUTDOOR PAVING MATERIALS

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

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.







**Landmark Ceramics - UST, Inc.**

1427 N. Main Street  
Mount Pleasant, TN 38474

Tel. 931.325.5700

[outdoor.landmarkceramics.com](https://outdoor.landmarkceramics.com)

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