

PEN  
NSY  
LVAN  
IA

 3/4" THICKNESS

---

**PENNSYLVANIA**

---

*the new bluestone*

---

**POPA 2.0**

AN ITALIAN PORCELAIN PAVER MADE IN USA



 3/4" THICKNESS

---

## PENNSYLVANIA

---

*the new bluestone*

---

### POPA 2.0

AN ITALIAN PORCELAIN PAVER MADE IN USA

25 YEARS AGO KRONOS ESTABLISHED AN  
AESTHETIC AND BUSINESS MODEL THAT  
HAS BROUGHT MORE THAN TWO DECADES  
OF SUCCESS, CONTINUING TO OFFER TO  
THE CUSTOMERS SOMETHING UNIQUE:  
A COMPASS TO GUIDE IN THE SEARCH FOR  
AUTHENTICITY, ELEGANCE AND QUALITY.





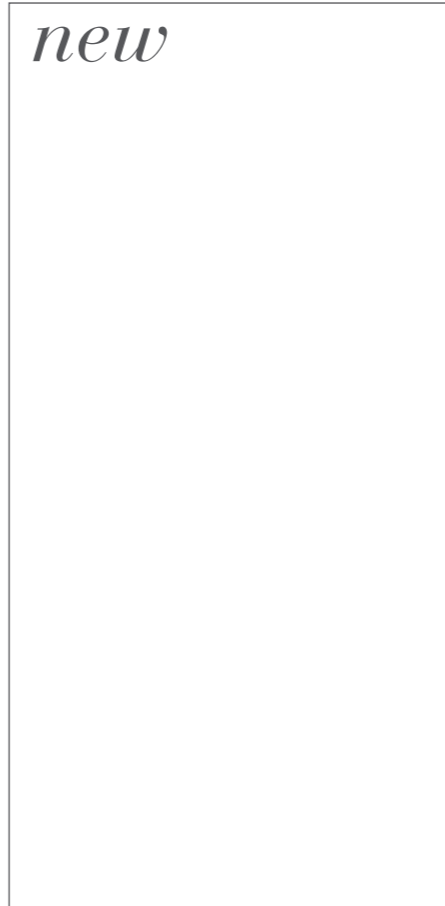
KRONOS USA SEARCHES  
THE PAST AND CONSISTENT  
WITH TRADITION REVISITS  
PENNSYLVANIA BLUESTONE:  
EXTREMELY RESISTANT  
WITH A HIGH AESTHETIC  
COMPONENT.  
BLUESTONE WAS CHOSEN  
BECAUSE IT IS THE TYPICAL  
AMERICAN STONE FOR  
OUTDOOR AND LANDSCAPING  
INSTALLATION.



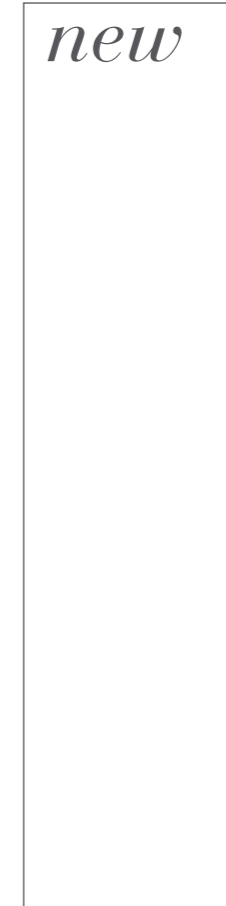




PENNSYLVANIA BLUESTONE  
PORCELAIN PAVERS BY  
KRONOS, WITH 3/4" THICKNESS  
HAS BEEN SELECTED  
BASED ON ITS LOW WATER  
ABSORPTION AND STAIN  
RESISTANCE. IT IS EXTREMELY  
EASY TO CLEAN, INCREDIBLE  
FREEZE-THAW DURABILITY  
AND STRENGTH, ESPECIALLY  
SIGNIFICANT IN THE COLDER  
REGIONS OF THE UNITED  
STATES AND CANADA.



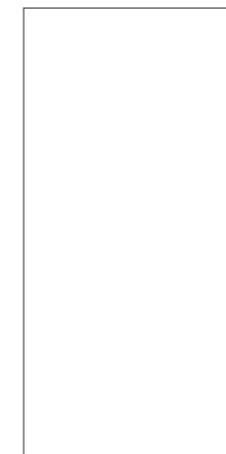
**23 1/2" x 47 1/8" rectified**  
60x120 cm



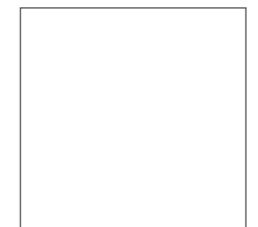
**11 3/4" x 47 1/8" rectified**  
30x120 cm



**23 1/2" x 23 1/2" rectified**  
60x60 cm



**11 3/4" x 23 1/2" rectified**  
30x60 cm



**11 3/4" x 11 3/4" rectified**  
30x30 cm



THE LONG-TERM  
PERFORMANCE AND  
SLIP-RESISTANCE OF  
PENNSYLVANIA BLUESTONE  
BY KRONOS MAKE IT AN  
EXCELLENT CHOICE FOR MANY  
APPLICATIONS:



PATIOS



POOL DECKS



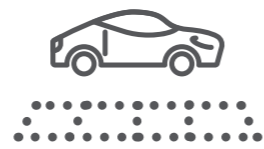
TERRACES



WALKWAYS



STAIRS AND STEPS

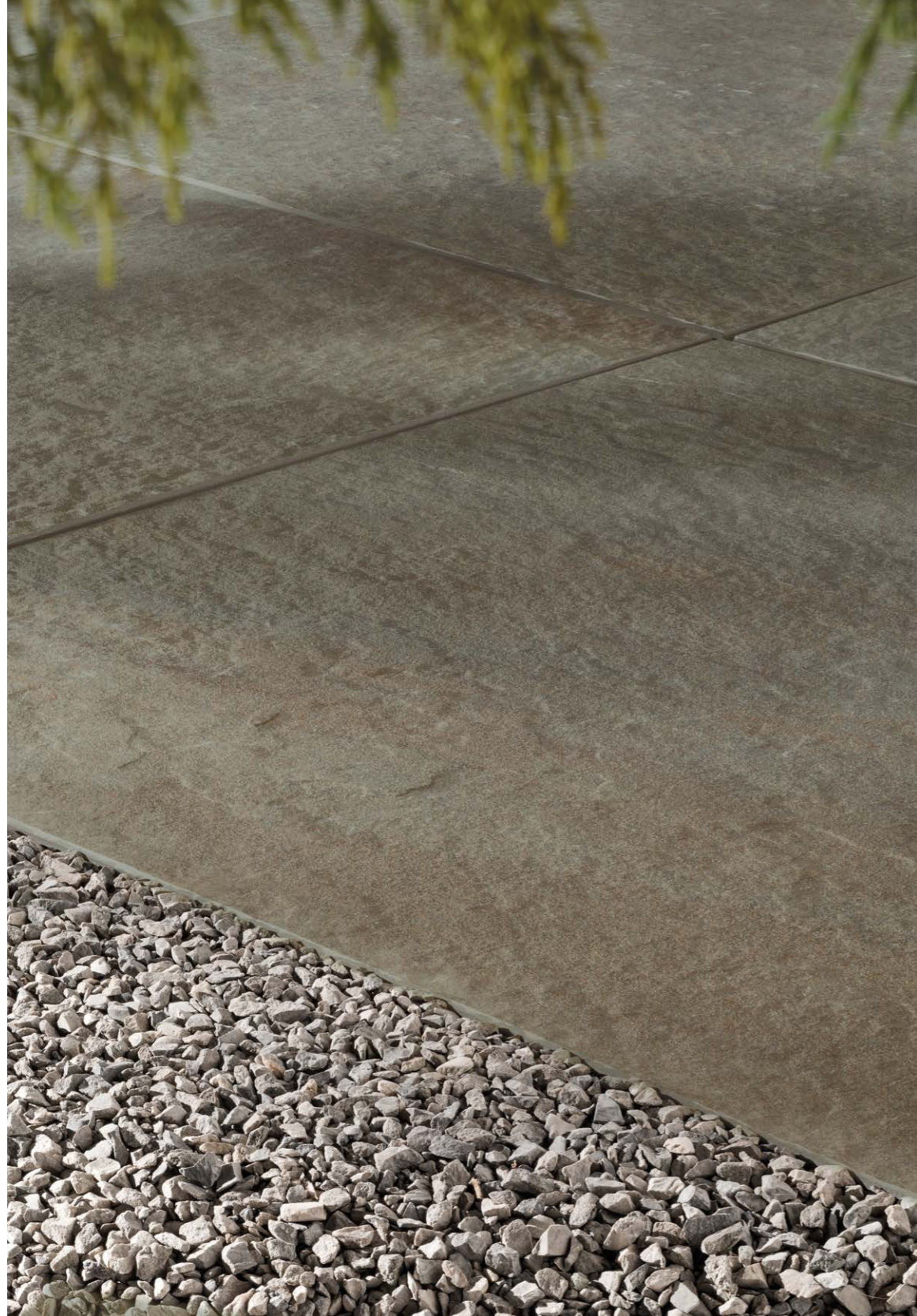
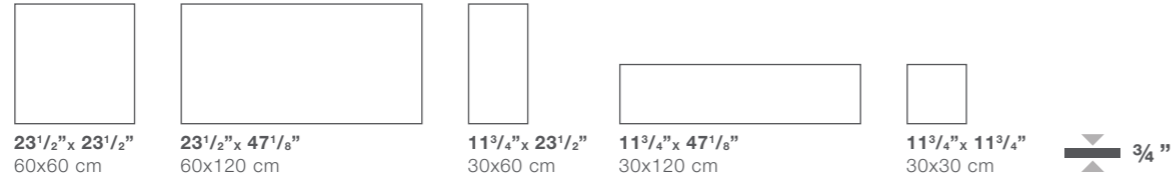


DRIVEWAYS

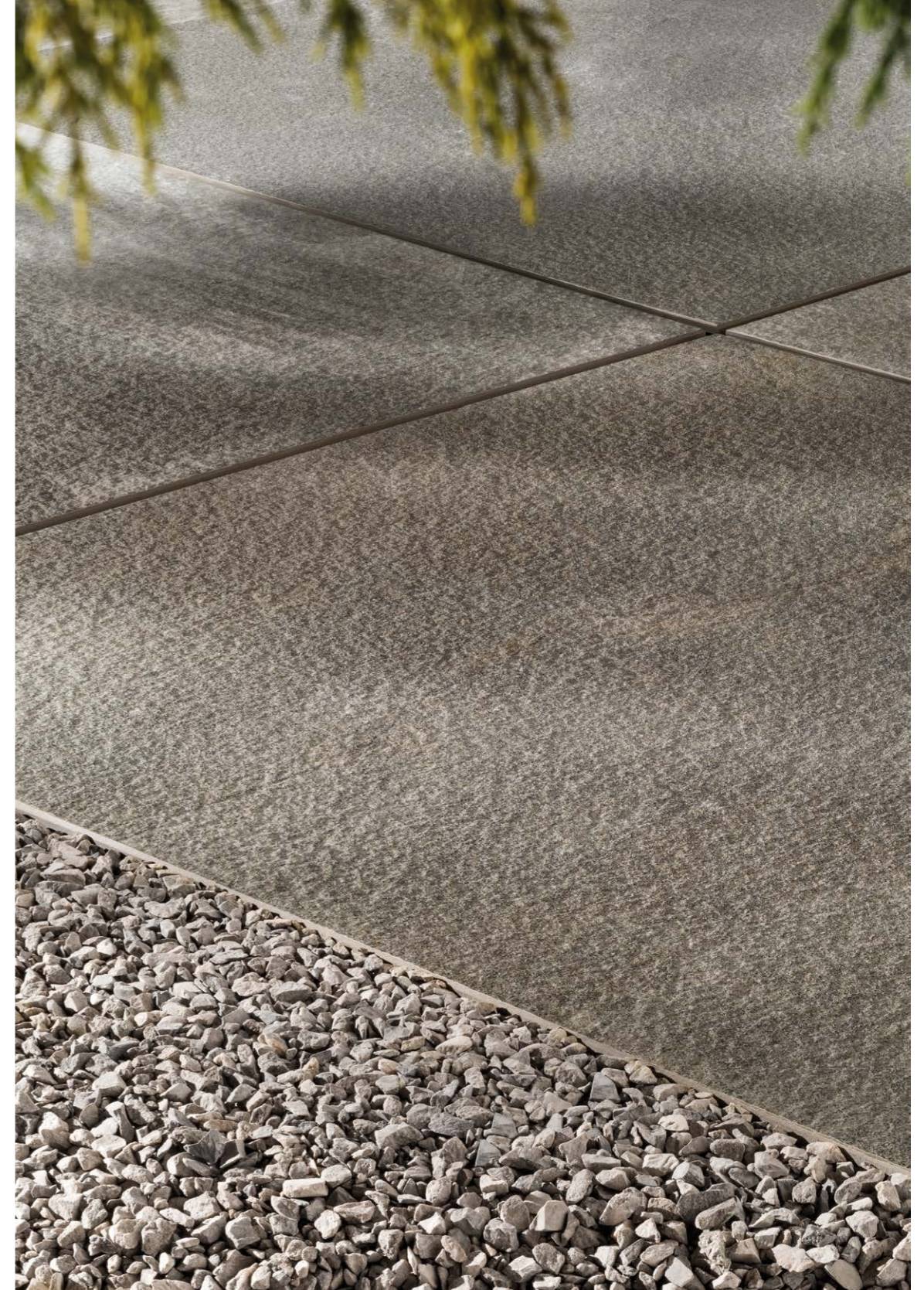
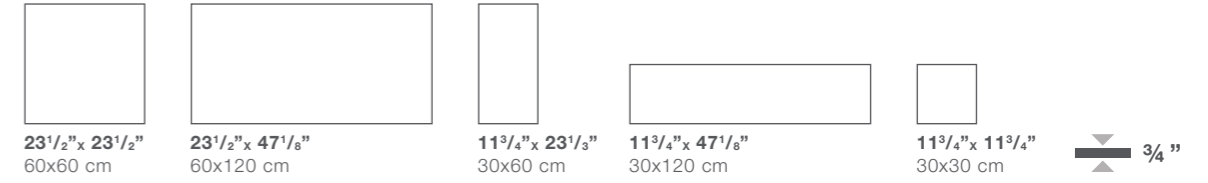




### Full Color Cleft Pattern



### TrueBlue Thermal Pattern







PENNSYLVANIA the new

Indoor: TrueBlue Thermal Pattern  
23 1/2" x 23 1/2" - 60x60 cm  
11 3/4" x 23 1/2" - 30x60 cm  
11 3/4" x 11 3/4" - 30x30 cm  
Outdoor: Full Color Cleft Pattern  
23 1/2" x 47 1/8" - 60x120 cm





Indoor: TrueBlue Thermal Pattern  
23<sup>1</sup>/<sub>2</sub>" x 23<sup>1</sup>/<sub>2</sub>" - 60x60 cm  
11<sup>3</sup>/<sub>4</sub>" x 23<sup>1</sup>/<sub>2</sub>" - 30x60 cm  
11<sup>3</sup>/<sub>4</sub>" x 11<sup>3</sup>/<sub>4</sub>" - 30x30 cm  
Outdoor: Full Color Cleft Pattern  
23<sup>1</sup>/<sub>2</sub>" x 23<sup>1</sup>/<sub>2</sub>" - 60x60 cm





TrueBlue Thermal Pattern  
23<sup>1</sup>/<sub>2</sub>" x 23<sup>1</sup>/<sub>2</sub>" - 60x60 cm  
11<sup>3</sup>/<sub>4</sub>" x 23<sup>1</sup>/<sub>2</sub>" - 30x60 cm  
11<sup>3</sup>/<sub>4</sub>" x 11<sup>3</sup>/<sub>4</sub>" - 30x30 cm







Full Color Cleft Pattern  
23<sup>1</sup>/<sub>2</sub>" x 23<sup>1</sup>/<sub>2</sub>" - 60x60 cm  
11<sup>3</sup>/<sub>4</sub>" x 23<sup>1</sup>/<sub>2</sub>" - 30x60 cm  
11<sup>3</sup>/<sub>4</sub>" x 11<sup>3</sup>/<sub>4</sub>" - 30x30 cm





Full Color Cleft Pattern  
23<sup>1</sup>/<sub>2</sub>" x 23<sup>1</sup>/<sub>2</sub>" - 60x60 cm  
11<sup>3</sup>/<sub>4</sub>" x 23<sup>1</sup>/<sub>2</sub>" - 30x60 cm  
11<sup>3</sup>/<sub>4</sub>" x 11<sup>3</sup>/<sub>4</sub>" - 30x30 cm





TrueBlue Thermal Pattern  
23<sup>1</sup>/<sub>2</sub>" x 23<sup>1</sup>/<sub>2</sub>" - 60x60 cm  
11<sup>3</sup>/<sub>4</sub>" x 23<sup>1</sup>/<sub>2</sub>" - 30x60 cm  
Full Bullnose Coping  
11<sup>3</sup>/<sub>4</sub>" x 23<sup>1</sup>/<sub>2</sub>" - 30x60 cm





TrueBlue Thermal Pattern  
 23 1/2" x 23 1/2" = 60x60 cm  
 11 3/4" x 23 1/2" = 30x60 cm  
 11 3/4" x 11 3/4" = 30x30 cm

 3/4" THICKNESS

**PENNSYLVANIA**

*the new bluestone*

AN ITALIAN PORCELAIN PAVER MADE IN USA

**FULL COLOR CLEFT PATTERN  
 TRUEBLUE THERMAL PATTERN**



23 1/2" x 47 1/8" rectified  
 60x120 cm



23 1/2" x 23 1/2" rectified  
 60x60 cm



11 3/4" x 23 1/2" rectified  
 30x60 cm



11 3/4" x 47 1/8" rectified  
 30x120 cm



11 3/4" x 11 3/4" rectified  
 30x30 cm



# Full Color Cleft Pattern



23 1/2" x 47 1/8" rectified  
60x120 cm



23 1/2" x 23 1/2" rectified  
60x60 cm



11 3/4" x 23 1/2" rectified  
30x60 cm



11 3/4" x 47 1/8" rectified  
30x120 cm



11 3/4" x 11 3/4" rectified  
30x30 cm





# TrueBlue Thermal Pattern



**23<sup>1</sup>/<sub>2</sub>" x 47<sup>1</sup>/<sub>8</sub>"** rectified  
60x120 cm



**23<sup>1</sup>/<sub>2</sub>" x 23<sup>1</sup>/<sub>2</sub>"** rectified  
60x60 cm



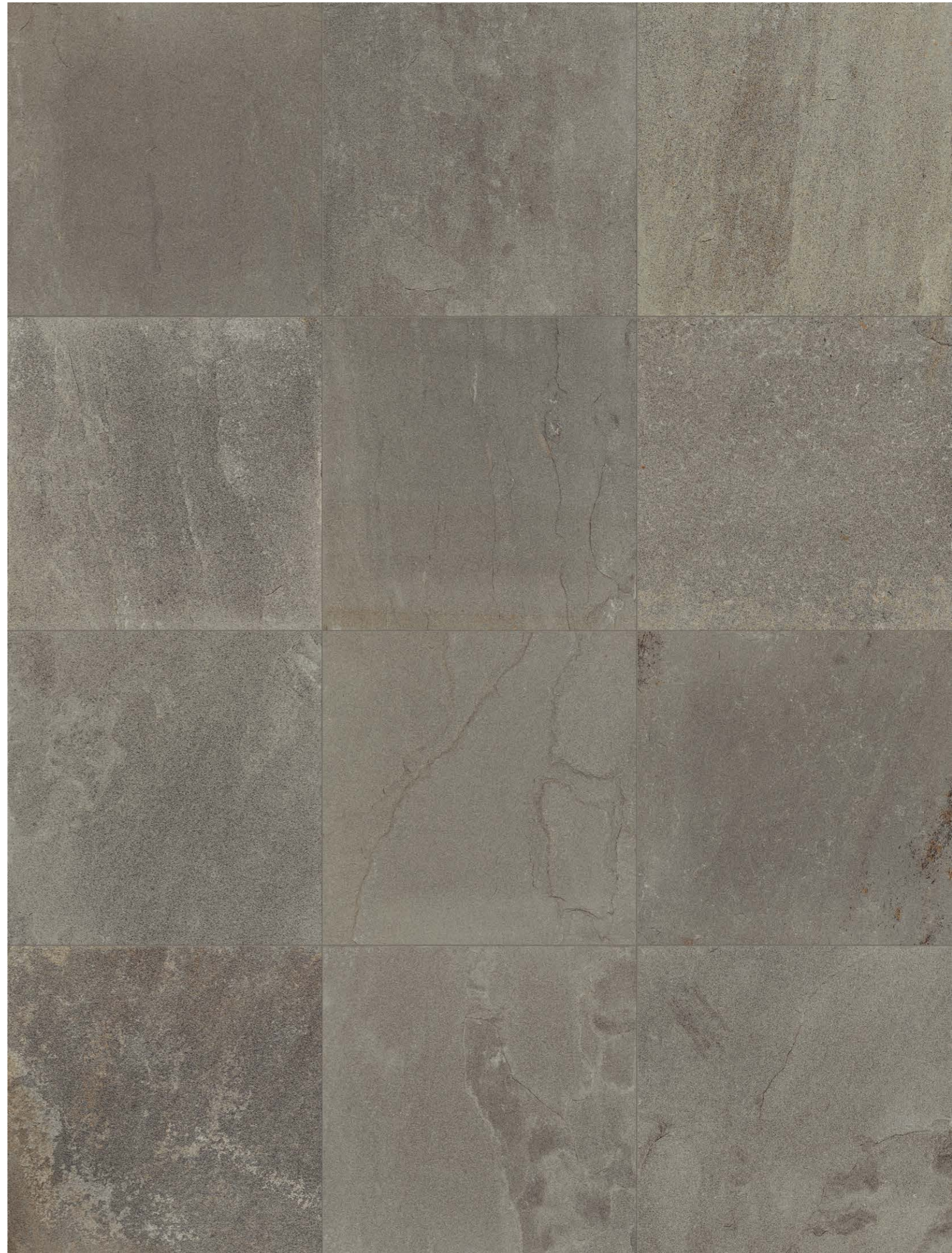
**11<sup>3</sup>/<sub>4</sub>" x 23<sup>1</sup>/<sub>2</sub>"** rectified  
30x60 cm



**11<sup>3</sup>/<sub>4</sub>" x 47<sup>1</sup>/<sub>8</sub>"** rectified  
30x120 cm



**11<sup>3</sup>/<sub>4</sub>" x 11<sup>3</sup>/<sub>4</sub>"** rectified  
30x30 cm

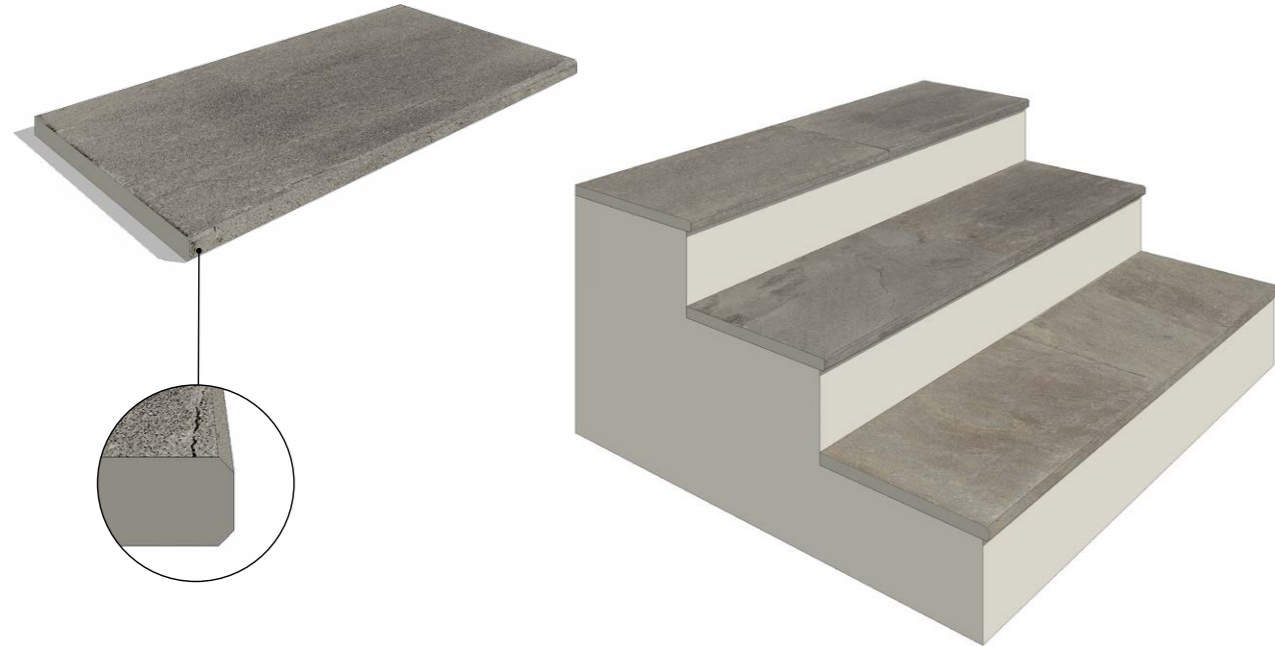




# Special pieces

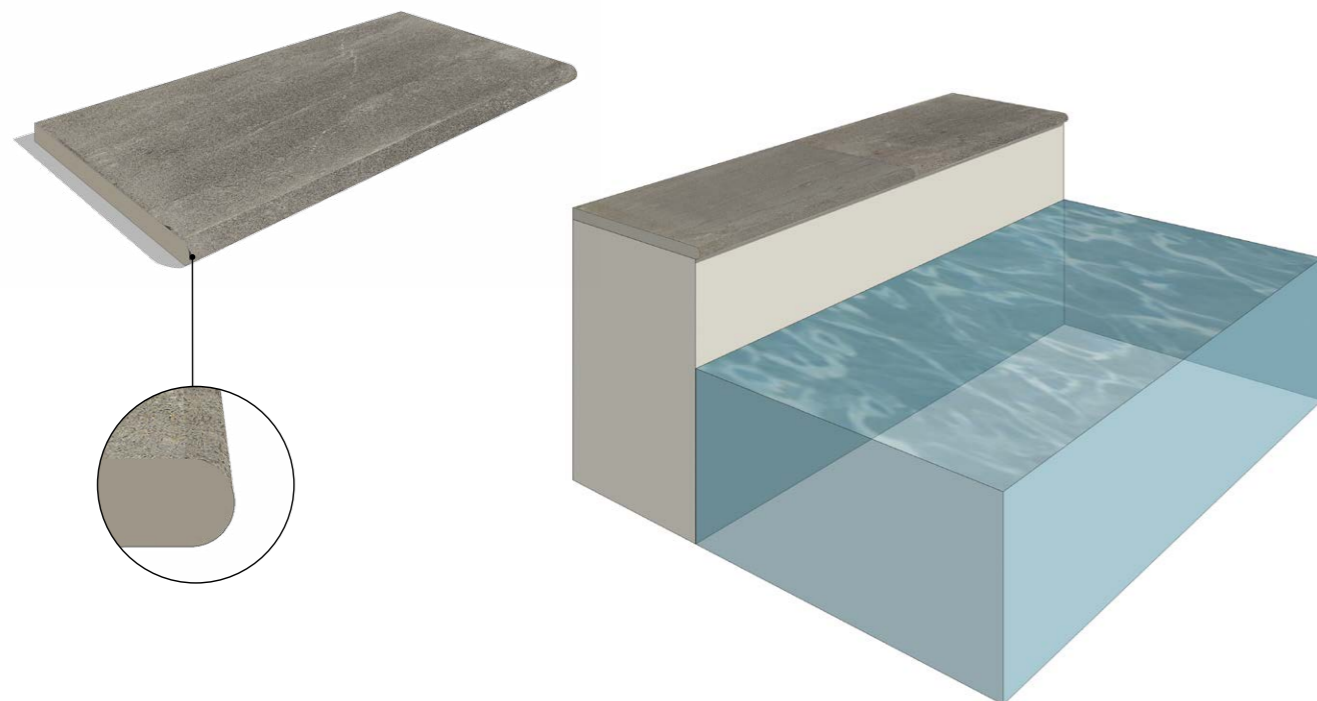
## DOUBLE BEVEL COPING

11 3/4" x 23 1/2" - 30x60  
Available in all colours.



## FULL BULLNOSE COPING

11 3/4" x 23 1/2" - 30x60  
Available in all colours.



# Advantages



LIGHTER AND EASIER TO HANDLE THAN CONCRETE BLOCKS



SUPERIOR IN FIRE RESISTANCE AND DURABILITY TO WOOD TILES



SUPERIOR IN STRENGTH AND IMPACT RESISTANCE TO CERAMIC TILES SUPPORTS OVER 2000LB



RESISTANT TO DAMAGE BY FROST, SNOW, ICE AND HEAT (-40°F - 210°F)



REMOVABLE AND REUSABLE



EASY TO CLEAN STAIN, CHEMICAL AND SALT RESISTANT



EASY TO INSTALL



SLIP RESISTANT AND QUICK DRAINING



THERMAL INSULATION (HOT/COLD)

# Installation

INSTALLATION ON GRASS



INSTALLATION ON GRAVEL



ADHESIVE INSTALLATION ON FOOTING



FLOATING INSTALLATION ON SPACER FEET

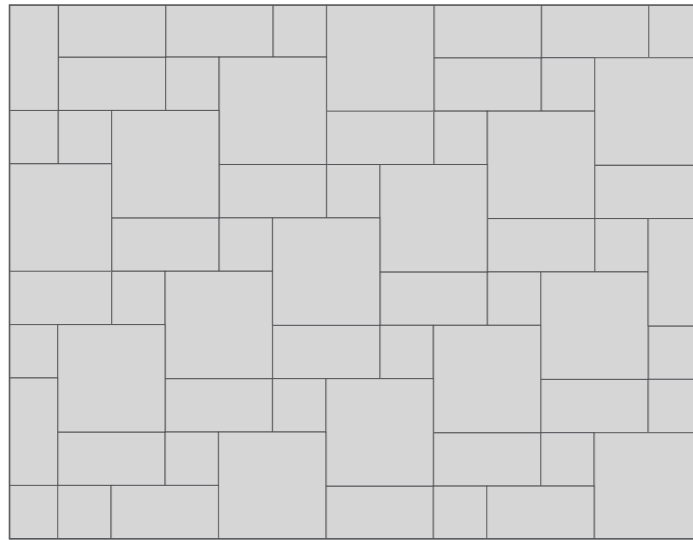


RAISED INSTALLATION ON FLAT SURFACES

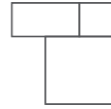




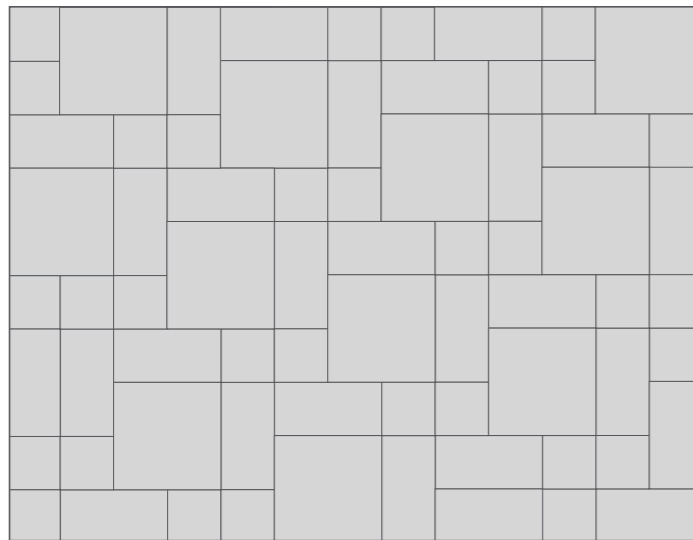
# Patterns



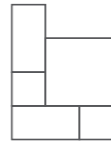
**A layng solution**



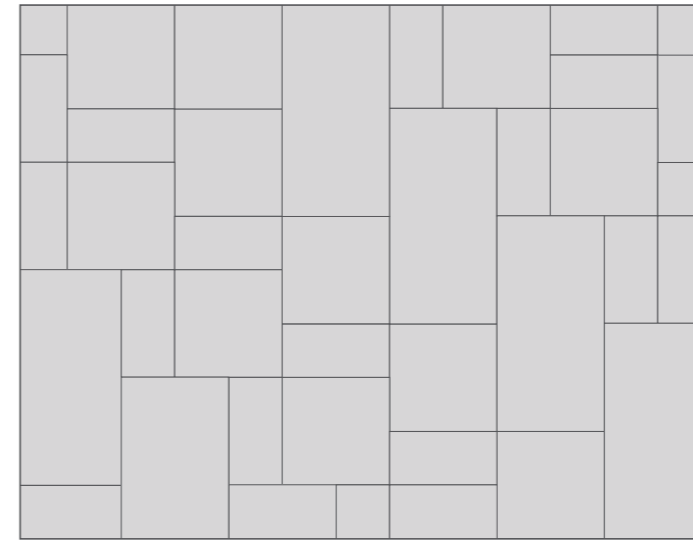
Nr. 1 pcs	$23\frac{1}{2}'' \times 23\frac{1}{2}''$ - 60x60 cm	57,2%
Nr. 1 pcs	$11\frac{3}{4}'' \times 23\frac{1}{2}''$ - 30x60 cm	28,5%
Nr. 1 pcs	$11\frac{3}{4}'' \times 11\frac{3}{4}''$ - 30x30 cm	14,3%



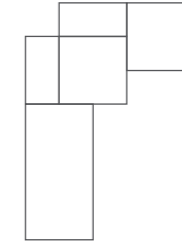
**B layng solution**



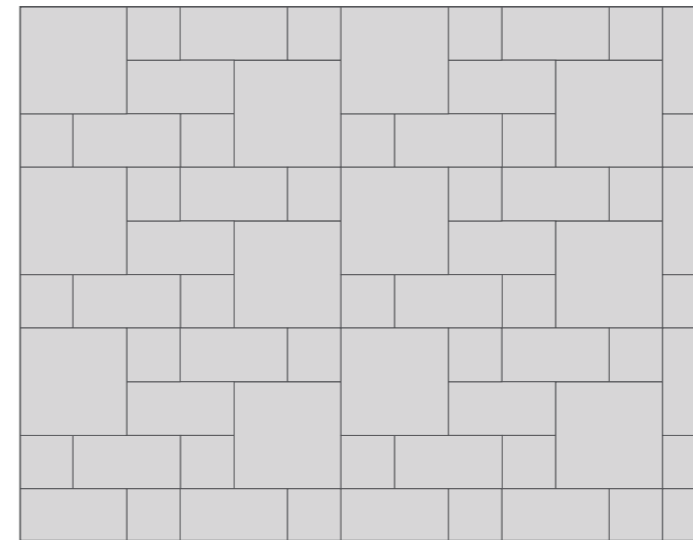
Nr. 1 pcs	$23\frac{1}{2}'' \times 23\frac{1}{2}''$ - 60x60 cm	40%
Nr. 2 pcs	$11\frac{3}{4}'' \times 23\frac{1}{2}''$ - 30x60 cm	40%
Nr. 2 pcs	$11\frac{3}{4}'' \times 11\frac{3}{4}''$ - 30x30 cm	20%



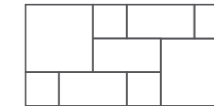
**D layng solution**



Nr. 1 pcs	$23\frac{1}{2}'' \times 47\frac{1}{8}''$ - 60x120 cm	40%
Nr. 2 pcs	$23\frac{1}{2}'' \times 23\frac{1}{2}''$ - 60x60 cm	40%
Nr. 2 pcs	$11\frac{3}{4}'' \times 23\frac{1}{2}''$ - 30x60 cm	20%



**C layng solution**



Nr. 2 pcs	$23\frac{1}{2}'' \times 23\frac{1}{2}''$ - 60x60 cm	44,5%
Nr. 3 pcs	$11\frac{3}{4}'' \times 23\frac{1}{2}''$ - 30x60 cm	33,3%
Nr. 4 pcs	$11\frac{3}{4}'' \times 11\frac{3}{4}''$ - 30x30 cm	22,2%



# Summary of Technical data

PLUS vs MINUS		
Data:	KRONOS PENNSYLVANIA <i>bluestone</i>	NATURAL PENNSYLVANIA BLUESTONE
Water absorption	0,05%	1,6%
Resistance to stain	all	not guaranteed
Chemical Resistance	resistant	not guaranteed
Fade resistance on exposure to light and W rays	no fading or change in color	change in color
Surfaces fragility	it does not flake and does not crumble	it flakes and crumbles
Lenght and Width	Dimension proportions are guaranteed	Dimension proportions are not guaranteed
Uniformity of thickness	guaranteed	not guaranteed
Frost and salt resistance	guaranteed	not guaranteed
Slip resistance	guaranteed	not guaranteed
Installation on pedestals / Raised floor	guaranteed	not guaranteed
Average Weight	46 kg / sqm 9.38 lbs / sq.ft.	Real full color 160 kg / sqm 32.7 lbs / sq.ft. Real trueblue 110 kg / sqm 22.5 lbs / sq.ft.
Breaking Strenght / Flexural Strenght	3800 lbf	1900 lbf

## PACKAGING

2.0 MONOLITHIC RECTIFIED CERAMIC TILE	Thickness	Unit / Box	SqFt / Box	Boxes / Pallet	SqFt / Pallet	Weight / Box	Weight / M <sup>2</sup>	Weight / SqFt	Weight / Pallet (included)	Pallet Size
23 1/2" x 47 1/8"	3/4" - 20mm	2	15,5	16	248	149 lb	100 lb	9,3 lb	2384 lb	49"x 49"
11 1/4" x 47 1/8"	3/4" - 20mm	4	15,5	16	248	153 lb	100 lb	9,3 lb	2448 lb	49"x 49"
23 1/2" x 23 1/2"	3/4" - 20mm	2	7,75	36	279	72 lb	100 lb	9,3 lb	2650 lb	42" x 42"
11 1/4" x 23 1/2"	3/4" - 20mm	4	7,75	40	310	72 lb	100 lb	9,3 lb	2955 lb	42" x 42"
11 1/4" x 11 1/4"	3/4" - 20mm	5	4,85	45	218	45 lb	100 lb	9,3 lb	2100 lb	42" x 42"



## TECHNICAL CHARACTERISTICS

STANDARS	CHARACTERISTICS OR PROPERTIES	COMPLIANCE WITH STANDARDS UNI EN 14411 G ASTM	DECLARED VALUE
ISO - 10545-3 ASTM - C 373-88	Water absorption	E <= 0.5 %	< 0.1 %
ISO - 10545-9 ASTM - C 484	Thermal shock resistance	Requested	Complies with standard
ISO - 10545-12 ASTM - C 1026	Frost resistance	Requested	Complies with standard
ISO - 10545-6 ASTM C - 1243-93	Abrasive wear	<175 mm <sup>2</sup>	139 mm <sup>2</sup>
ISO - 10545-2	Straightness / ASTM - C 485	+/- 0.75 % (+/- 1.8 mm)	Complies with standard
	Straightness / ISO - 10545-2	+/- 0.5 % (+/- 1.5 mm)	Complies with standard
	Thickness / ASTM - C 499	+/- 1.02 mm	Complies with standard
	Thickness / ISO - 10545-2	+/- 0.5 % (+/- 0.5 mm)	Complies with standard
	Length and width / ASTM - C 499	+/- 0.5 % (+/- 2.0 mm)	Complies with standard
ISO - 10545-4 Bending strength in N (thickness >= 7.5 mm)	Length and width / ISO - 10545-2	+/- 0.6 % (+/- 2.0 mm)	Complies with standard
	ASTM - C 648 ANSI A 137.1 (PORCELAIN TILE)	>= 275 LBF Average >= 250 LBF Individual	>= 2500 LBF
ISO - 10545-4	ISO - 10545-4	>= 1300 Newton	> 13000
ASTM - C 650	Chemical resistance	As reported	Resistant
ISO 10545-14	Resistance to stain	-	5
ISO 10545-13	Chemical resistance	UB min.	UA ULA UHA
ISO 10545-8	Coefficient of linear thermal-expansion	-	$\alpha=6.3 \times 10^{-6} \text{ } ^\circ\text{C}^{-1}$
ISO 10545-5	Impact resistance	-	0.88
EN 12825	Static load	-	Centre 9.6 Kn Centre point of sides 6.5 Kn Diagonal 8.19 Kn (CLASSE 3)
	Dymanic laod capacity - hand object impact test	-	Test not passed
	Dymanic laod capacity - soft object impact test	-	Test passed
EN 1339	Bendind strength - breaking force in N	Kn 14.38	classe 14
ENV 12633	Slip resistance	> / = CL1	CL 2
DIN 51130	Slip resistance	-	R11
DIN 51097	Slip resistance	-	A + B + C min.
DM 236/89 B.C.R.A.	Slip resistance	-	> 0.40
Static coefficient of friction ASTM 1028-07 BOT 3000 Dynamic coefficient of friction (sectio n 9.6 ANSIA 137.1 2012)	Slip resistance	-	> 0.60 WET > 0.60 DRY >= 0.42
EN 13501-1	Fire resistance	-	A1 - A1 FL
* TAS 108 FLORIDA BUILDING CODE WIND UP LIFT TEST	3/4" thick 24"x24" porcelain installed on fixed height pedestals and 45° wind angle was blow of at	-	130 mph with no parapet 150 mpt with 12" high parapet

\*To put this into context, the Saffir-Simpson Hurricane Wind Scale which is a 1 to 5 rating based on a hurricane's sustained wind speed, defines wind speeds over 74 mph to be hurricane velocity where:  
 - Category 1 (74-95 mph) "Very dangeorus winds will produce some damage"  
 - Category 2 (96-110 mph) "Extremely dangerous winds will cause extensive damage"  
 - Category 3 (111-129 mph) "Devastating damage will occur"

In the wester North Pacific, the term "super typhoon" is used for tropical cyclones with sustained winds exceeding 150 mph.





**Kronos Usa Inc.**  
300 International Blvd Tn 37040 Clarksville USA  
Customer-service@kronos-usa.com  
www.kronos -usa.com

**Logistics Branch**  
1045 Progress Dr. TN 37040 Clarksville USA  
931.919.4861  
logistic@kronos-usa.com

