

# PEN NSY LVAN IA

■ 3/4" THICKNESS

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**PENNSYLVANIA**

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*the new bluestone*

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**POPA 2.0**

AN ITALIAN PORCELAIN PAVER MADE IN USA



 ¾" THICKNESS

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## PENNSYLVANIA

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*the new bluestone*

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### POPA 2.0

AN ITALIAN PORCELAIN PAVER MADE IN USA

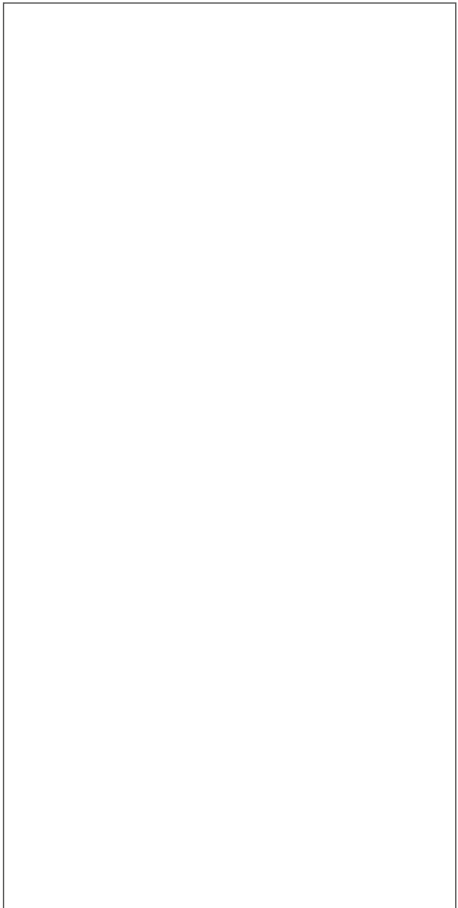
25 YEARS AGO KRONOS ESTABLISHED AN  
AESTHETIC AND BUSINESS MODEL THAT  
HAS BROUGHT MORE THAN TWO DECADES  
OF SUCCESS, CONTINUING TO OFFER TO  
THE CUSTOMERS SOMETHING UNIQUE:  
A COMPASS TO GUIDE IN THE SEARCH FOR  
AUTHENTICITY, ELEGANCE AND QUALITY.



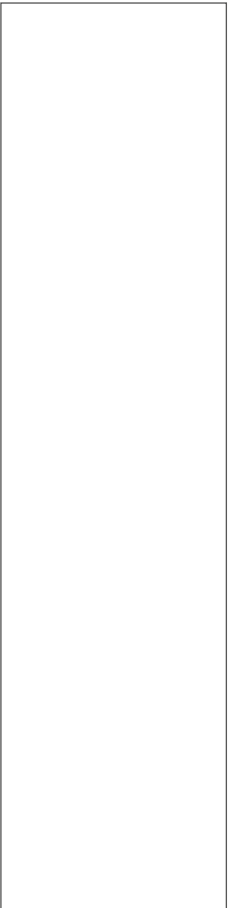
KRONOS USA SEARCHES  
THE PAST AND CONSISTENT  
WITH TRADITION REVISITS  
PENNSYLVANIA BLUESTONE:  
EXTREMELY RESISTANT  
WITH A HIGH AESTHETIC  
COMPONENT.  
BLUESTONE WAS CHOSEN  
BECAUSE IT IS THE TYPICAL  
AMERICAN STONE FOR  
OUTDOOR AND LANDSCAPING  
INSTALLATION.



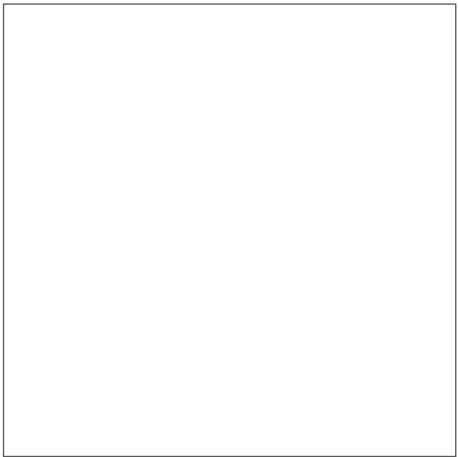
PENNSYLVANIA BLUESTONE  
PORCELAIN PAVERS BY  
KRONOS, WITH ¾ THICKNESS  
HAS BEEN SELECTED  
BASED ON ITS LOW WATER  
ABSORPTION AND STAIN  
RESISTANCE. IT IS EXTREMELY  
EASY TO CLEAN, INCREDIBLE  
FREEZE-THAW DURABILITY  
AND STRENGTH, ESPECIALLY  
SIGNIFICANT IN THE COLDER  
REGIONS OF THE UNITED  
STATES AND CANADA.



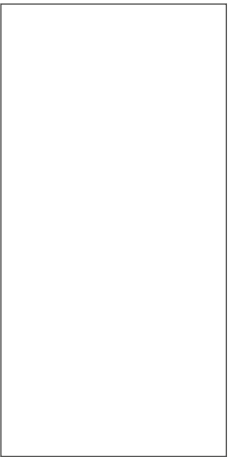
**23 1/2" x 47 1/8"** rectified  
60x120 cm



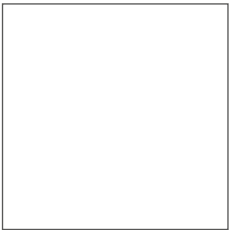
**11 3/4" x 47 1/8"** rectified  
30x120 cm



**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

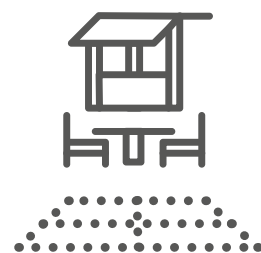
THE LONG-TERM  
PERFORMANCE AND  
SLIP-RESISTANCE OF  
PENNSYLVANIA BLUESTONE  
BY KRONOS MAKE IT AN  
EXCELLENT CHOICE FOR MANY  
APPLICATIONS:



PATIOS



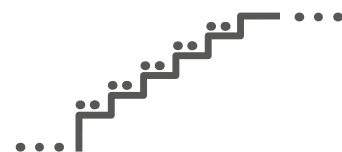
POOL DECKS



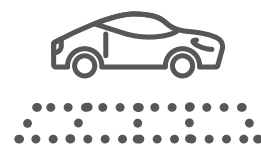
TERRACES



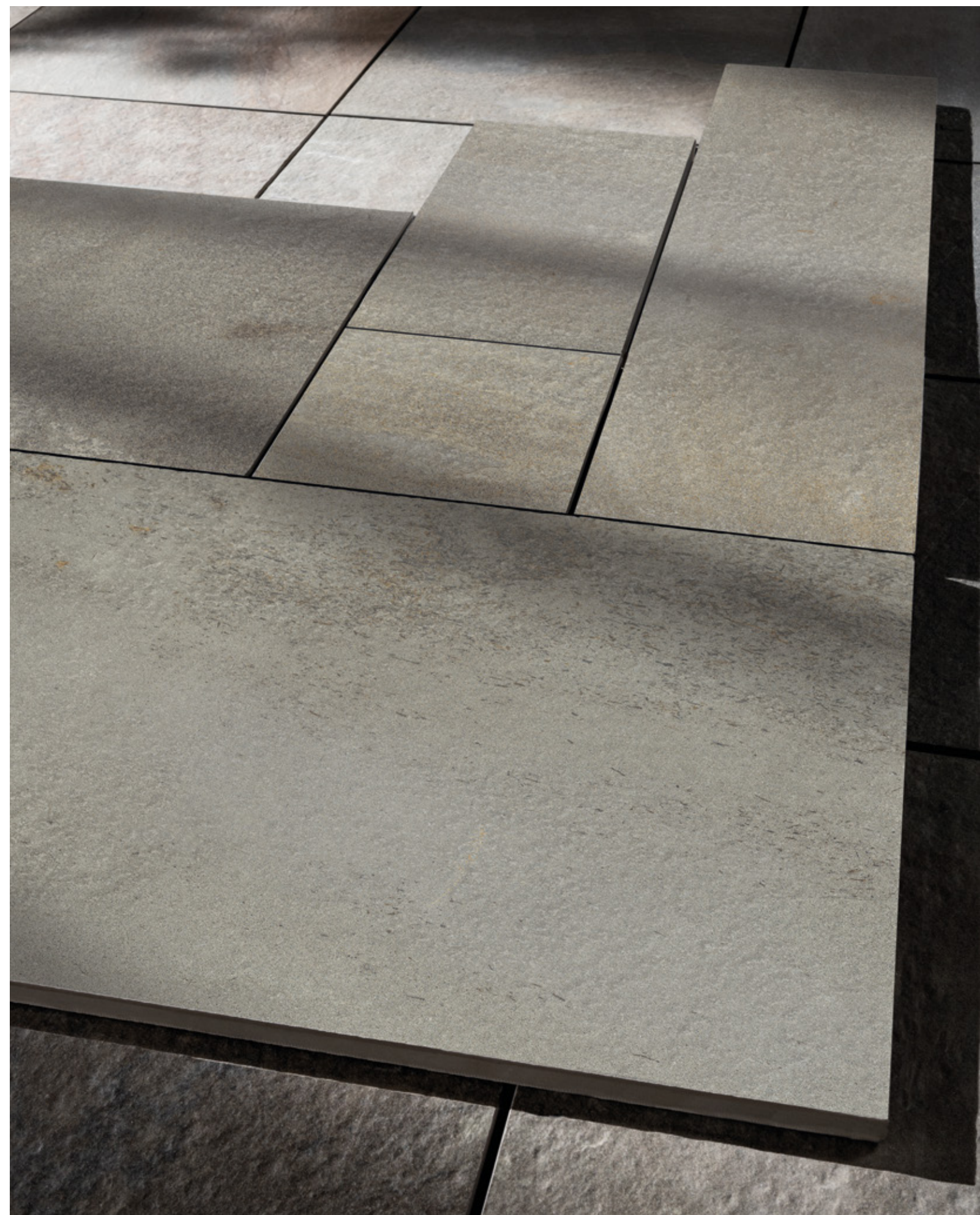
WALKWAYS



STAIRS AND STEPS

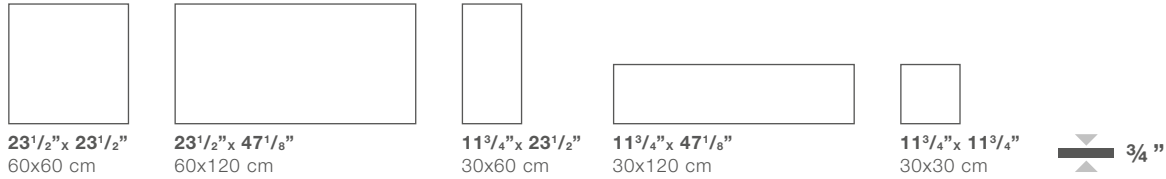


DRIVEWAYS



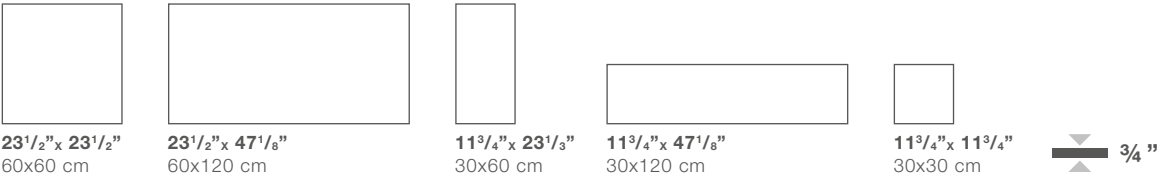
n°8

Full Color Cleft Pattern



n°9

TrueBlue Thermal Pattern





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 47<sup>1</sup>/<sub>8</sub>"** - 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  
 $23\frac{1}{2}'' \times 23\frac{1}{2}''$  - 60x60 cm  
 $11\frac{3}{4}'' \times 23\frac{1}{2}''$  - 30x60 cm  
 $11\frac{3}{4}'' \times 11\frac{3}{4}''$  - 30x30 cm



Full Color Cleft 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



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



## 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

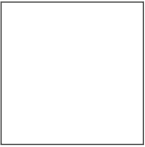


11 3/4" x 11 3/4" rectified  
30x30 cm

Full Color Cleft Pattern



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



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



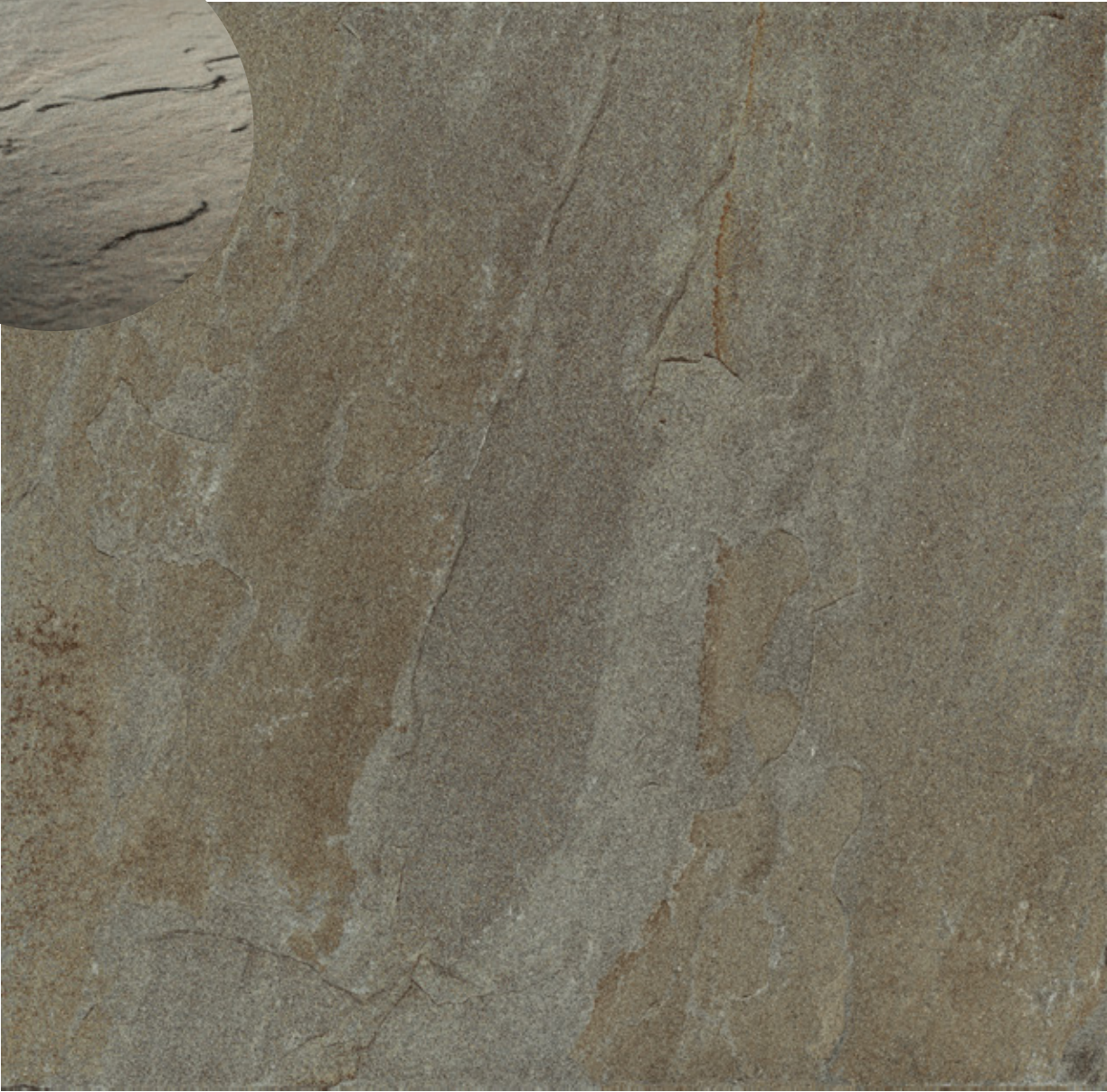
11 3/4" x 23 1/2" rectified  
30x60 cm



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



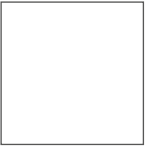
11 3/4" x 11 3/4" rectified  
30x30 cm



# TrueBlue Thermal Pattern



**23 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

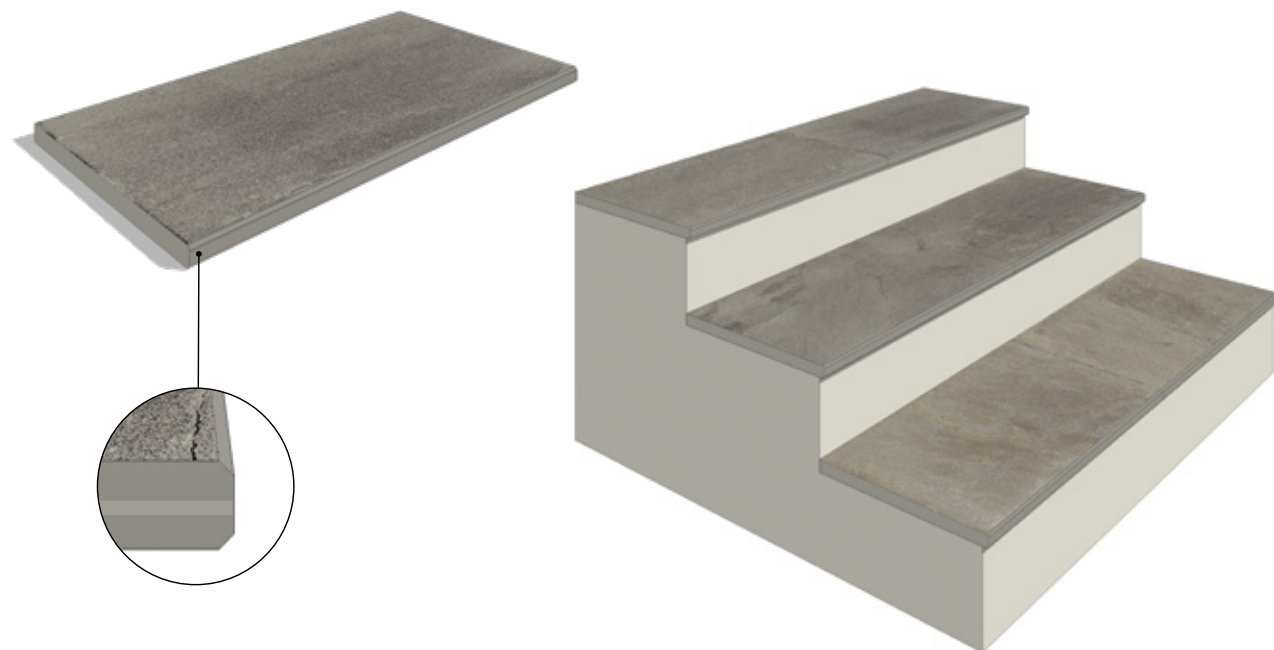


n°28

## Special pieces

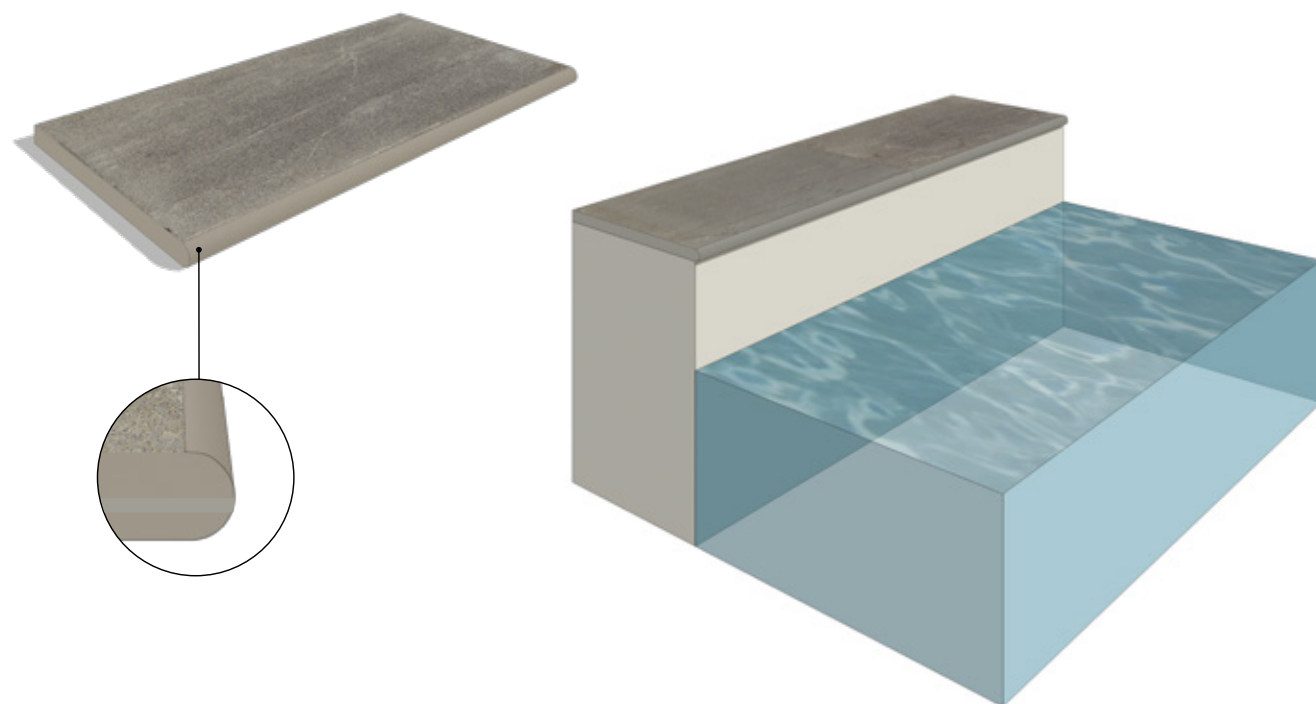
### DOUBLE BEVEL COPING

11¼" x 23½" - 30x60  
Available in all colours.



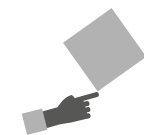
### FULL BULLNOSE COPING

11¼" x 23½" - 30x60  
Available in all colours.



3/4" THICKNESS

## 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



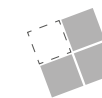
RESISTANT TO DAMAGE  
BY FROST, SNOW, ICE AND  
HEAT (-40°F - 210°F)



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



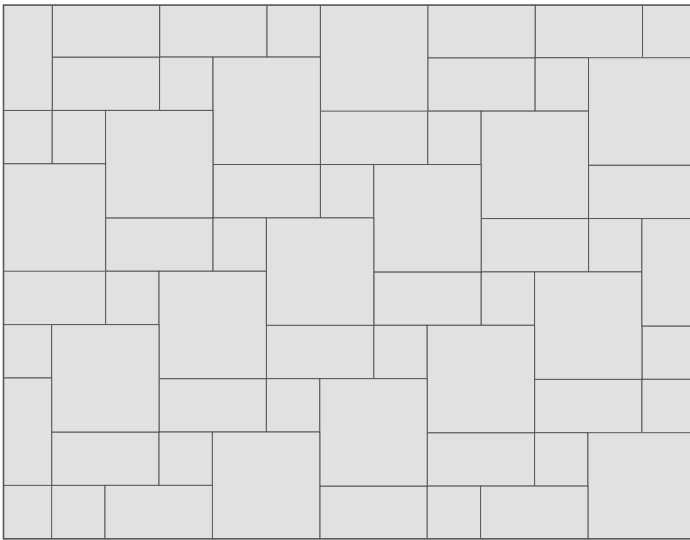
RAISED INSTALLATION ON FLAT SURFACES



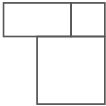
For bullnose and double bevel the actual glazed surface of color stops at the start of the radius, it shows only the body color.

n°29

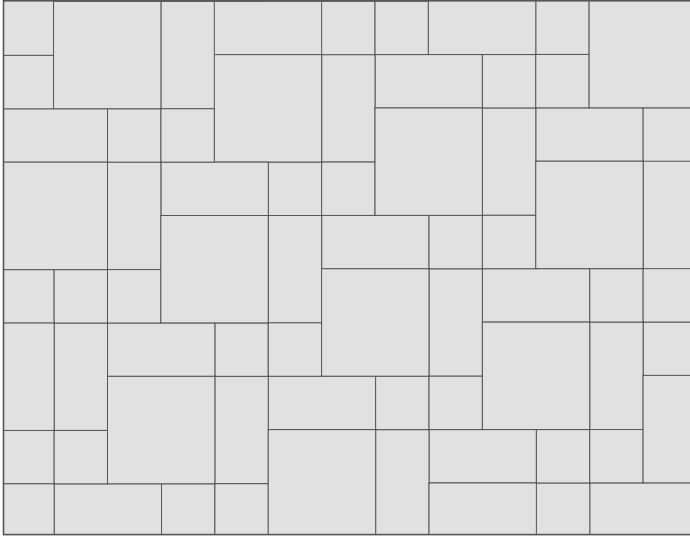
Patterns



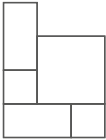
A layng solution



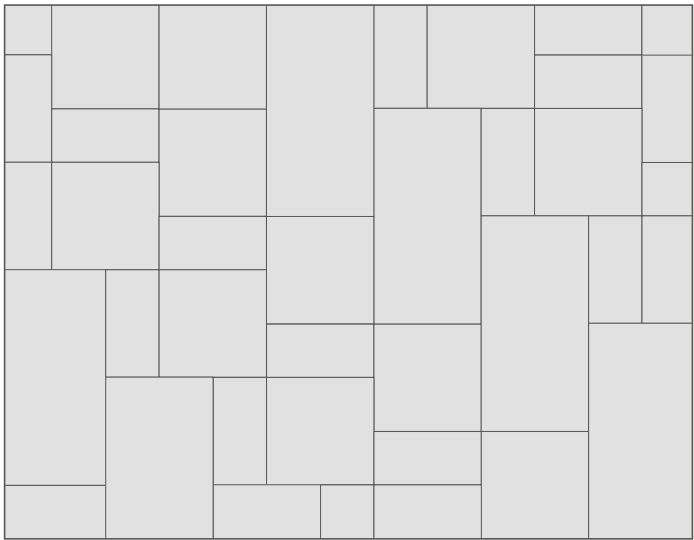
|           |                                                                              |       |
|-----------|------------------------------------------------------------------------------|-------|
| Nr. 1 pcs | <b>23<sup>1</sup>/<sub>2</sub>"x 23<sup>1</sup>/<sub>2</sub>"</b> - 60x60 cm | 57,2% |
| Nr. 1 pcs | <b>11<sup>3</sup>/<sub>4</sub>"x 23<sup>1</sup>/<sub>2</sub>"</b> - 30x60 cm | 28,5% |
| Nr. 1 pcs | <b>11<sup>3</sup>/<sub>4</sub>"x 11<sup>3</sup>/<sub>4</sub>"</b> - 30x30 cm | 14,3% |



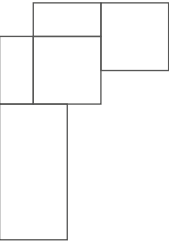
B layng solution



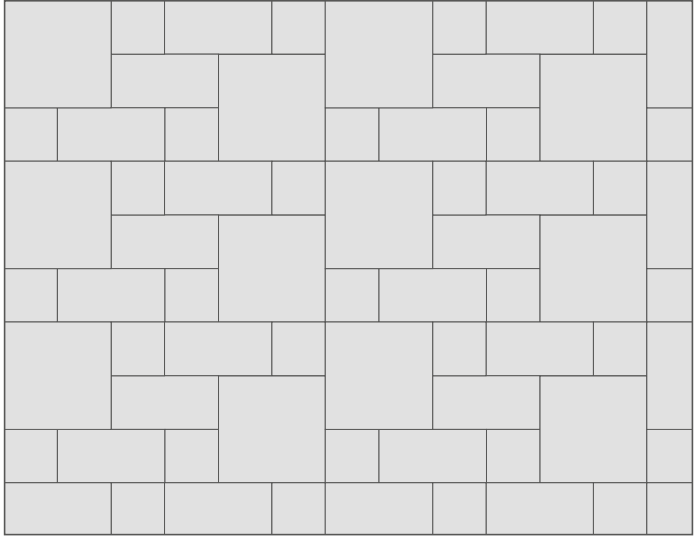
|           |                                                                              |     |
|-----------|------------------------------------------------------------------------------|-----|
| Nr. 1 pcs | <b>23<sup>1</sup>/<sub>2</sub>"x 23<sup>1</sup>/<sub>2</sub>"</b> - 60x60 cm | 40% |
| Nr. 2 pcs | <b>11<sup>3</sup>/<sub>4</sub>"x 23<sup>1</sup>/<sub>2</sub>"</b> - 30x60 cm | 40% |
| Nr. 2 pcs | <b>11<sup>3</sup>/<sub>4</sub>"x 11<sup>3</sup>/<sub>4</sub>"</b> - 30x30 cm | 20% |



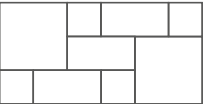
D layng solution



|           |                                                                               |     |
|-----------|-------------------------------------------------------------------------------|-----|
| Nr. 1 pcs | <b>23<sup>1</sup>/<sub>2</sub>"x 47<sup>1</sup>/<sub>8</sub>"</b> - 60x120 cm | 40% |
| Nr. 2 pcs | <b>23<sup>1</sup>/<sub>2</sub>"x 23<sup>1</sup>/<sub>2</sub>"</b> - 60x60 cm  | 40% |
| Nr. 2 pcs | <b>11<sup>3</sup>/<sub>4</sub>"x 23<sup>1</sup>/<sub>2</sub>"</b> - 30x60 cm  | 20% |



C layng solution



|           |                                                                              |       |
|-----------|------------------------------------------------------------------------------|-------|
| Nr. 2 pcs | <b>23<sup>1</sup>/<sub>2</sub>"x 23<sup>1</sup>/<sub>2</sub>"</b> - 60x60 cm | 44,5% |
| Nr. 3 pcs | <b>11<sup>3</sup>/<sub>4</sub>"x 23<sup>1</sup>/<sub>2</sub>"</b> - 30x60 cm | 33,3% |
| Nr. 4 pcs | <b>11<sup>3</sup>/<sub>4</sub>"x 11<sup>3</sup>/<sub>4</sub>"</b> - 30x30 cm | 22,2% |

Summary of Technical data

| PLUS vs MINUS                                   |                                           |                                                                                                      |
|-------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------|
| Data:                                           | KRONOS PENNSYLVANIA<br>bluestone          | NATURAL PENNSYLVANIA<br>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<br>or change in color           | change in color                                                                                      |
| Surfaces fragility                              | it does not flake and<br>does not crumble | it flakes and crumbles                                                                               |
| Lenght and Width                                | Dimension proportions are<br>guaranteed   | Dimension proportions are not<br>guaranteed                                                          |
| Uniformity of thickness                         | guaranteed                                | not guaranteed                                                                                       |
| Frost and salt<br>resistance                    | guaranteed                                | not guaranteed                                                                                       |
| Slip resistance                                 | guaranteed                                | not guaranteed                                                                                       |
| Installation on<br>pedestals / Raised floor     | guaranteed                                | not guaranteed                                                                                       |
| Average Weight                                  | 46 kg / sqm<br>9.38 lbs / sq.ft.          | Real full color 160 kg / sqm<br>32.7 lbs / sq.ft.<br>Real trueblue 110 kg / sqm<br>22.5 lbs / sq.ft. |
| Breaking Strenght / Flexural<br>Strenght        | 3800 lbf                                  | 1900 lbf                                                                                             |

PACKAGING

| 2.0 MONOLITHIC RECTIFIED CERAMIC TILE | Thickness   | Unit / Box | SqFt / Box | Boxes / Pallet | SqFt / Pallet | Weight / Box | Weight / M² | 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 3/4" 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 3/4" x 23 1/2"                     | 3/4" - 20mm | 4          | 7,75       | 40             | 310           | 72 lb        | 100 lb      | 9,3 lb        | 2955 lb                    | 42"x42"     |
| 11 3/4" x 11 3/4"                     | 3/4" - 20mm | 5          | 4,85       | 45             | 218           | 45 lb        | 100 lb      | 9,3 lb        | 2100 lb                    | 42"x42"     |



TECHNICAL CHARACTERISTICS

| STANDARS                                                                                                                      | CHARACTERISTICS OR PROPERTIES                                                                            | COMPLIANCE WITH STANDARDS<br>UNI EN 14411 G<br>ASTM | DECLARED VALUE                                                               |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------|
| ISO - 10545-3<br>ASTM - C 373-88                                                                                              | Water absorption                                                                                         | E <= 0.5 %                                          | < 0.1 %                                                                      |
| ISO - 10545-9<br>ASTM - C 484                                                                                                 | Thermal shock resistance                                                                                 | Requested                                           | Complies with standard                                                       |
| ISO - 10545-12<br>ASTM - C 1026                                                                                               | Frost resistance                                                                                         | Requested                                           | Complies with standard                                                       |
| ISO - 10545-6<br>ASTM C - 1243-93                                                                                             | Abrasive wear                                                                                            | <175 mm²                                            | 139 mm²                                                                      |
| 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                                                       |
|                                                                                                                               | Length and width / ISO - 10545-2                                                                         | +/- 0.6 % (+/- 2.0 mm)                              | Complies with standard                                                       |
| ISO - 10545-4<br>Bending strength<br>in N (thickness >= 7.5 mm)                                                               | ASTM - C 648 ANSI A 137.1<br>(PORCELAIN TILE)                                                            | >= 275 LBF Average<br>>= 250 LBF Individual         | >= 2500 LBF                                                                  |
|                                                                                                                               | ISO - 10545-4                                                                                            | >= 1300 Newton                                      | > 13000                                                                      |
| ASTM - C 650                                                                                                                  | Chemical resistance                                                                                      | As reported                                         | Resistant                                                                    |
| ISO<br>10545-14                                                                                                               | Resistance to stain                                                                                      | -                                                   | 5                                                                            |
| ISO<br>10545-13                                                                                                               | Chemical resistance                                                                                      | UB min.                                             | UA ULA UHA                                                                   |
| ISO<br>10545-8                                                                                                                | Coefficient of linear thermal-expansion                                                                  | -                                                   | $\alpha=6.3 \times 10^{-6} \text{ }^{\circ}\text{C}^{-1}$                    |
| ISO<br>10545-5                                                                                                                | Impact resistance                                                                                        | -                                                   | 0.88                                                                         |
| EN<br>12825                                                                                                                   | Static load                                                                                              | -                                                   | Centre 9.6 Kn<br>Centre point of sides 6.5 Kn<br>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<br>1339                                                                                                                    | Bendind strength - breaking force in N                                                                   | Kn 14.38                                            | classe 14                                                                    |
| ENV<br>12633                                                                                                                  | Slip resistance                                                                                          | > / = CL1                                           | CL 2                                                                         |
| DIN<br>51130                                                                                                                  | Slip resistance                                                                                          | -                                                   | R11                                                                          |
| DIN<br>51097                                                                                                                  | Slip resistance                                                                                          | -                                                   | A + B + C min.                                                               |
| DM 236/89<br>B.C.R.A.                                                                                                         | Slip resistance                                                                                          | -                                                   | > 0.40                                                                       |
| Static coefficient of friction<br>ASTM 1028-07 BOT 3000<br>Dynamic coefficient of friction<br>(sectio n 9.6 ANSIA 137.1 2012) | Slip resistance                                                                                          | -                                                   | > 0.60 WET > 0.60 DRY                                                        |
|                                                                                                                               |                                                                                                          |                                                     | >= 0.42                                                                      |
| EN<br>13501-1                                                                                                                 | Fire resistance                                                                                          | -                                                   | A1 - A1 FL                                                                   |
| * TAS 108<br>FLORIDA BUILDING CODE<br>WIND UP LIFT TEST                                                                       | 3/4" thick 24"x24" porcelain installed on fixed<br>height pedestals and 45° wind angle was blow<br>of at | -                                                   | 130 mph with no parapet<br>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.



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logistic@kronos-usa.com

