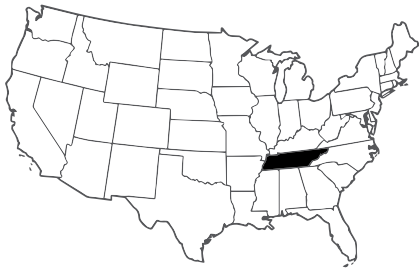


# PO PA 2.0

ORGANIZER

*An italian porcelain paver made in USA*





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300 International Boulevard  
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An italian porcelain paver made in USA

RE-QUALIFY SYSTEM



Re-Qualify System is the Kronos innovative approach to the Green and Eco-Sustainability.  
Re-Qualify System is the new philosophy of Kronos, an original approach with the aim to minimize the environmental impact in renovation or new construction projects realized by:

- reducing or fully eliminating the use of adhesives and setting materials;
- reducing or fully eliminating the use of water;
- reducing or fully eliminating any waste resulting from the production cycle.

All the above for a more environmental awareness production cycle and consequently, significant results of both energy and economic savings.

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KRONOS GREEN APPROACH



CO2 REDUCTION

In the last 10 years Kronos has reduced its CO2 emissions by no less than 17%. New investments for a further reduction are planned, using techniques for reutilizing heat generated during the production process and creating energy by cogeneration.

GREEN ENERGY

Kronos uses Green Energy. All electricity used at Kronos plants is obtained from cogeneration and hydroelectric power station.

RECYCLING PROCESS: ZERO WASTE

Kronos tiles are produced following a specific process that allows the addition of recycle content to the layer body of the tiles. This makes possible for Kronos to use pre-and-post consumer waste to create a body layer and thus a high quality tile.

Kronos tiles and slabs consist of 35% recycled material, depending on the product.

The pre-consumer recycling system is 100%.

Post-consumer recycling is under study and some preliminary trials should start shortly.

LOCAL RAW MATERIALS

Kronos obtains most of its natural raw materials for tile production in the american territory.

All the raw materials come from a radius of 800 Km/ 500 MI from the production plants.

H2O MANAGEMENT AND PURIFICATION

All waste-water is reused through the manufacturing process, this is already 100%.

RECYCLED/RECYCLABLE PACKING MATERIAL

All our paper packaging materials are made from recycled paper and are further recyclable.

Kronos uses "Heat treatment certified pallets" that are disinfected by heat and not by poisonous gas.

LIFE CYCLE ASSESSMENT

The Life Cycle Assessment (LCA) is also known as an "eco-balance" or cradle-to-grave-analysis and it's the investigation and evaluation of the environmental impact of a given product or service caused or necessitated by its existence.

Kronos tiles and slabs have a very long-life cycle. From a technical point of view, Kronos tiles and slabs may be used for many hundreds of years without losing their looks or their technical quality.

Innovation and design play a major role at Kronos.

Kronos has developed specific systems to install its Porcelain Pavers without cement, glues, mortar or other setting materials both on floors and walls. It is no longer necessary to grout the joint line between Kronos Porcelain Pavers as our products can be dry settled.

The elimination of setting materials allows significant savings in terms of costs of transportation and time for the installation.

The job sites are immediately available after the Kronos Porcelain Pavers are dry installed, while the use of traditional setting materials requests time and cure after the collocation. Kronos Porcelain Pavers dry installation also significantly reduces the creation of dusts and pollutants. People living in spaces where the Kronos Porcelain Pavers are laid, are less prone to allergies and respiratory problems that may be caused by breathing residual dusts and moisture caused by traditional settings methods.

INTENDED USES

POPA 2.0 is a product with high aesthetic and technical characteristics, adaptable and functional for any outdoor enviroment.

COMMERCIAL AREAS:

Dehors, swimming-pools, beach resorts, walkways, pathways, events and exhibitions, parking lots, etc...

RESIDENCIAL AREAS:

Patios, terraces, gazebos, swimming-pools, oriental gardens, stairs, rooftop, car parks, etc...

LEED CREDITS



WHY CHOOSE POPA 2.0?

Kronos Porcelain Pavers are produced in the U.S., the manufacturing plants are located in Tennessee. The factory is member of the U.S. Green Building Council, which is an organization that promotes buildings that are environmentally responsible, profitable and healthy places to live and work.

RECYCLED CONTENT, MR Credit 4.1 and 4.2 (2 LEED points)

Kronos USA products are produced with 35% of pre-consumer recycled materials.

REGIONAL MATERIALS, MR Credit 5.2 (2 LEED points are granted if the use of local raw material is equal to 20% of the total value of the raw materials).

These Credits are applicable for buildings constructed within 500 miles (804.5 km) from the factory.

The 49% of whole Kronos USA raw materials are quarried in the 500 miles radius. Therefore Kronos USA products contribute for 49% of their value to the LEED Credits of this Section.

HEAT ISLAND EFFECT (Non roof), SS Credit 7.1 (1 LEED point)

The great majority of Kronos USA products do not contribute to change the energy balance of the environments where installed. They do not produce any Urban Heat Island Effect, thanks to its very good physical properties Solar Reflectance Index SRI ≥ 29.

LOW EMITTING MATERIALS, EQ Credit 4.2 (1 LEED point)

No traces of VOC (Volatile Organic Compounds) are present in Kronos USA tiles (as certified by the external labs in charge of the tests).

INNOVATION IN DESIGN, ID Credit 1.1-1.4 (1-4 LEED points)

Kronos USA tiles are produced in manufacturing plans which have got the prestigious ecological mark ECOLABEL (EU Regulation 2002/272/EC).

These plants vant the environmental management systems compliant to ISO 14001:2004 and EMAS (European Council Regulation 761/2001).

These environmental standards guarantee excellence in terms of:


- safeguard of the environment;
- continuous improvement of the environmental performances of Kronos USA products and manufacturing sites;
- healthcare of Kronos Usa workers and customers.
- 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
- More cost effective than grating or grid structures for elevated paving installations
- Resistant to damage by frost, snow, ice and heat (-40°f - 210°f)
- Removable and reusable
- Available in a broad range of colors/styles
- Installation on single ply membranes
- Massive over life cost savings
- Inspectable and removable
- Easy to install
- Easy to clean stain, chemical and salt resistant
- Fade resistant
- Slip resistant and quick draining
- Virtually no maintenance
- Thermal insulation (hot/cold)
- The slight gap between gres slabs allows a quick water drainage
- Best acoustic
- Insulation
- It allows for planar and uniform surfaces with no uneven levels or visible water drainage systems (grids or water discharge pipes).
- Less load bearing in attics and on balconies as the last layer of concrete and glue is not necessary



ICON TRAVERTINE | *Tivoli's Avorio*

CROSS CUT

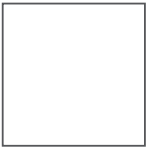


 3/4" thickness

 **V3**  
moderate  
variation



US7969  
23½"x47½" rectified  
60x120 cm



US7954  
23½"x 23½" rectified  
60x60 cm



1100460  
11¾" x 23½" rectified  
30x60 cm



US7960  
11¾"x11¾" rectified  
30x30 cm





ICON TRAVERTINE | *Tivoli's Crema*

CROSS CUT

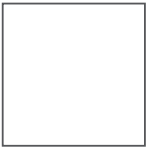


3/4" thickness

V3  
moderate  
variation



US7970  
23 1/2"x47 1/2" rectified  
60x120 cm



US7956  
23 1/2"x 23 1/2" rectified  
60x60 cm



1100462  
11 3/4" x 23 1/2" rectified  
30x60 cm



US7962  
11 3/4"x11 3/4" rectified  
30x30 cm



An italian porcelain paver made in USA



ICON TRAVERTINE | *Tivoli's Walnut*

CROSS CUT

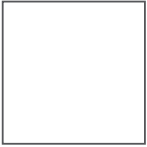


3/4" thickness

V3  
moderate  
variation



US7971  
23 1/2" x 47 1/8" rectified  
60 x 120 cm



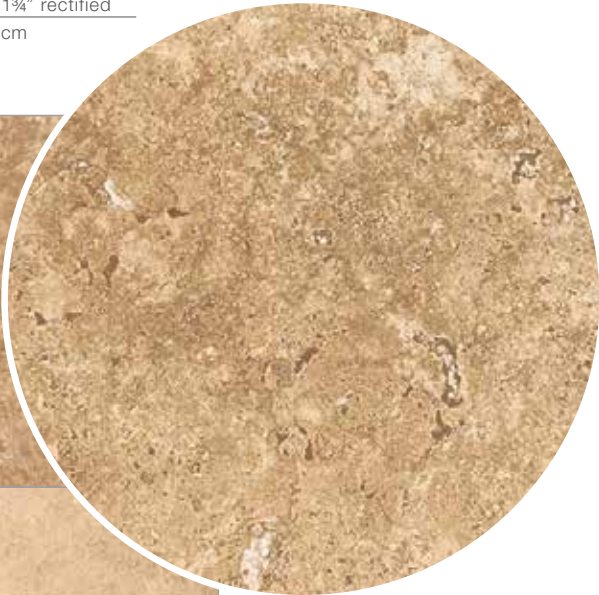
US7955  
23 1/2" x 23 1/2" rectified  
60 x 60 cm



1100461  
11 3/4" x 23 1/2" rectified  
30 x 60 cm



US7961  
11 3/4" x 11 3/4" rectified  
30 x 30 cm




An italian porcelain paver made in USA



ICON TRAVERTINE | *Andes Silver*

CROSS CUT

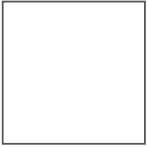


 3/4" thickness

 **V4**  
substantial  
variation



US7966  
23 1/2"x47 1/8" rectified  
60x120 cm



US7957  
23 1/2"x 23 1/2" rectified  
60x60 cm



1100463  
11 3/4" x 23 1/2" rectified  
30x60 cm



US7963  
11 3/4"x11 3/4" rectified  
30x30 cm




An italian porcelain paver made in USA



ICON TRAVERTINE | *Andes Shell*

CROSS CUT

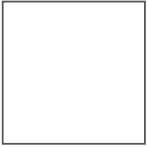


 3/4" thickness

 **V4**  
substantial  
variation



US7967  
23½"x47½" rectified  
60x120 cm



US7958  
23½"x 23½" rectified  
60x60 cm



1100464  
11¾" x 23½" rectified  
30x60 cm



US7964  
11¾"x11¾" rectified  
30x30 cm




An italian porcelain paver made in USA



ICON TRAVERTINE | *Andes Cappuccino*

CROSS CUT

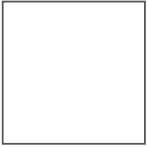


 3/4" thickness

 V4  
substantial  
variation



US7968  
23 1/2" x 47 1/8" rectified  
60x120 cm



US7959  
23 1/2" x 23 1/2" rectified  
60x60 cm



1100465  
11 3/4" x 23 1/2" rectified  
30x60 cm



US7965  
11 3/4" x 11 3/4" rectified  
30x30 cm



An italian porcelain paver made in USA



ICON TRAVERTINE | *Pearl*



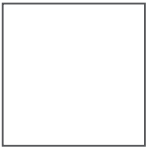
VEIN CUT  
ITALIAN

3/4" thickness

V2  
slight  
variation



US7943  
23 1/2"x47 1/8" rectified  
60x120 cm



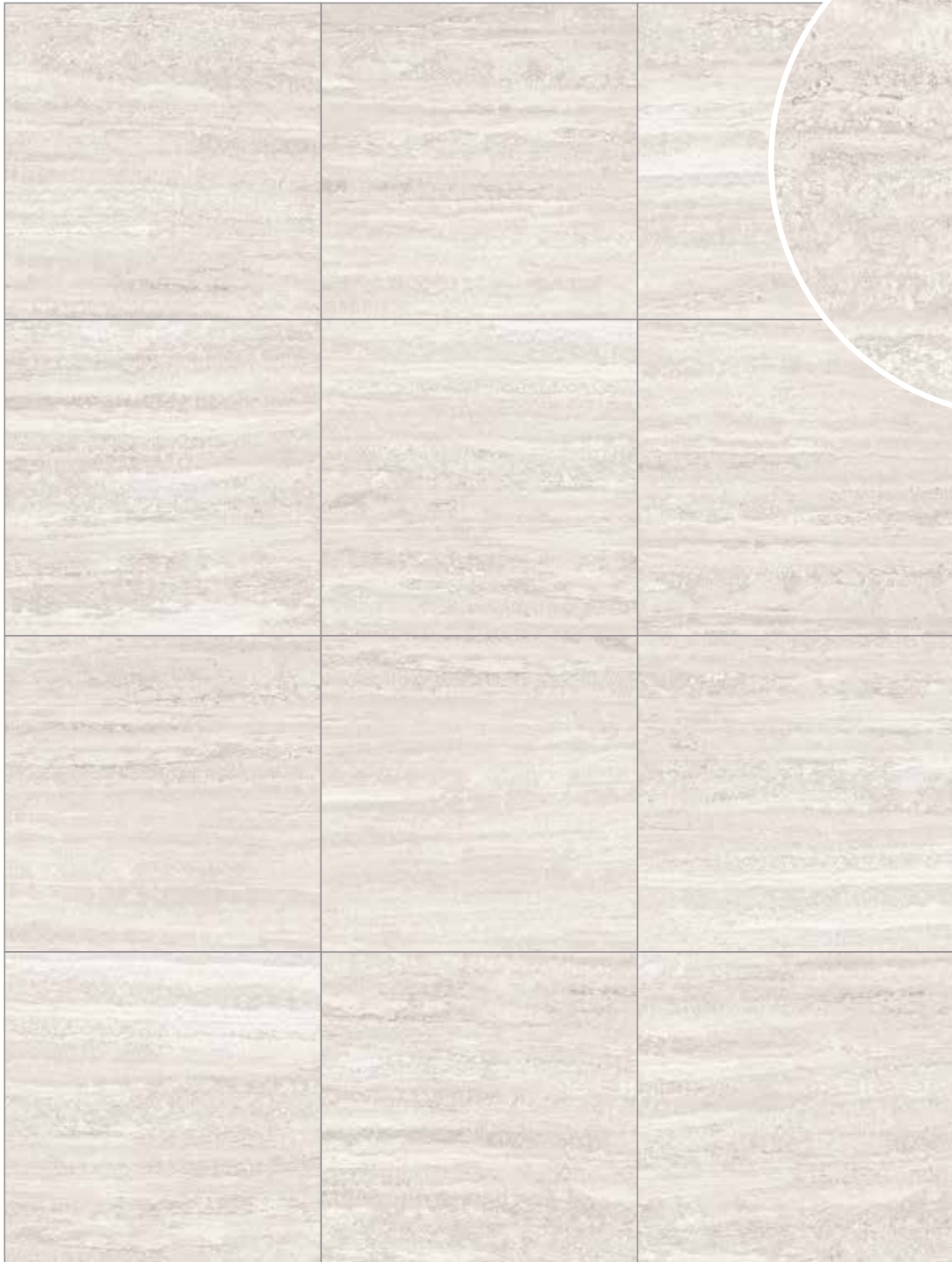
US7908  
23 1/2"x 23 1/2" rectified  
60x60 cm



1100015  
11 3/4" x 23 1/2" rectified  
30x60 cm



US7944  
11 3/4"x11 3/4" rectified  
30x30 cm



An italian porcelain paver made in USA



ICON TRAVERTINE | *River*



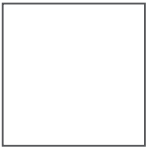
VEIN CUT  
ITALIAN

3/4" thickness

V2  
slight  
variation



US7945  
23½"x47½" rectified  
60x120 cm



US7909  
23½"x 23½" rectified  
60x60 cm



1100016  
11¾" x 23½" rectified  
30x60 cm



US7942  
11¾"x11¾" rectified  
30x30 cm



An italian porcelain paver made in USA



PENNSYLVANIA | *Full Color Cleft Pattern*



3/4" thickness

V4  
substantial  
variation



US7920  
23 1/2" x 47 1/8" rectified  
60 x 120 cm



US7916  
23 1/2" x 23 1/2" rectified  
60 x 60 cm



1100457  
11 3/4" x 23 1/2" rectified  
30 x 60 cm



US7918  
11 3/4" x 11 3/4" rectified  
30 x 30 cm



US7922  
11 3/4" x 47 1/8" rectified  
30 x 120 cm



**Cleft  
Pattern**

An italian porcelain paver made in USA



PENNSYLVANIA | *True Blue Thermal Pattern*



3/4" thickness

V3 moderate variation



US7921  
23 1/2"x47 1/8" rectified  
60x120 cm



US7917  
23 1/2" x 23 1/2" rectified  
60x60 cm



1100458  
11 3/4" x 23 1/2" rectified  
30x60 cm



US7919  
11 3/4" x 11 3/4" rectified  
30x30 cm



US7923  
11 3/4" x 47 1/8" rectified  
30x120 cm



**Thermal Pattern**

An italian porcelain paver made in USA

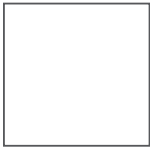


STONE | *Moonstone*



3/4" thickness

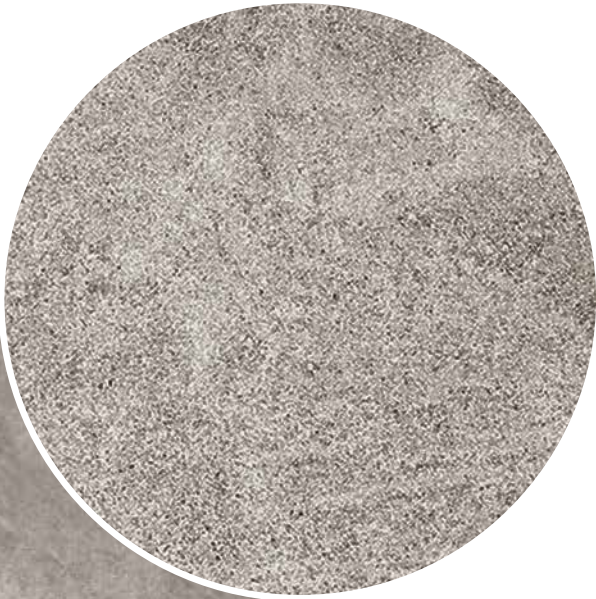
V2  
slight  
variation



US7903  
23 1/2" x 23 1/2" rectified  
60x60 cm



1100013  
11 3/4" x 23 1/2" rectified  
30x60 cm



An italian porcelain paver made in USA

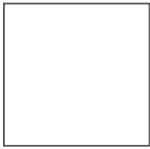


STONE | Creamstone



3/4" thickness

V2  
slight  
variation



US7904  
23½" x 23½" rectified  
60x60 cm



1100014  
11¾" x 23½" rectified  
30x60 cm



US7940  
11¾" x 11¾" rectified  
30x30 cm




An italian porcelain paver made in USA

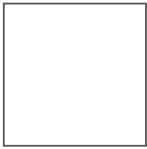


STONE | *Multicolor*

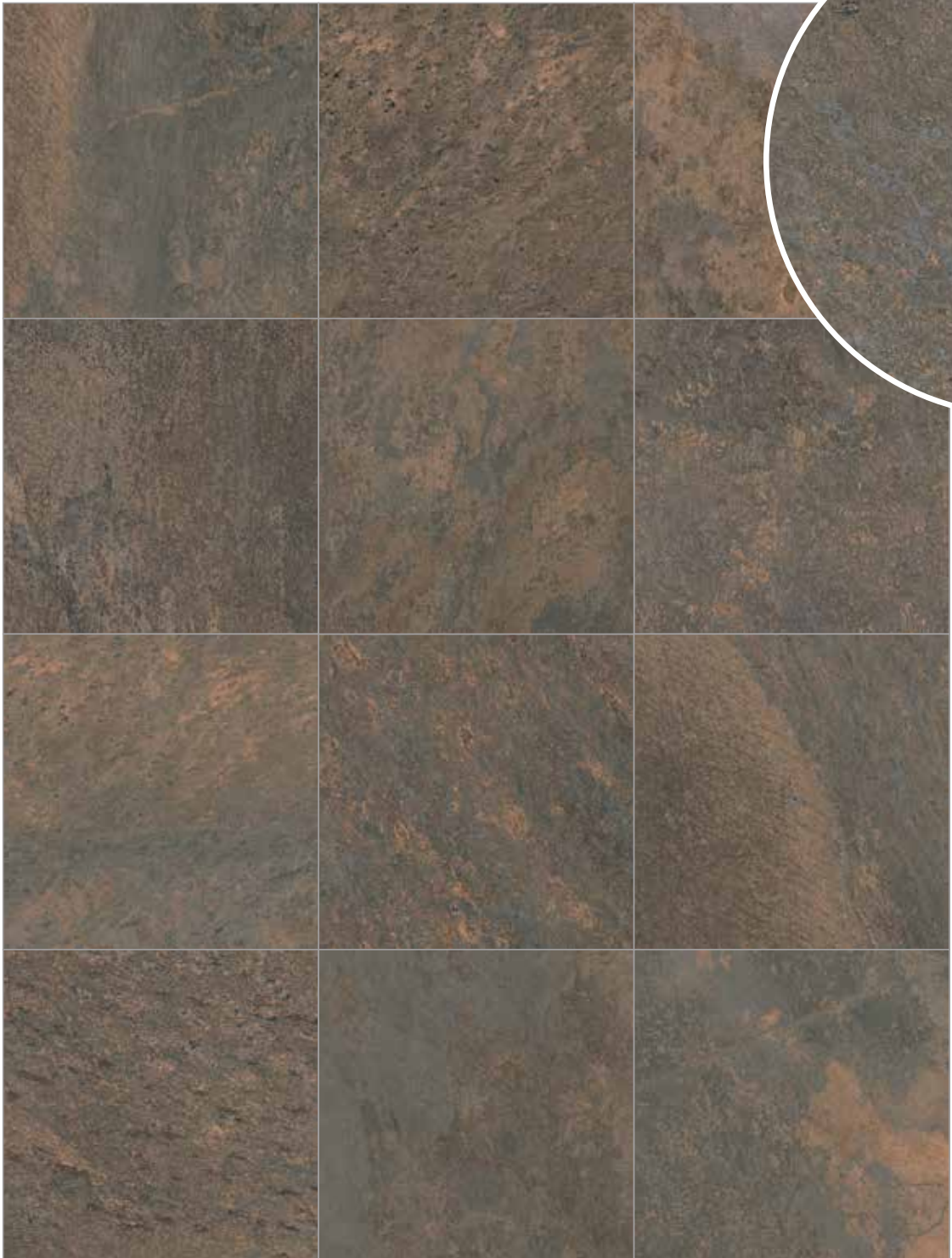


 3/4" thickness

 **V4**  
substantial  
variation



US6024  
23½" x 23½" rectified  
60x60 cm



An italian porcelain paver made in USA



QUARTZITE | *Crystal White*



3/4" thickness

V3  
moderate  
variation



US7907  
23½" x 23½" rectified  
60x60 cm



1100017  
11¾" x 23½" rectified  
30x60 cm





QUARTZITE | *Sandy Island*



3/4" thickness

V3  
moderate  
variation



US7910  
23 1/2" x 23 1/2" rectified  
60x60 cm



1100018  
11 3/4" x 23 1/2" rectified  
30x60 cm



An italian porcelain paver made in USA



QUARTZITE | *Laguna*



3/4" thickness

V3  
moderate  
variation



US7915  
23 1/2" x 23 1/2" rectified  
60x60 cm



An italian porcelain paver made in USA

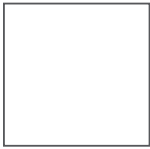


QUARTZITE | *Cloud*



3/4" thickness

V3  
moderate  
variation

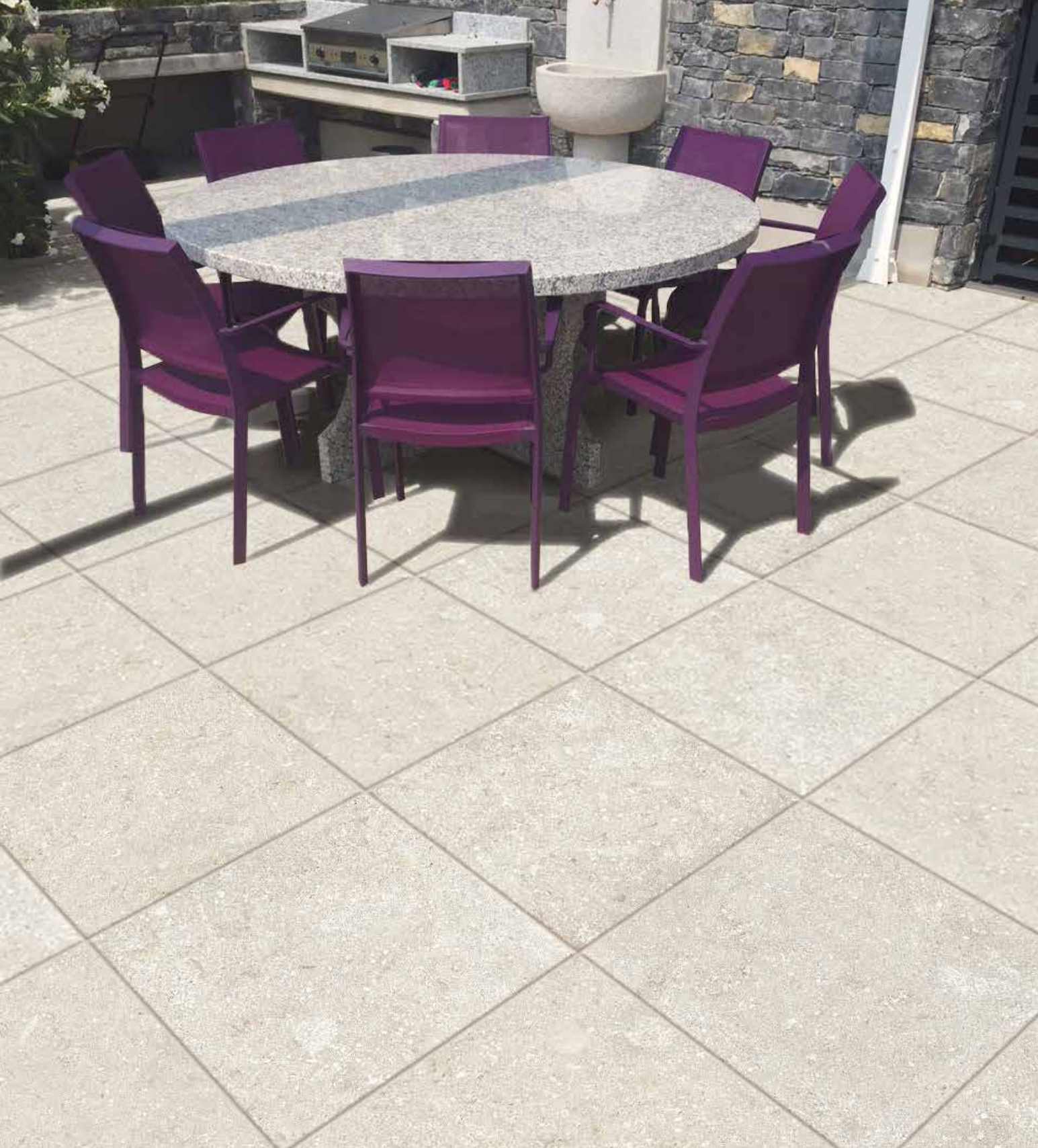


US7914  
23½" x 23½" rectified  
60x60 cm





OCEAN STONE | *White Cool*



3/4" thickness

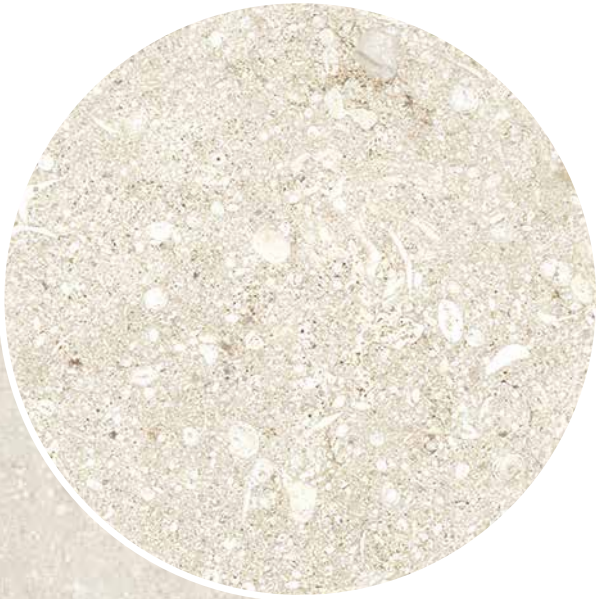
V2  
slight  
variation



US7911  
23 1/2" x 23 1/2" rectified  
60x60 cm



1100019  
11 3/4" x 23 1/2" rectified  
30x60 cm



An italian porcelain paver made in USA



OCEAN STONE | *Black*



3/4" thickness

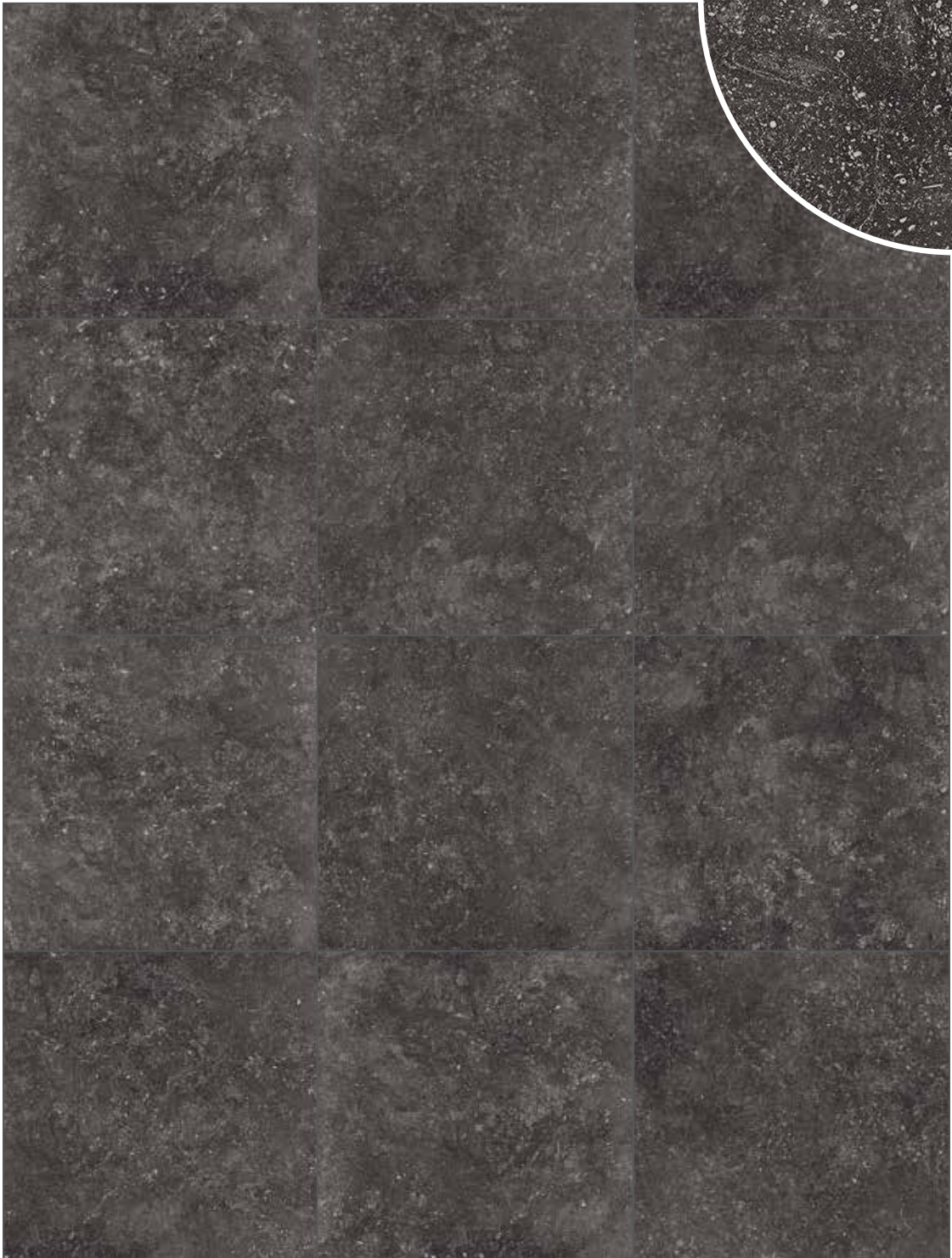
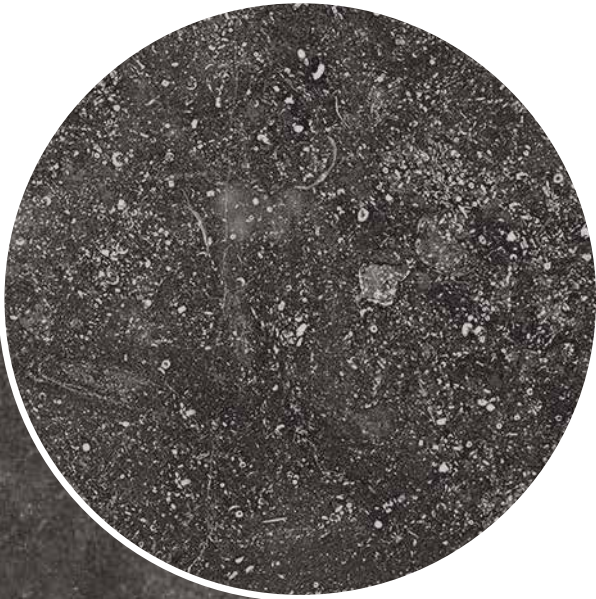
V2  
slight  
variation



US7912  
23½" x 23½" rectified  
60x60 cm



1100021  
11¾" x 23½" rectified  
30x60 cm



An italian porcelain paver made in USA



OCEAN STONE | *Tan*



3/4" thickness

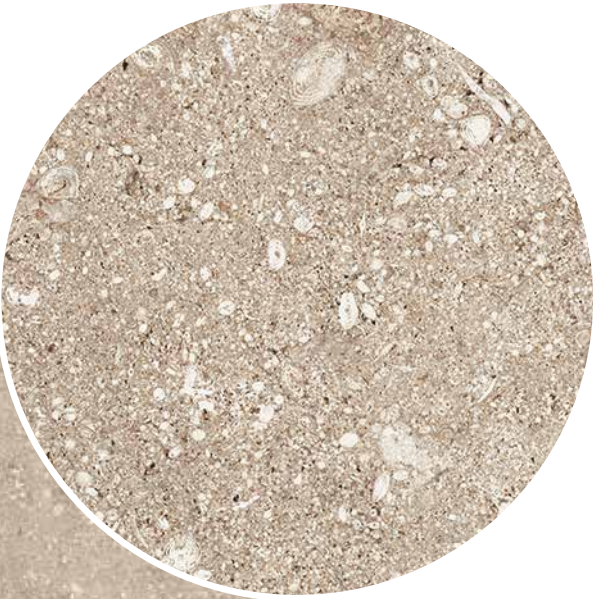
V2  
slight  
variation



US7913  
23½" x 23½" rectified  
60x60 cm



1100020  
11¾" x 23½" rectified  
30x60 cm



An italian porcelain paver made in USA



COTTO

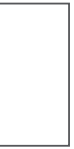


3/4" thickness

V3 moderate variation



US7924  
23½" x 23½" rectified  
60x60 cm



1100022  
11¾" x 23½" rectified  
30x60 cm





PRIMA MATERIA | *Cemento*

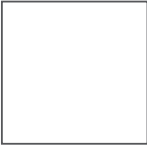


3/4" thickness

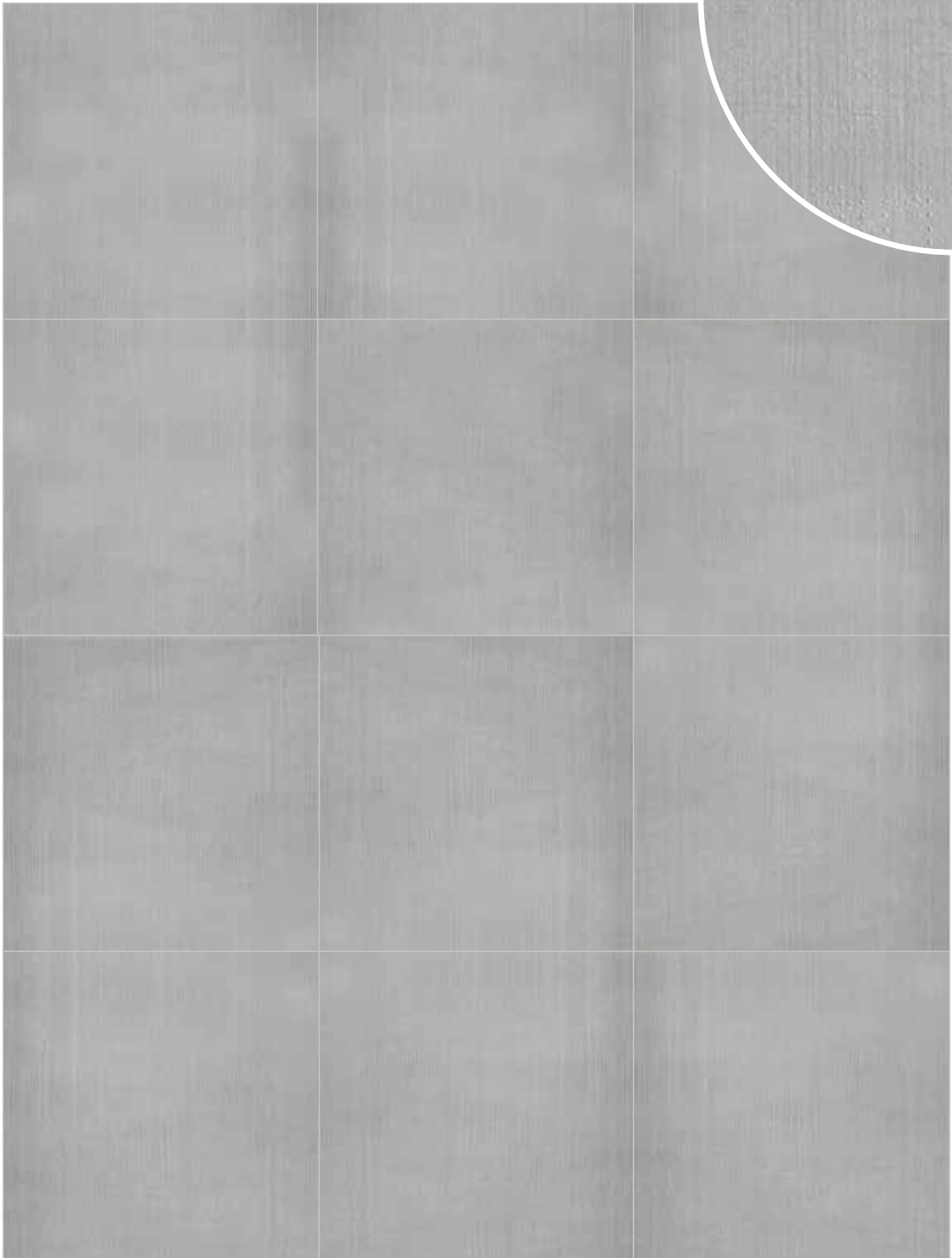
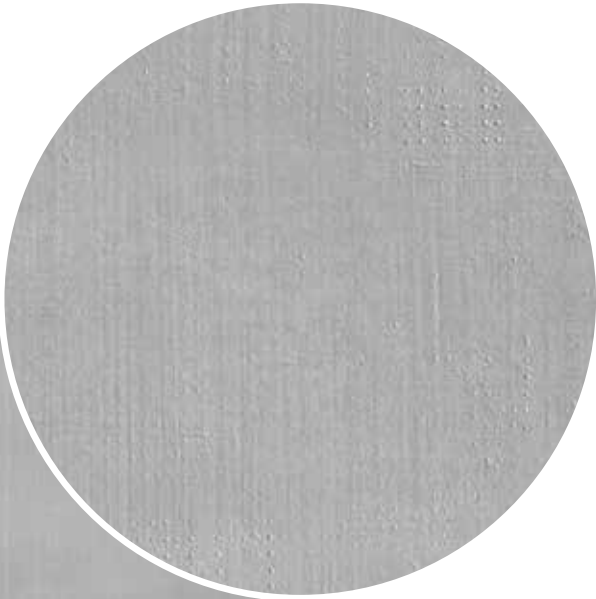
V3  
moderate  
variation



US8098  
23½"x47½" rectified  
60x120 cm



US8062  
23½" x 23½" rectified  
60x60 cm





PRIMA MATERIA | *Cenere*

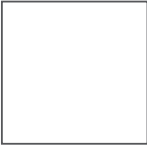


3/4" thickness

v3 moderate variation



US8098  
23 1/2" x 47 1/8" rectified  
60x120 cm




US8062  
23 1/2" x 23 1/2" rectified  
60x60 cm






PRIMA MATERIA | *Sandalo*

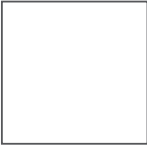


 3/4" thickness

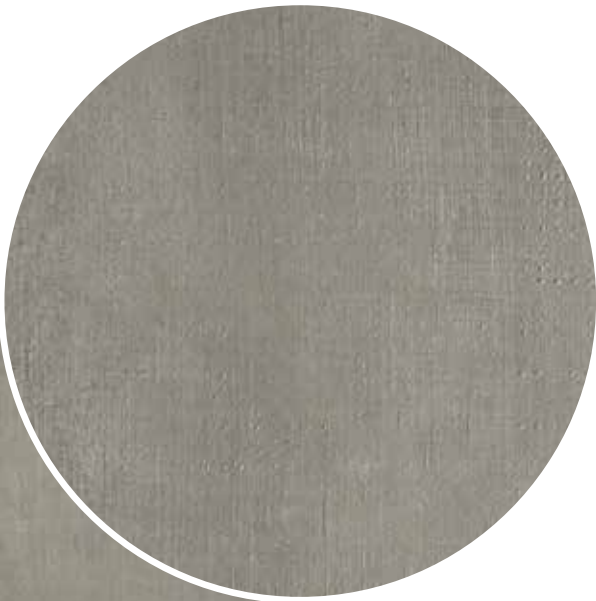
 **V3**  
moderate variation



US8098  
23 1/2" x 47 1/8" rectified  
60x120 cm



US8062  
23 1/2" x 23 1/2" rectified  
60x60 cm



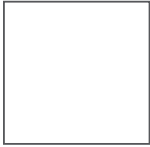


MONOCROMATICA | *Bone*



3/4" thickness

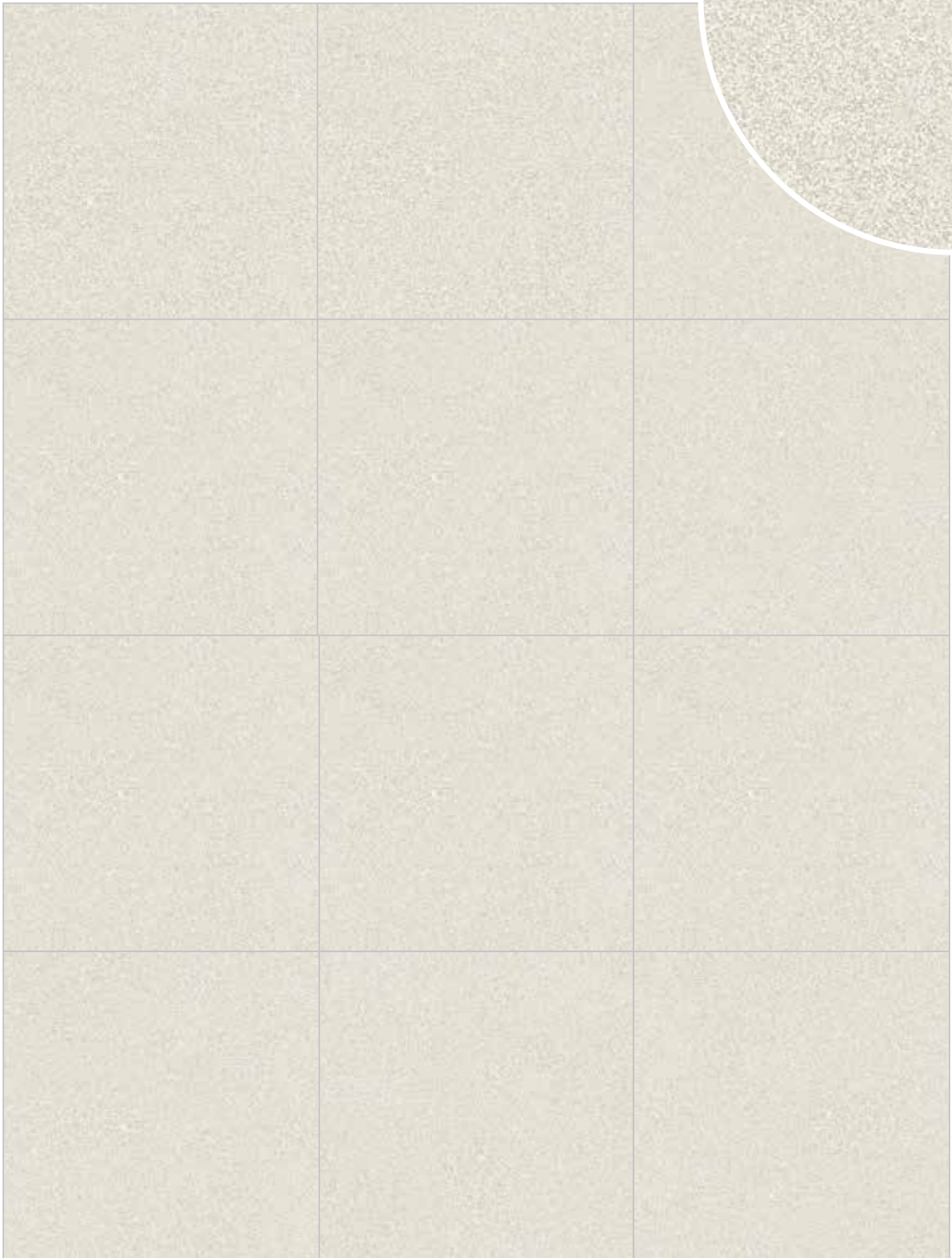
V1  
uniform  
appearance



US7938  
23½" x 23½" rectified  
60x60 cm



1100032  
11¾" x 23½" rectified  
30x60 cm





MONOCROMATICA | *Ash*



3/4" thickness

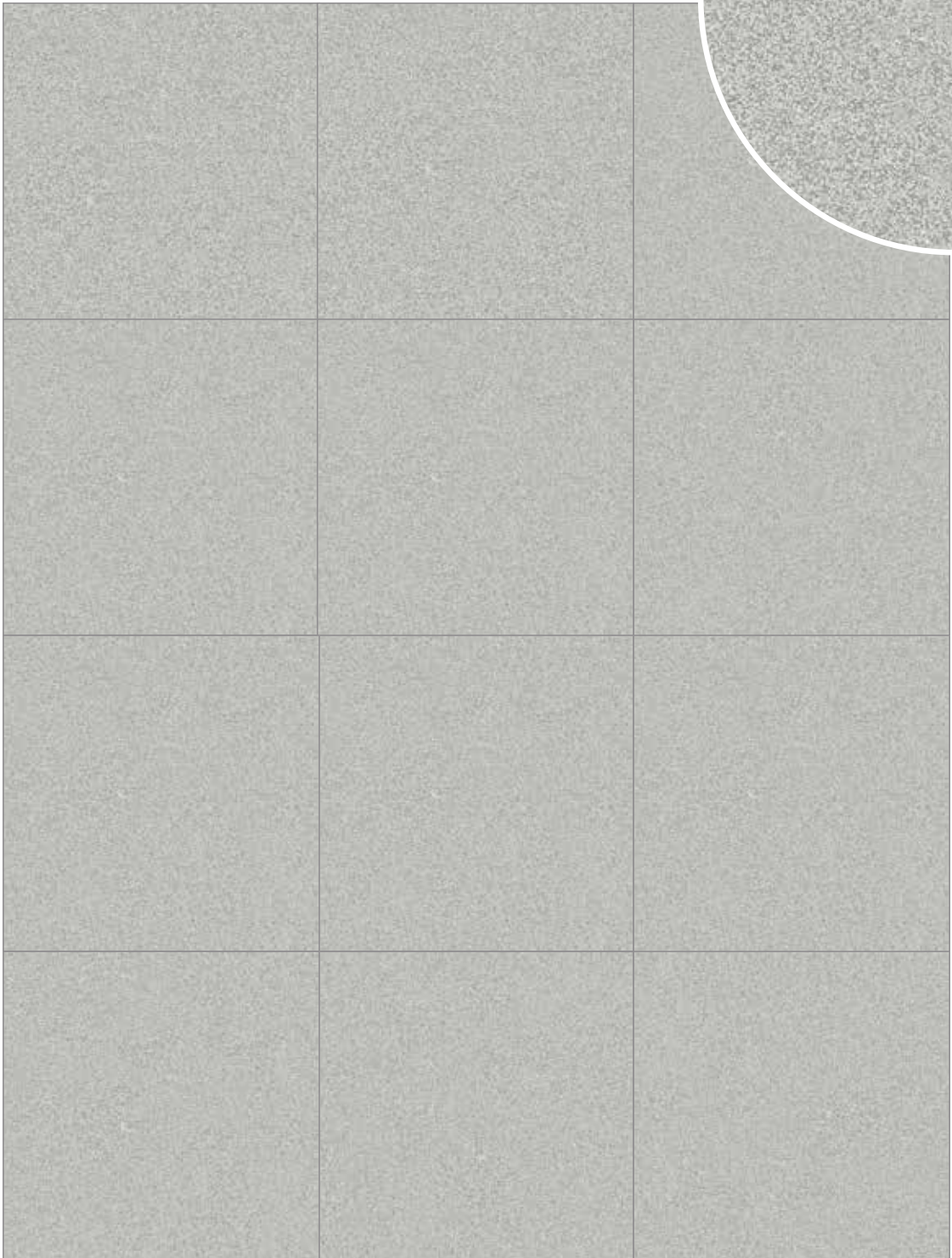
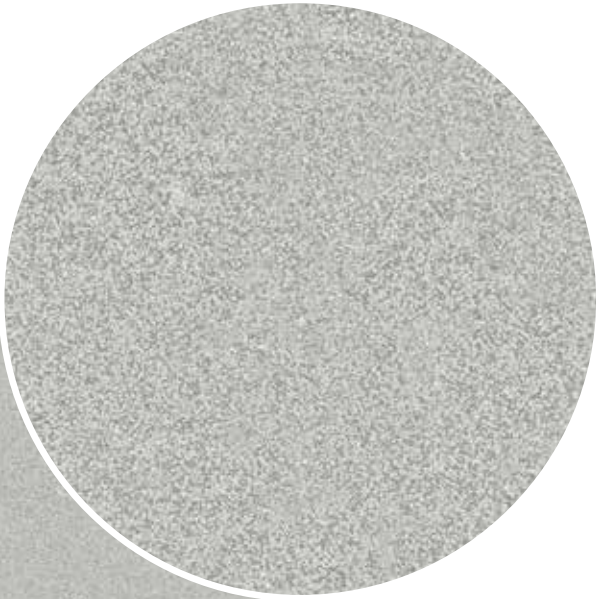
v1  
uniform  
appearance



US7937  
23½" x 23½" rectified  
60x60 cm



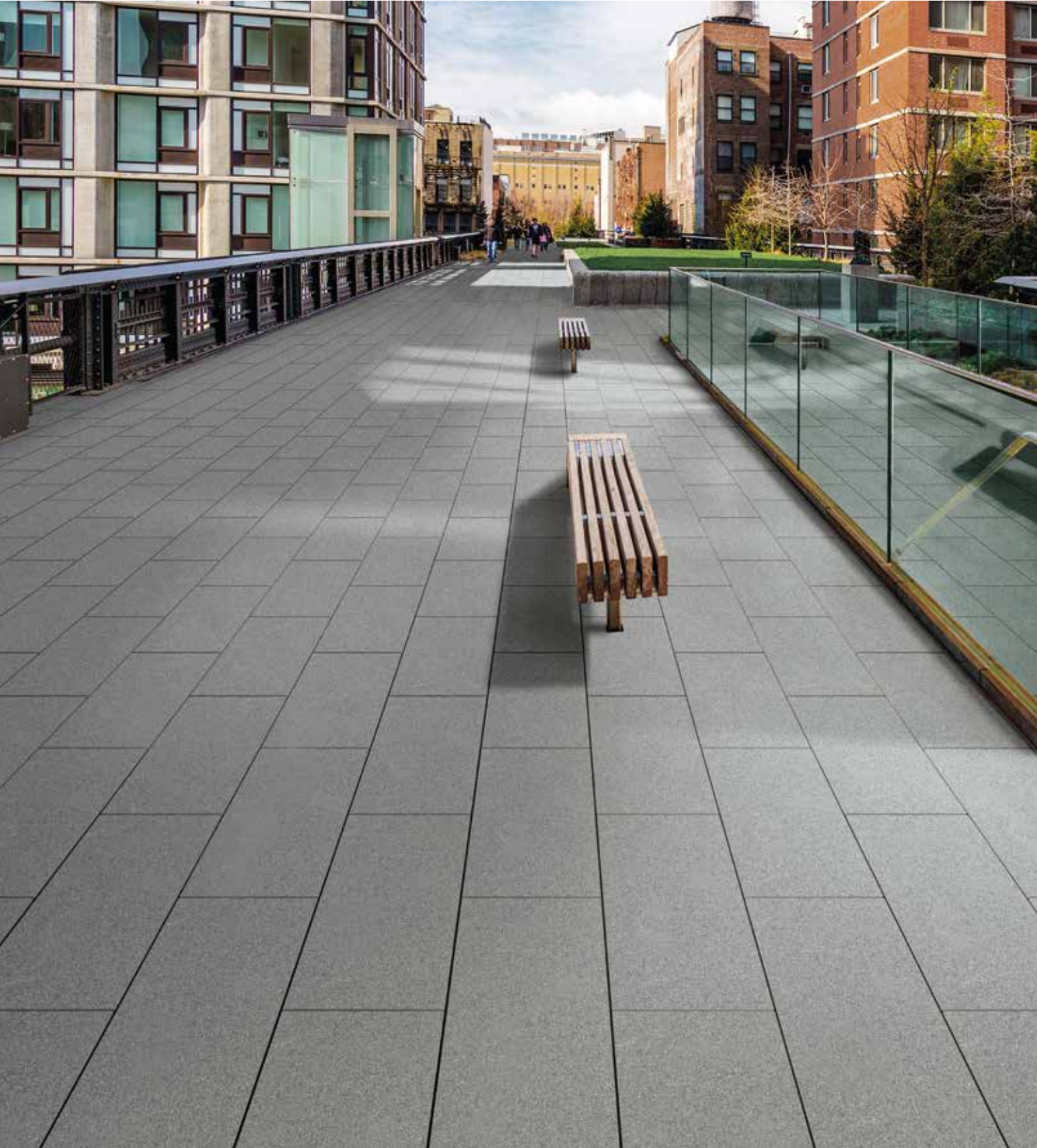
1100031  
11¾" x 23½" rectified  
30x60 cm



An italian porcelain paver made in USA



MONOCROMATICA | *Basalt*



3/4" thickness

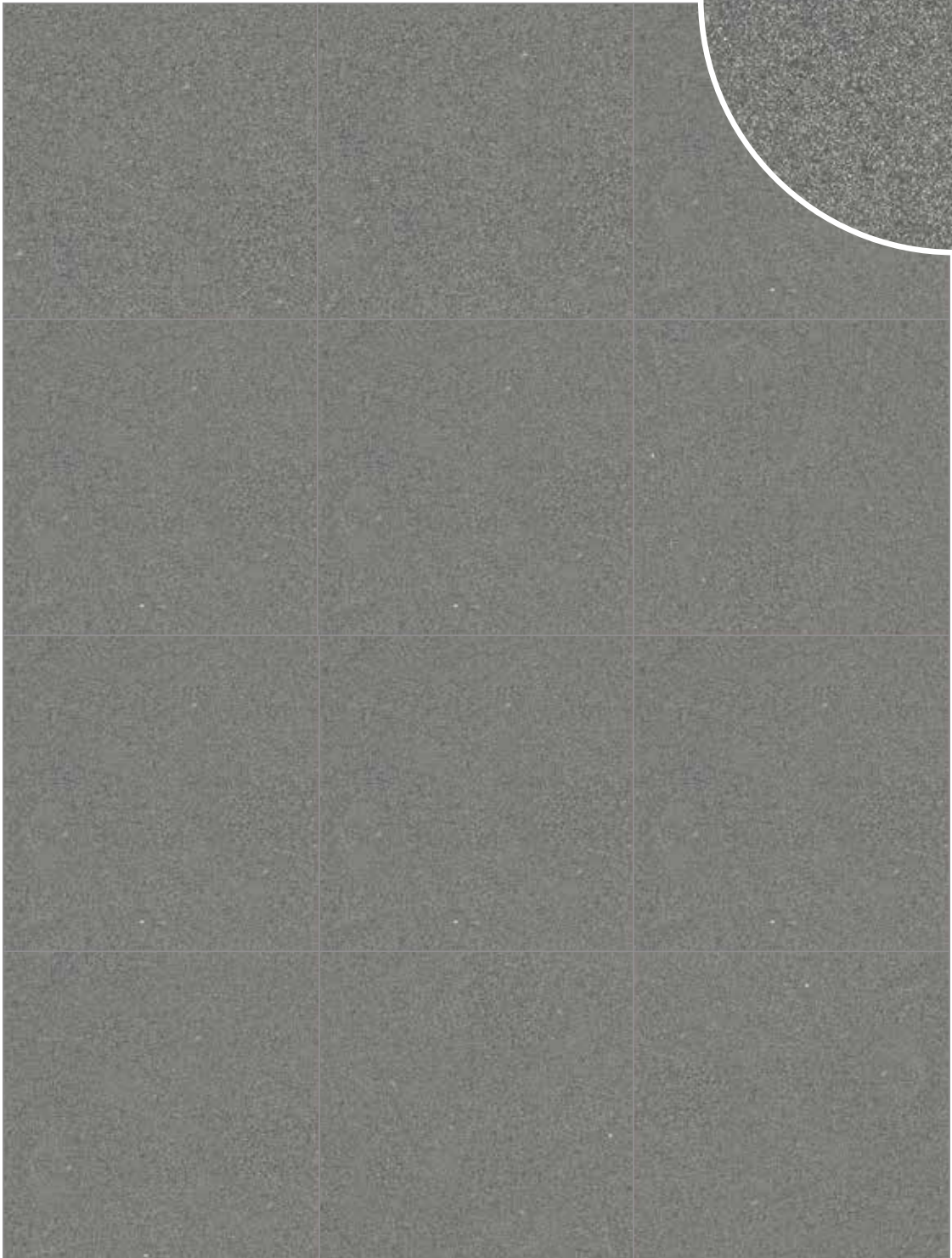
V1  
uniform  
appearance



US7936  
23½" x 23½" rectified  
60x60 cm



1100030  
11¾" x 23½" rectified  
30x60 cm



An italian porcelain paver made in USA



MONOCROMATICA | Sand



3/4" thickness

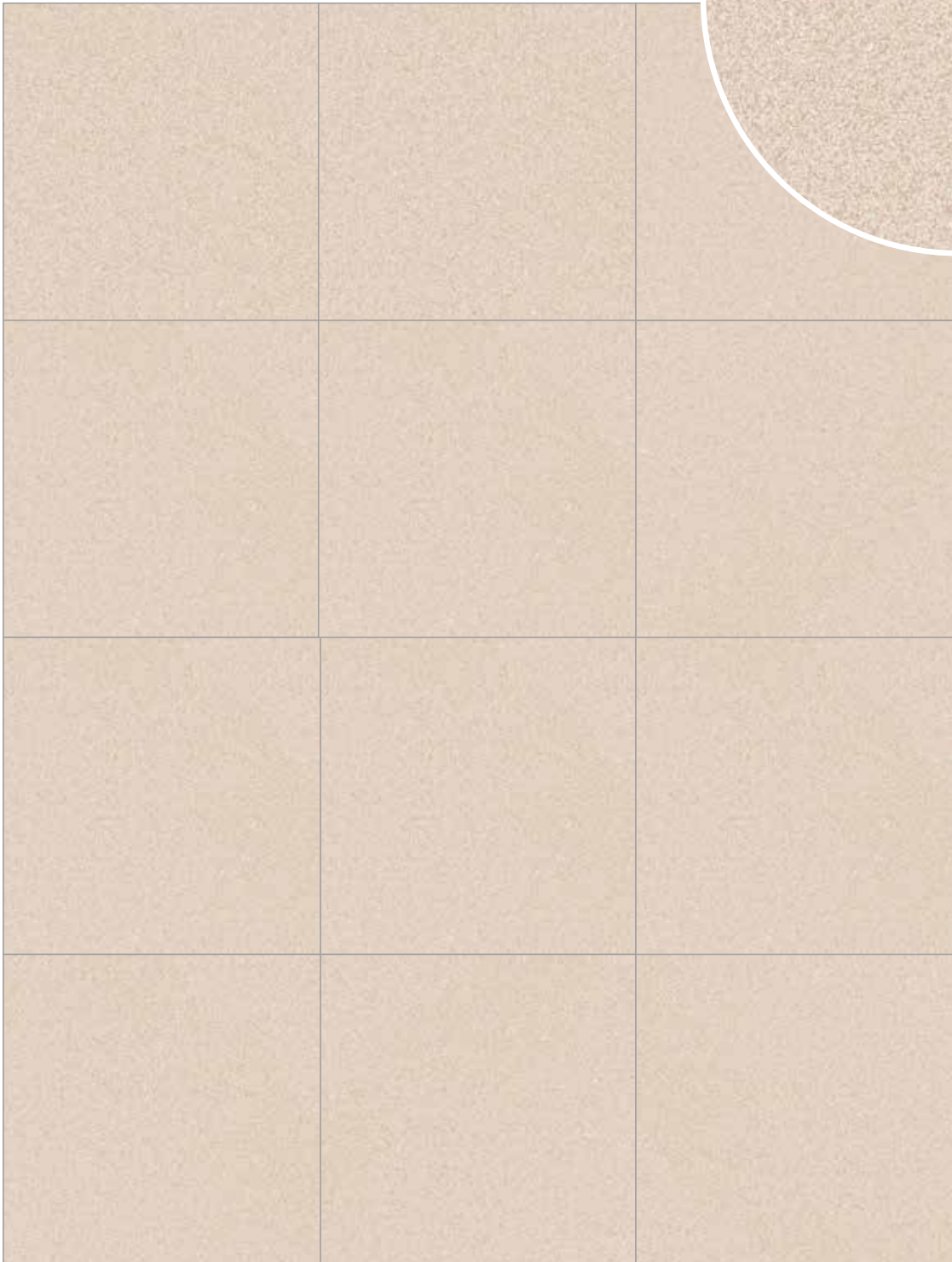
V1  
uniform  
appearance



US7935  
23 1/2" x 23 1/2" rectified  
60x60 cm



1100029  
11 3/4" x 23 1/2" rectified  
30x60 cm



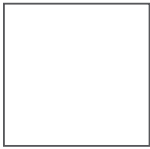


MONOCROMATICA | *Cognac*



3/4" thickness

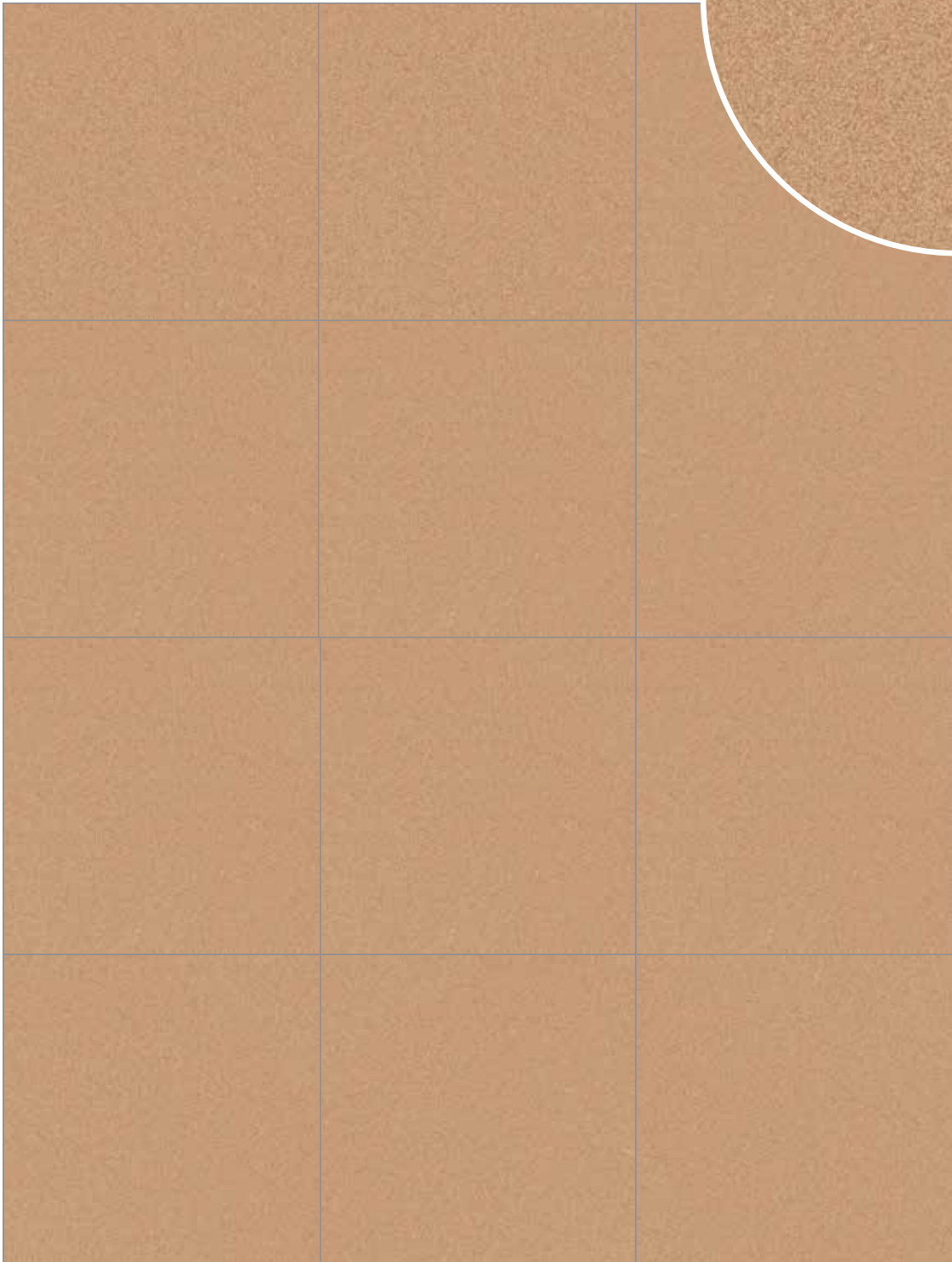
V1  
uniform  
appearance



US7934  
23 1/2" x 23 1/2" rectified  
60x60 cm



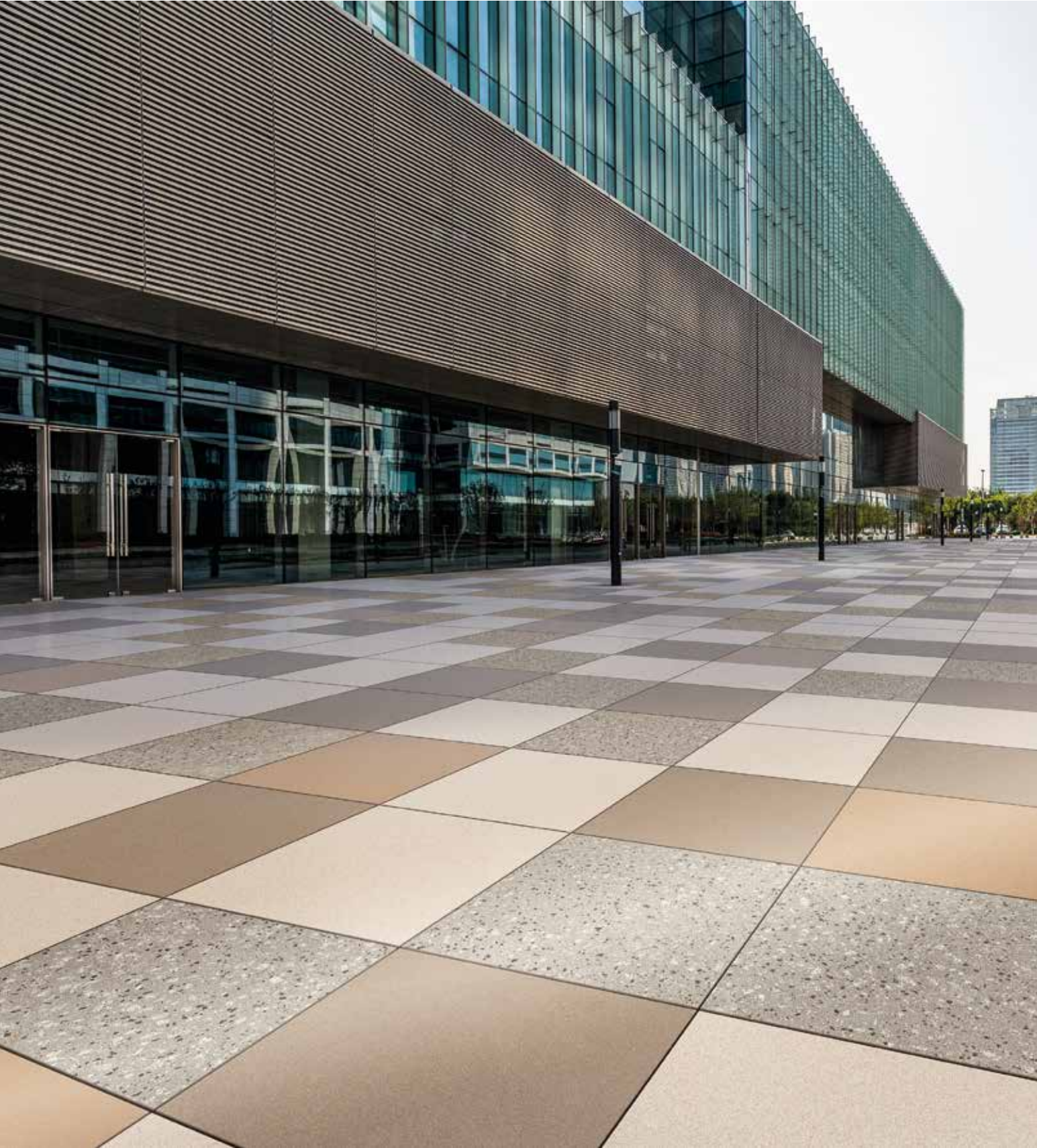
1100028  
11 3/4" x 23 1/2" rectified  
30x60 cm



An italian porcelain paver made in USA



MONOCROMATICA | *Leather*



3/4" thickness

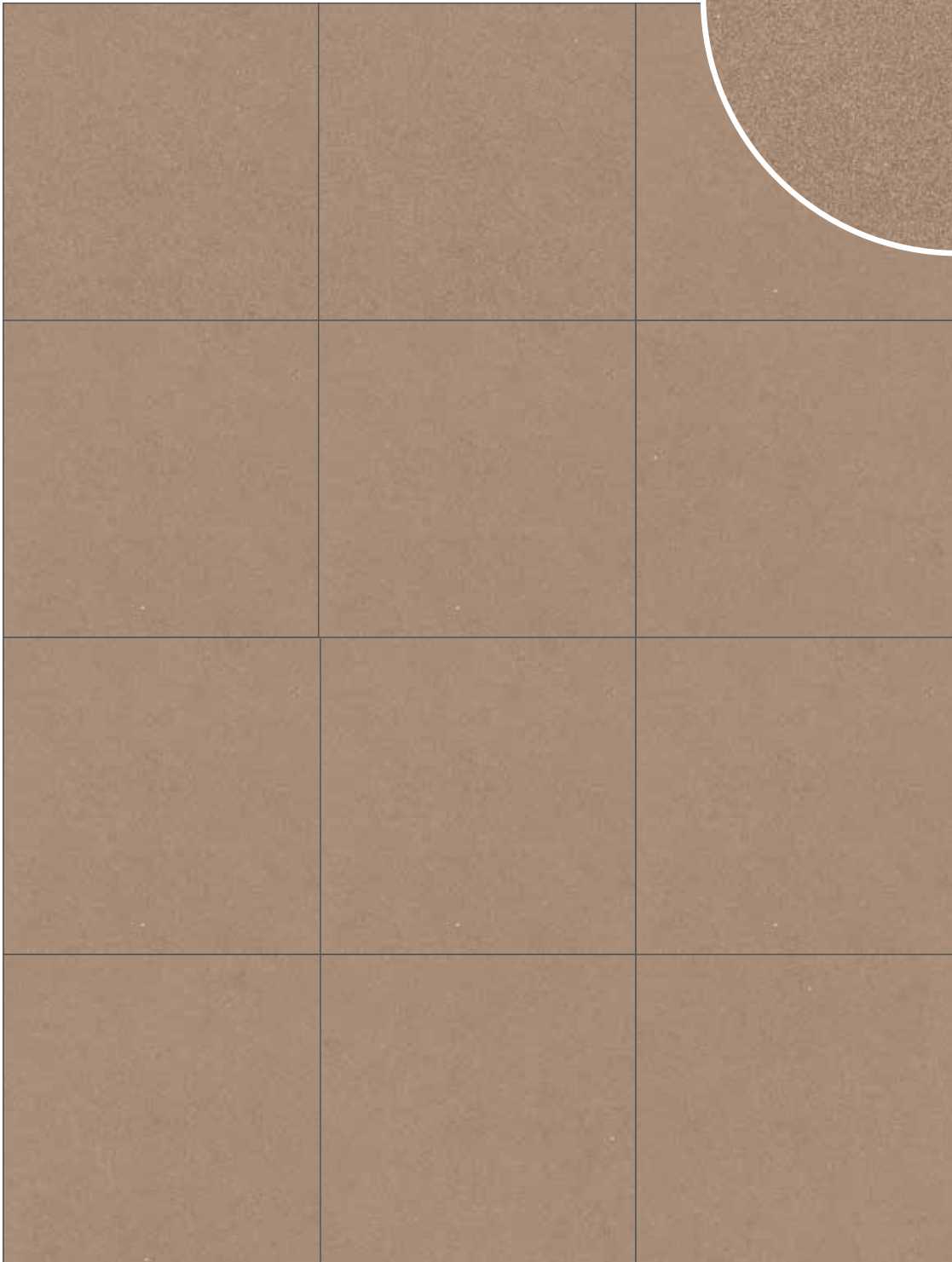
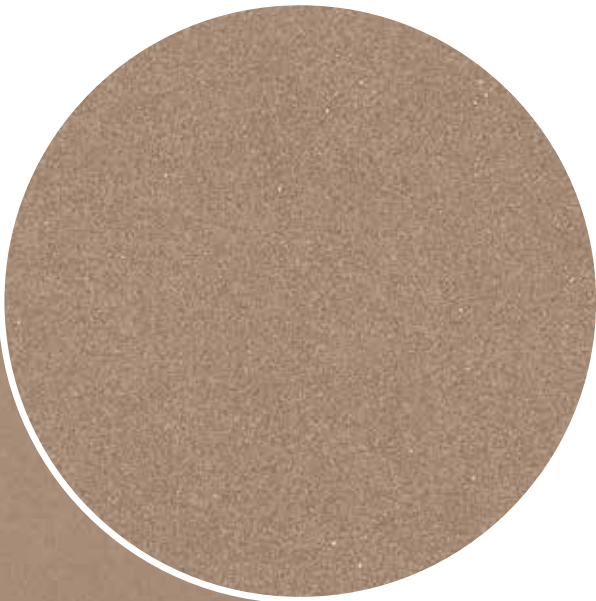
V1  
uniform  
appearance



US7939  
23½" x 23½" rectified  
60x60 cm



1100033  
11¾" x 23½" rectified  
30x60 cm



An italian porcelain paver made in USA



TERRAZZO | White Black



3/4" thickness

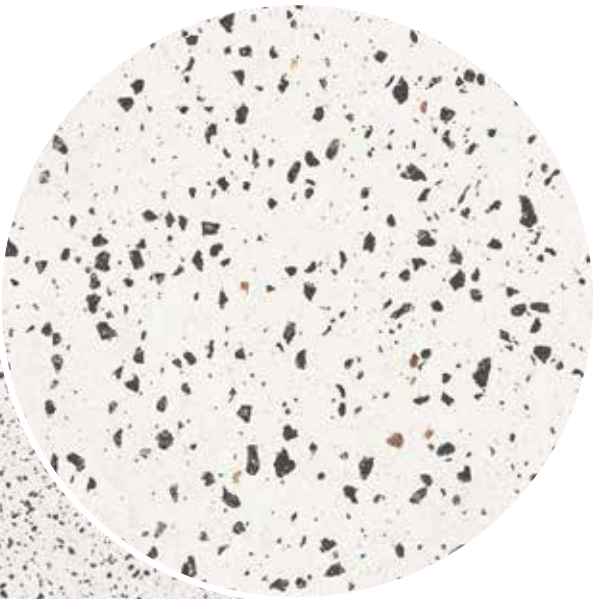
V2  
slight  
variation



US7933  
23½" x 23½" rectified  
60x60 cm



1100027  
11¾" x 23½" rectified  
30x60 cm





TERRAZZO | Grey Black



3/4" thickness

V2  
slight  
variation



US7932  
23 1/2" x 23 1/2" rectified  
60x60 cm



1100026  
11 1/4" x 23 1/2" rectified  
30x60 cm



An italian porcelain paver made in USA



TERRAZZO | Charcoal



3/4" thickness

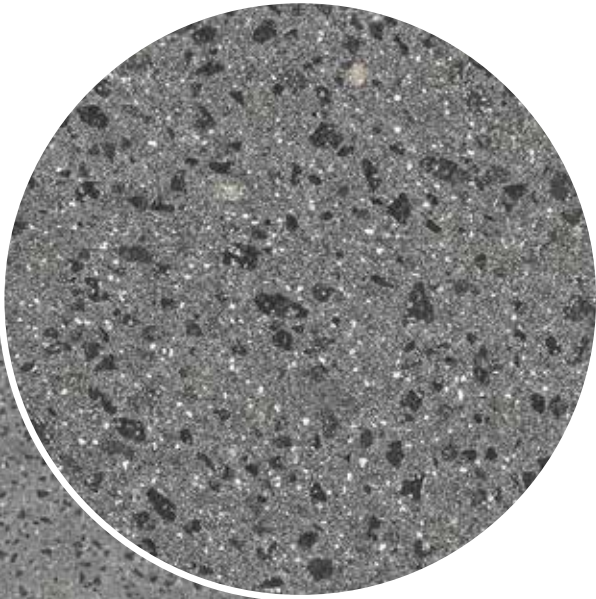
V2  
slight  
variation



US7931  
23 1/2" x 23 1/2" rectified  
60x60 cm



1100025  
11 3/4" x 23 1/2" rectified  
30x60 cm





TERRAZZO | Cool White



3/4" thickness

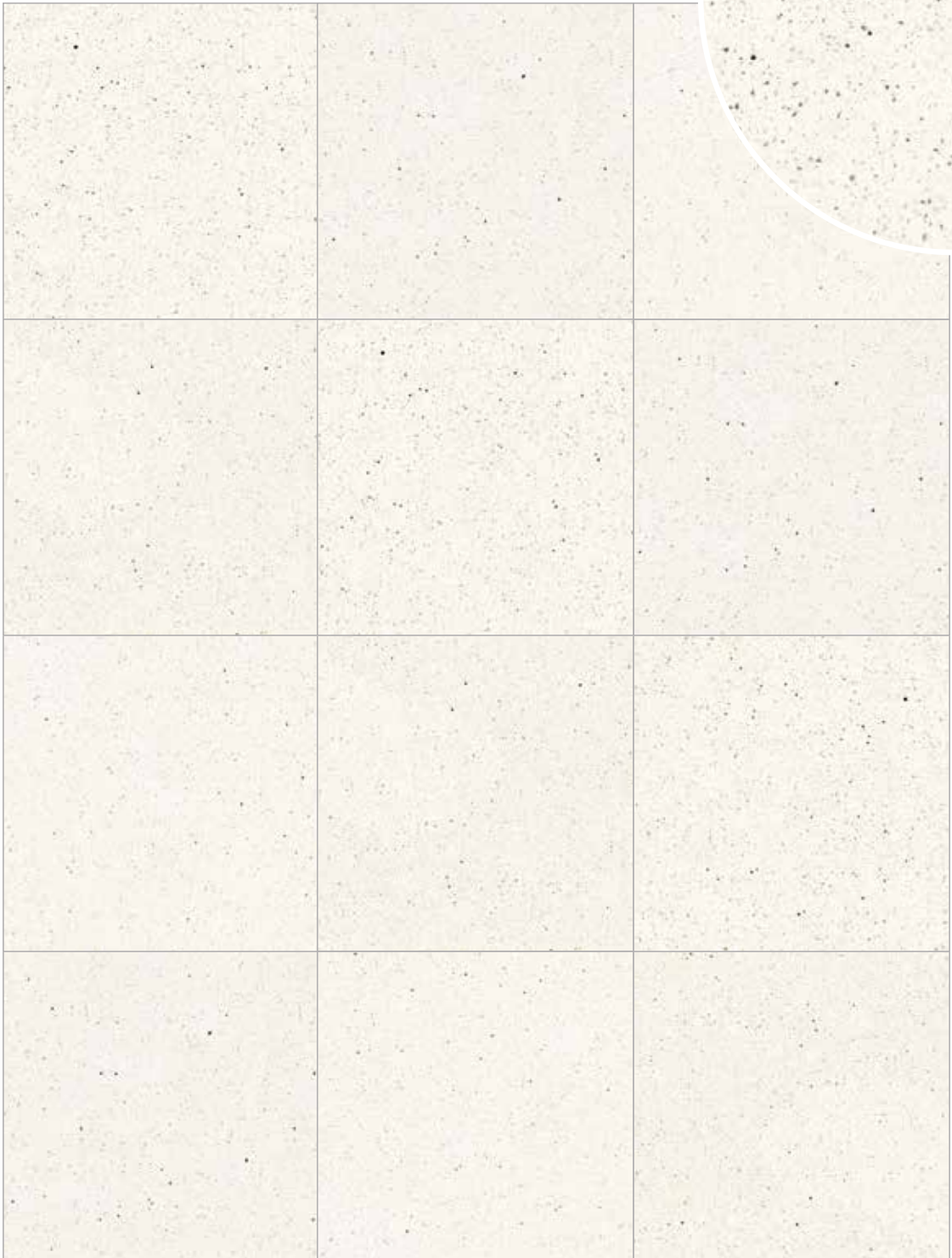
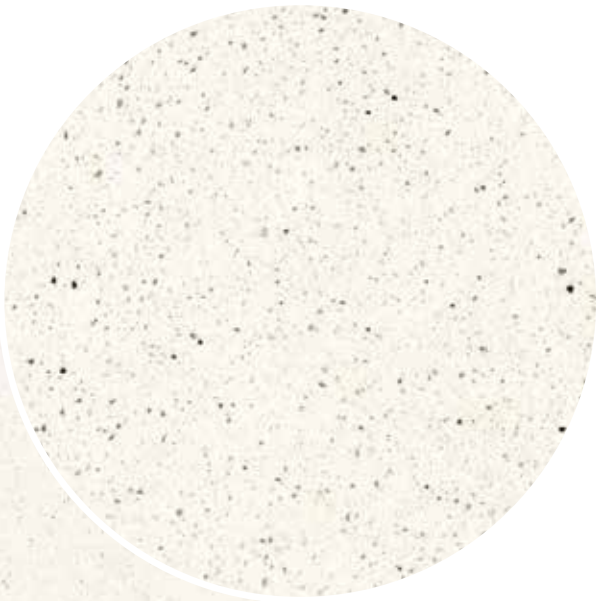
V2  
slight  
variation



US7929  
23½" x 23½" rectified  
60x60 cm



1100023  
11¾" x 23½" rectified  
30x60 cm





TERRAZZO | Cool Grey



3/4" thickness

V2  
slight  
variation



US7930  
23 1/2" x 23 1/2" rectified  
60x60 cm



1100024  
11 1/4" x 23 1/2" rectified  
30x60 cm



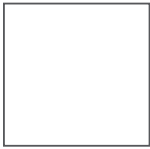


TEX WOOD | Grey



3/4" thickness

V3  
moderate  
variation



US7900  
23 1/2" x 23 1/2" rectified  
60x60 cm





TEX WOOD | *Brown*



3/4" thickness

V3 moderate variation



US7901  
23 1/2" x 23 1/2" rectified  
60x60 cm

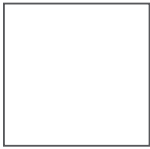




TEX WOOD | Ivory



3/4" thickness



US7902  
23 1/2" x 23 1/2" rectified  
60x60 cm


V3  
moderate  
variation

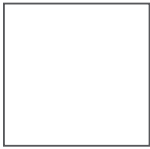




TIMBER WOOD | *Teak*



 3/4" thickness



US7905  
23½" x 23½" rectified  
60x60 cm

 **V3**  
moderate  
variation





TIMBER WOOD | *Ipe'*

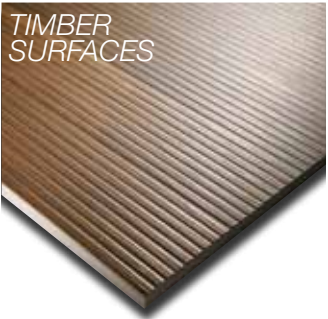


3/4" thickness

V3  
moderate  
variation



US7906  
23 1/2" x 23 1/2" rectified  
60x60 cm



An italian porcelain paver made in USA



# LAYING INSTRUCTION |

## Laying 2 cm - 3/4" in outdoor

Consequently, the size and nature of the porcelain stoneware slabs, due to the pronounced anti-slip surface (which always retains a thin layer of water), special attention should be given to the slope and inclination %, that the customer wants to give to the floor plan and direction laying of the slab stoneware. The % of slope and slope of the floor must meets the architectural choices of the project and the needs for natural runoff of rainwater. These vary according to the geographical area, orientation and exposure of the affected area, if it is completely bare, etc. etc.  
By way of example, not binding, of the Swiss office UPI, recommends slopes not less than 1, 5% per linear meter.

## Cutting

To cut 2 cm - 3/4" make the measurements needed and mark the part to be removed on the piece, then cut with an electric tool or water-cooled circular construction saw.

## The Doghe (grout staves) POPA 2.0 and "TEX/TIMBER surfaces" 60x60 - 23½"x23½" (1 cm - 0.39")

Consequently the special structure (bas-relief grooves) which reproduces a wood grooves effect the exterior staves dimensions of each piece may have subtle differences from inner staves. This due to the caliber of production that can have significant dimensional variations to each production. Unfortunately this affects the outside slats only.  
For this reason the products concerned must have a minimum aesthetic tolerances, to improve then we may recommend the following countermeasures:

- 1. To use pedestals with crosses of at least 4 mm - 0.15" in order to have the same size for the joint (POPA 2.0). In the traditional installation use crosses to 4 mm - 0.15" (the aim is repeating the same internal dimensioning leakage per piece).
- 2. To lay down the material following always the same production (verifiable from the back of the slab).
- 3. Adopt the basket diagram laying.

## Thermal expansions effects on surfaces

The strong thermal excursions ( -15° + 70°) which are subjected the FLAT ROOFS, involve the need to consider the effects on building materials.  
Materials that often have among their different COEFFICIENT of dilatation.  
The regulations provide for the establishment of special ELASTIC expansion JOINTS in building structures, in the perimeter and in the fractionation of insoles.  
Our Flooring as well as having its own THERMAL EXPANSION COEFFICIENT and their dynamic behavior, they lay down and are installed on foundations and structures that move.  
They contract and dilate in measure also important depending on the size even for some cm.  
The effect that you might encounter in relation to the use of dry flooring is a misalignment of joints in release of raised floor or uncoupling the plastic module. If they would be glued flooring instead, they might break and deteriorate.  
It is therefore essential to avoid or limiting the occurrence of these flaws, making a large perimeter joints and avoiding, where possible, the stationing of heavy weights/structures that inhibit the correct movement of the flooring. It is necessary to split up the flooring area in the case of plastic module also at the slope change of the base.  
To do this, it is advisable to use the accessories provided in the catalog and elastic joints/shackles available normally at specialty retailers.

## Temperature

The product gets hot in the sun.  
Darker color more than lighter color.  
For more information contact us.

## Recommendations for POPA2.0 on elevated installation

The Monolithic product POPA 2.0 self-carrying 2.0 is definitely suitable for external use for support and elevated installation. There is no specific legislation for outdoor products in porcelain in elevation, the closest to our product is relating to the cement slabs (concrete).  
To this legislation our POPA 2.0 RESPONDS IMPROVEMENT on all comparative tests, e.g. resists more then 1400 kg per slab (test result as per EN 1339 KN 14 >).  
This means, according to the adopted standard, the material is suitable for "COLLECTIVE and public use without LIMITATION of the height of the pedestals or sleepers".

If we compare our product POPA 2.0 to the elevated indoor norms, his weakness point is the LOAD/DYNAMIC HARD body SHOCK (for example a hard object fall such as a hammer or other rigid material of less than 4.5 kg from 40 cm - 16" height) EN 12825.  
In fact the particular stiffness of the gres porcelain does not help us, because the gres slab can break or shatter, we must therefore consider this risk and in face of this advise in some uses such as mechanical workshop or where floor heights are higher than the 3.93" (10 cm) using reinforcements to be applied on the back of the slabs:



These applications do not increase the floor weight capacity, but they are just a guarantee against breakage and limit the risk of accidents.

## Wind Uplift

When Kronos Porcelain pavers single slab are installed on a pedestal system, they essentially rely on gravity, its own weight equal to 35lb, tight spacing between the pavers and tight containment around the perimeter to keep the pavers in place without movement. The open joint space between pavers allows wind to flow above, below and around the deck surface, which tends to reduce uplift forces somewhat and restricts movement of the pavers.

It should not however be inferred that uplifting of the pavers by wind will never occur as it is difficult, if not impossible, to test for every contingency or circumstance where wind uplift may be possible.

The Saffir-Simpson Hurricane Wind Scale defines wind speeds over 74 mph to be hurricane velocity, where for example it is stated that a Category 1 (74-95mph) storm means: 'Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters.' Furthermore, It is generally accepted that the average person standing on the open ground will be rocked around at wind speeds of 35-40mph; it's difficult to stand up and you would stumble frequently.

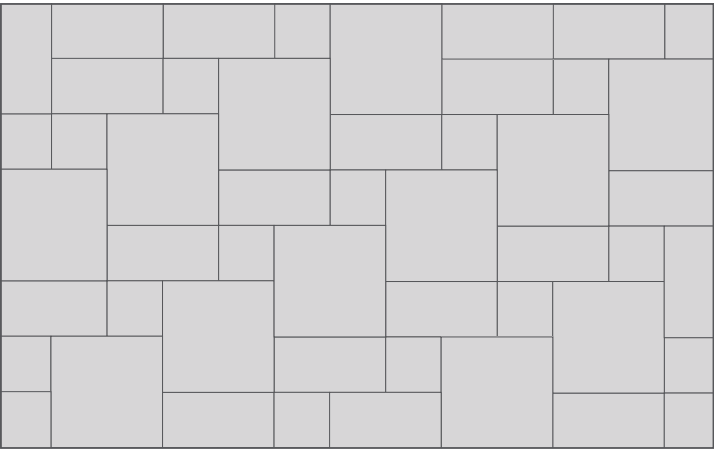
The only wind uplift test for roofing products known to Kronos is the Florida Building Code 2007 TAS 108 Test Procedure for testing air permeable rigid discontinuous roof systems. Whilst this test procedure may have some relevance to pavers installed in 'floating' deck applications, Kronos engaged the Florida International University International Hurricane Research Center to devise a series of tests to evaluate the resistance of porcelain pavers to wind uplift using the FIU's Wall of Wind facility. Variables incorporated in the test program included different wind angles, pedestal height and type, parapet wall height, paver layout and the use of locking devices along the parapet walls.

This report is intended to provide additional information about wind uplift where ¾" single slab porcelain pavers as supplied by Kronos are installed on fixed or adjustable height pedestals. It should not be construed as a guarantee or warranty of any kind, including but not limited to warranties of merchantability or fitness of porcelain pavers for a specific purpose. None of the information contained in this report is intended to substitute for the engineer's, specifier's, architect's, builder's or contractor's own analysis, investigation, and due diligence regarding the appropriate choice, application and installation of ¾" single slab porcelain pavers on fixed or adjustable height pedestals in any particular location or application, which is not the responsibility of Kronos .

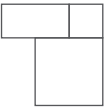
The test report is available on request from Kronos on the strict understanding that it is provided for the exclusive use of the recipient. No reproduction or transmission by facsimile, email or other electronic means is permitted without Kronos specific permission.



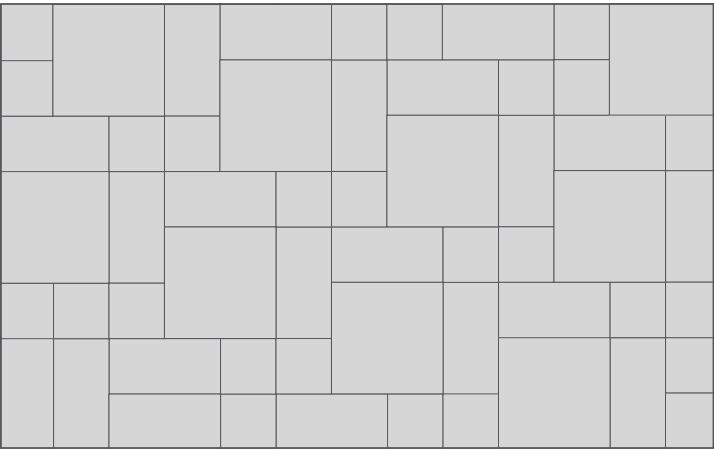
PATTERNS |



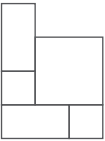
pattern A



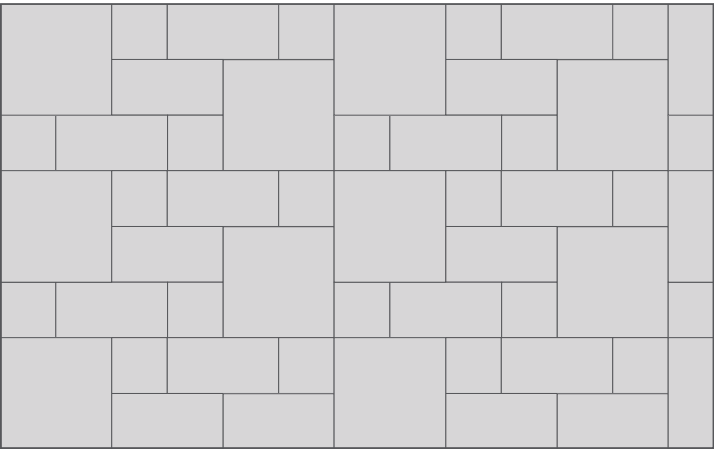
Nr. 1 pcs	23½" x 23½" - 60x60 cm	57,2%
Nr. 1 pcs	11¾" x 23½" - 30x60 cm	28,5%
Nr. 1 pcs	11¾" x 11¾" - 30x30 cm	14,3%



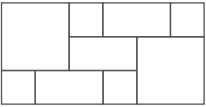
pattern B



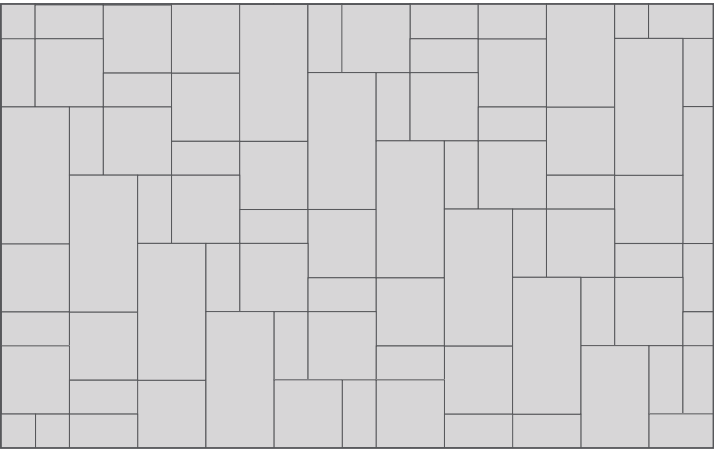
Nr. 1 pcs	23½" x 23½" - 60x60 cm	40%
Nr. 2 pcs	11¾" x 23½" - 30x60 cm	40%
Nr. 2 pcs	11¾" x 11¾" - 30x30 cm	20%



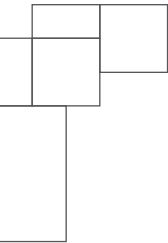
pattern C



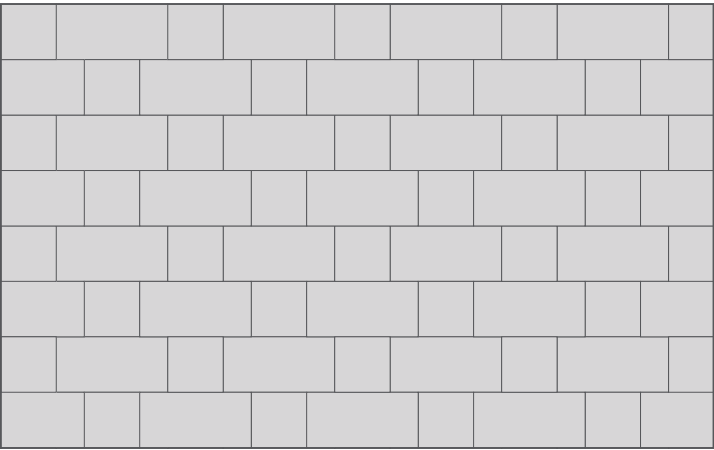
Nr. 2 pcs	23½" x 23½" - 60x60 cm	44,5%
Nr. 3 pcs	11¾" x 23½" - 30x60 cm	33,3%
Nr. 4 pcs	11¾" x 11¾" - 30x30 cm	22,2%



pattern D



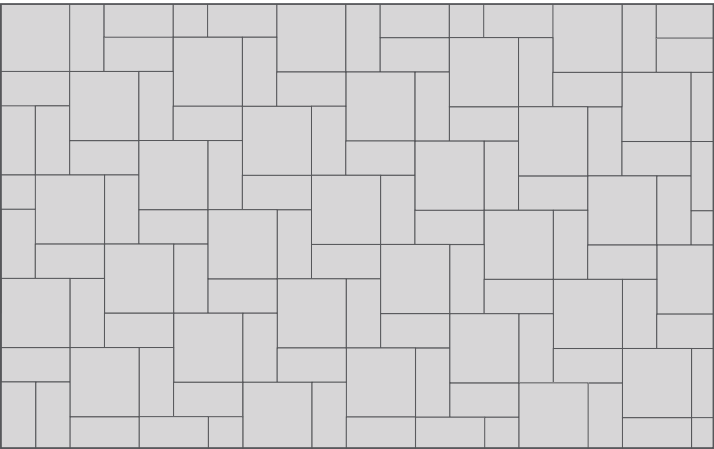
Nr. 1 pcs	23½"x47½" - 60x120 cm	40%
Nr. 2 pcs	23½" x 23½" - 60x60 cm	40%
Nr. 2 pcs	11¾" x 23½" - 30x60 cm	20%



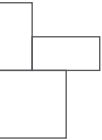
pattern E



Nr. 1 pcs	23½" x 23½" - 60x60 cm	66,7%
Nr. 1 pcs	11¾" x 11¾" - 30x30 cm	33,3%



pattern F



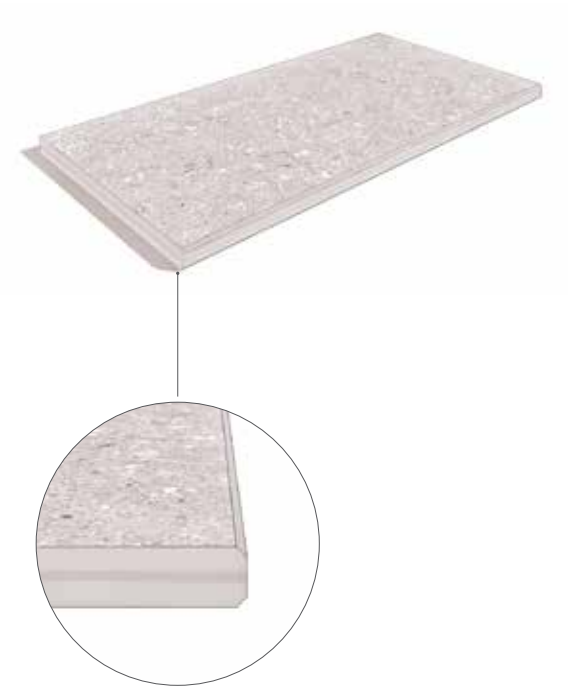
Nr. 1 pcs	23½" x 23½" - 60x60 cm	50%
Nr. 2 pcs	11¾" x 23½" - 30x60 cm	50%



SPECIAL PIECES |

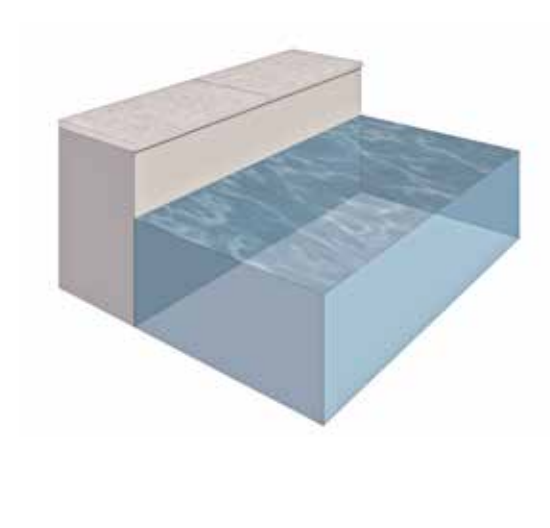
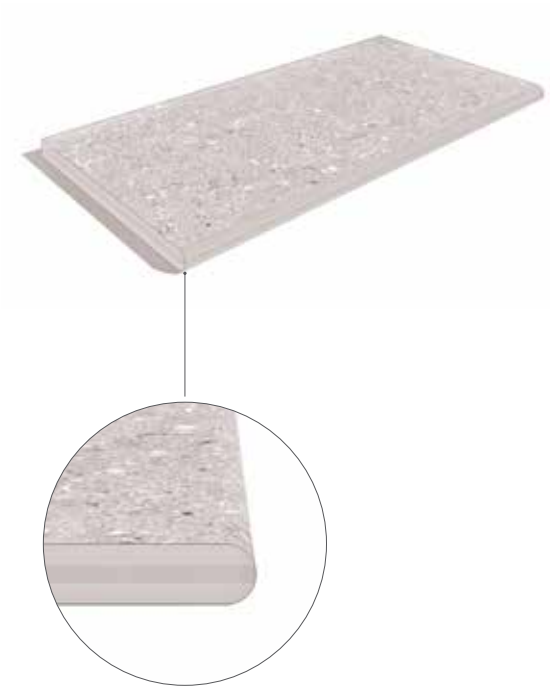
DOUBLE BEVEL COPING

30x60 - 1 1¼"x 2 3½"  
Available in all colours.



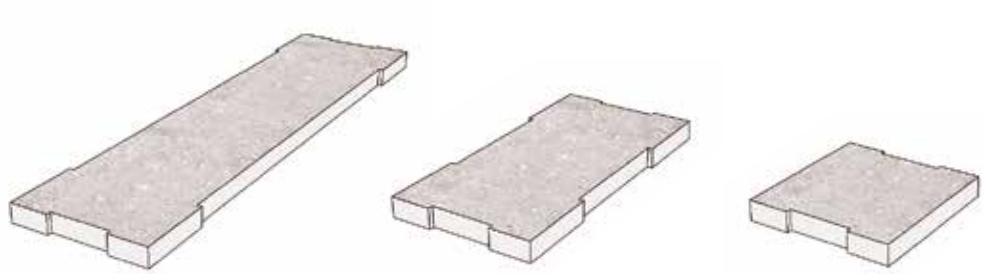
FULL BULLNOSE COPING

30x60 - 1 1¼"x 2 3½"  
Available in all colours.



BLIND GRID

15x60 cm 5⅞"x23½" rectified / 15x30 cm 5⅞"x11¼" rectified / 15x15 cm 5⅞"x5⅞" rectified  
Available in all colours.



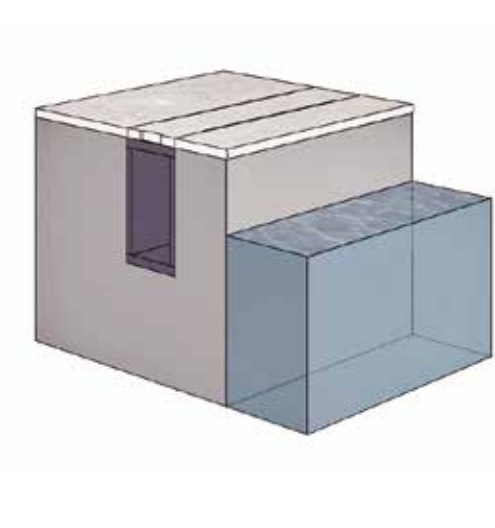
BLIND GRID ANGLE

15x15x30 cm 5⅞"x5⅞"x11¼" rectified  
Available in all colours.

LEFT



RIGHT





PACKAGING

2.0 MONOLITHIC RECTIFIED CERAMIC TILE	Thickness	Unit / Box	SqFt / Box	Boxes / Pallet	SqFt / Pallet	Weight / Box	Weight / M²	Weight / SqFt	Weight / Pallet	Pallet Size
231/2"x471/8"	3/4" - 20mm	2	15,50	16	248,00	133,77 lb	91,80 lb	8,53 lb	2182 lb	29"x49"
113/4"x471/8"	3/4" - 20mm	4	15,50	16	248,00	138,42 lb	91,80 lb	8,53 lb	2256 lb	29"x49"
231/2"x231/2"	3/4" - 20mm	2	7,75	36	279,00	66,10 lb	91,80 lb	8,53 lb	2421 lb	42"x42"
113/4"x231/2"	3/4" - 20mm	4	7,75	40	310,00	65,79 lb	91,80 lb	8,53 lb	2673 lb	42"x42"
113/4"x113/4"	3/4" - 20mm	5	4,85	45	218,25	41,50 lb	91,80 lb	8,53 lb	1910 lb	42"x42"

SHADE VARIATION

**V1**  
uniform appearance

**V2**  
slight variation

**V3**  
moderate variation

**V4**  
substantial variation

TECHNICAL CHARACTERISTICS

STANDARS	CHARACTERISTICS OR PROPERTIES	COMPLIANCE WITH STANDARDS UNI EN 14411 G wASTM	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 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 Bending strength in N (thickness > = 7.5 mm)	ASTM - C 648	> = 250 LBF Average	> = 225 LBF Individual
	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	-	$\alpha=6.3\times10^{-6}\text{ }^{\circ}\text{C}^{-1}$
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



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