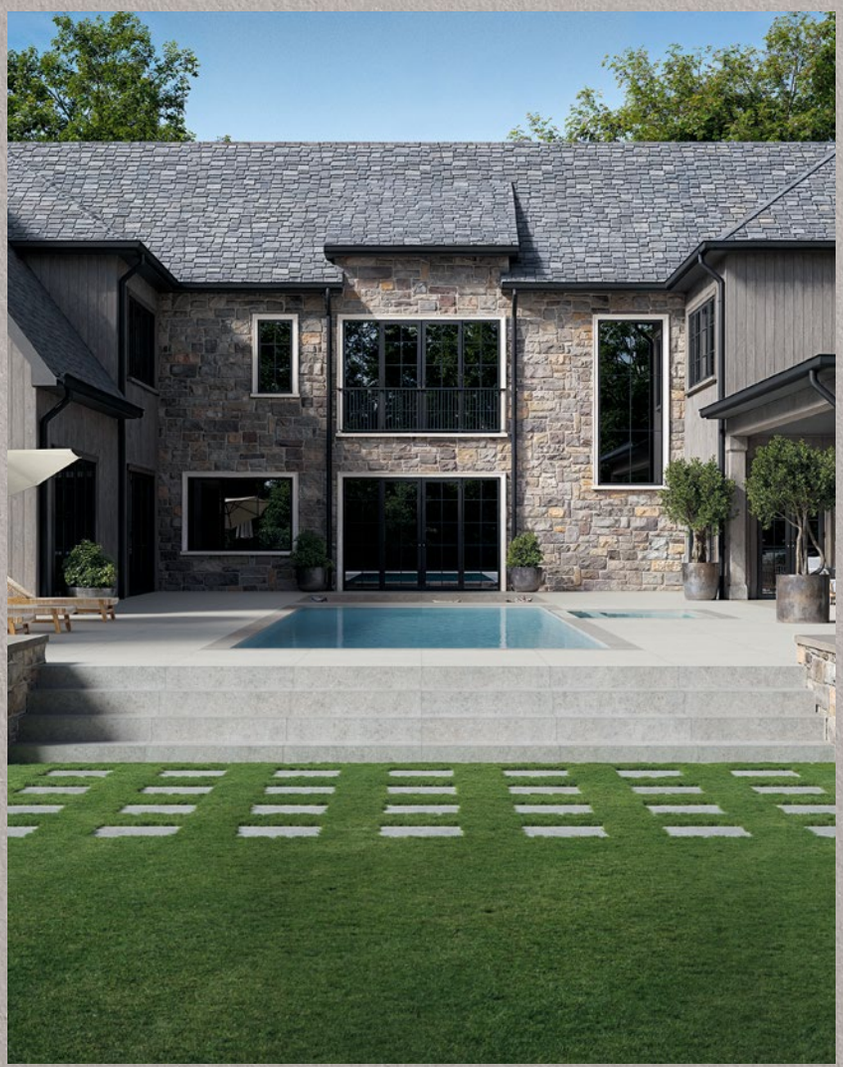
DOLOMITE 2.0

Mineral Stone



THORNTREE

natural stone • fine porcelain

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 Ml from the production plants.
H20 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

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.

WHY CHOOSE POPA 2.0?

- 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

DOLOMITE 2.0

Mineral Stone

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Why choose 2.0
Porcelain pavers


Thermal shock resistance.


Frost resistance.


Fire resistance.


Resistant to stains, acid and chemicals.


Easy to install.


Removable and reusable.


Virtually no maintenance.


Resistant to corrosion from salt.


Resistant to attack from mould, moss and verdigris treatments.


Resistant to florescence and formation of dark halos.


Easy to clean.


Slip resistance.


Dry, wet, and submerged applications.

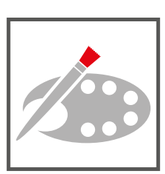

Hight breaking load.


Hypoallergenic. No VOC.


Easy to sterilize.


Eco-friendly maintenance.


Recyclable and ecological.


Colors remains unchanged over time.


Available in a broad range of colors/styles.

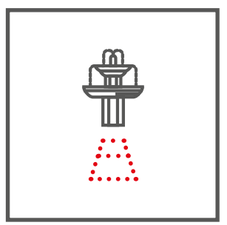

Exceptional life cycle-cost = best value.

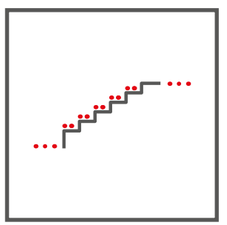
The long-term performance and slip-resistance of Dolomite by Kronos make it an excellent choice for many applications:

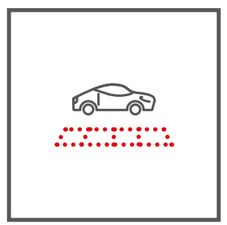

Patios


Pool decks

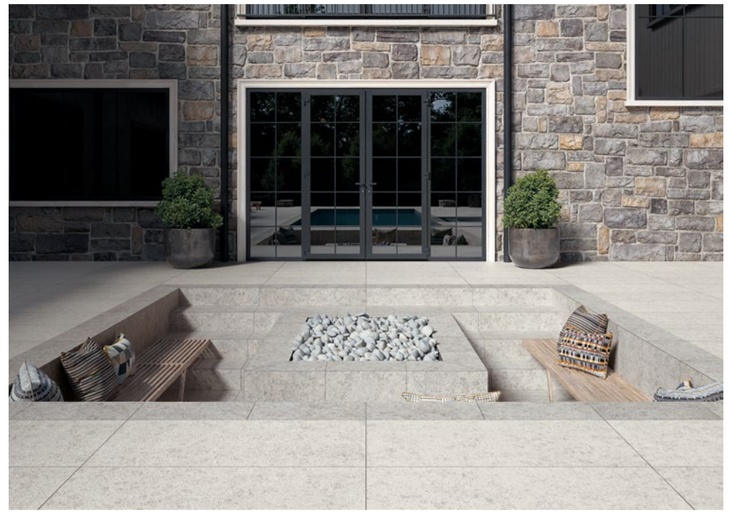

Terraces


Walkways

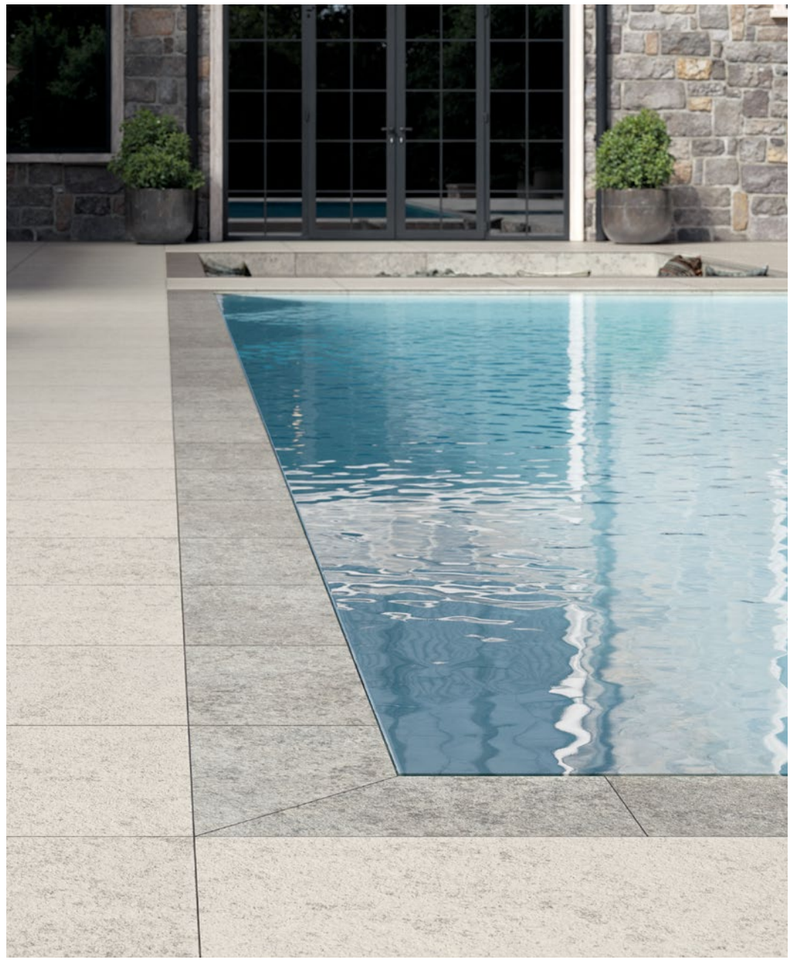

Stairs and steps


Driveways

FLOOR: Dove 23 1/2"x47 1/8" / STEPS: Steel 23 1/2"x47 1/8" / LAYING ON GRASS: Steel 23 1/2"x23 1/2" / POOLSIDE: Steel 11 3/4"x23 1/4"
INSIDE SWIMMING POOL: Steel 23 1/2"x47 1/8" / BRAZIER AREA: Steel 23 1/2"x47 1/8" / GAZEBO: Steel Module 23 1/2"x23 1/2"-11 3/4"x23 1/2" - 11 3/4"x 11 3/4"



FLOOR: Dove 23 1/2”x47 1/8” / POOLSIDE: Steel 11 3/4”x23 1/2” / INSIDE SWIMMING POOL: Steel 23 1/2”x47 1/8”
BRAZIER AREA: Steel 23 1/2”x47 1/8”



FLOOR: Dove 23 1/2”x47 1/8” / POOLSIDE: Steel 11 3/4”x23 1/2”
INSIDE SWIMMING POOL: Steel 23 1/2”x47 1/8”

Colours and sizes

Characterized by its unique beauty and natural variability, the new **Dolomite** series is suitable for any space or style.

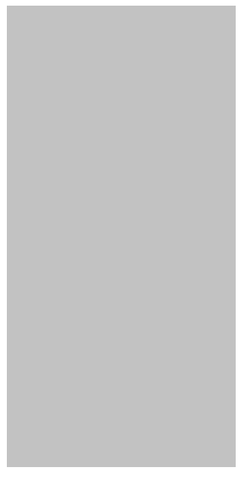
VERSATILE AND SOPHISTICATED
Available in three elegant color options, **Dove**,Wheat and **Steel** - this European refined limestone features subtle tonal variations and natural veining that enhance its authenticity. The edges can be either **rectified** or offered in the **Heritage-style** version, reminiscent of hand-chiseled detailing. The surface is **lightly bush-hammered**, giving the material a lived-in yet elegant look, perfect for both contemporary and classic design projects.
The **Dolomite** series also includes a full range of **special pieces**, allowing you to finish all connection points - such as **steps, pool edges, and other transitions** - using the same material. This ensures a seamless and cohesive look throughout the entire project.

Dove

Wheat

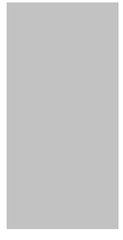
Steel

THICKNESS: 3/4”



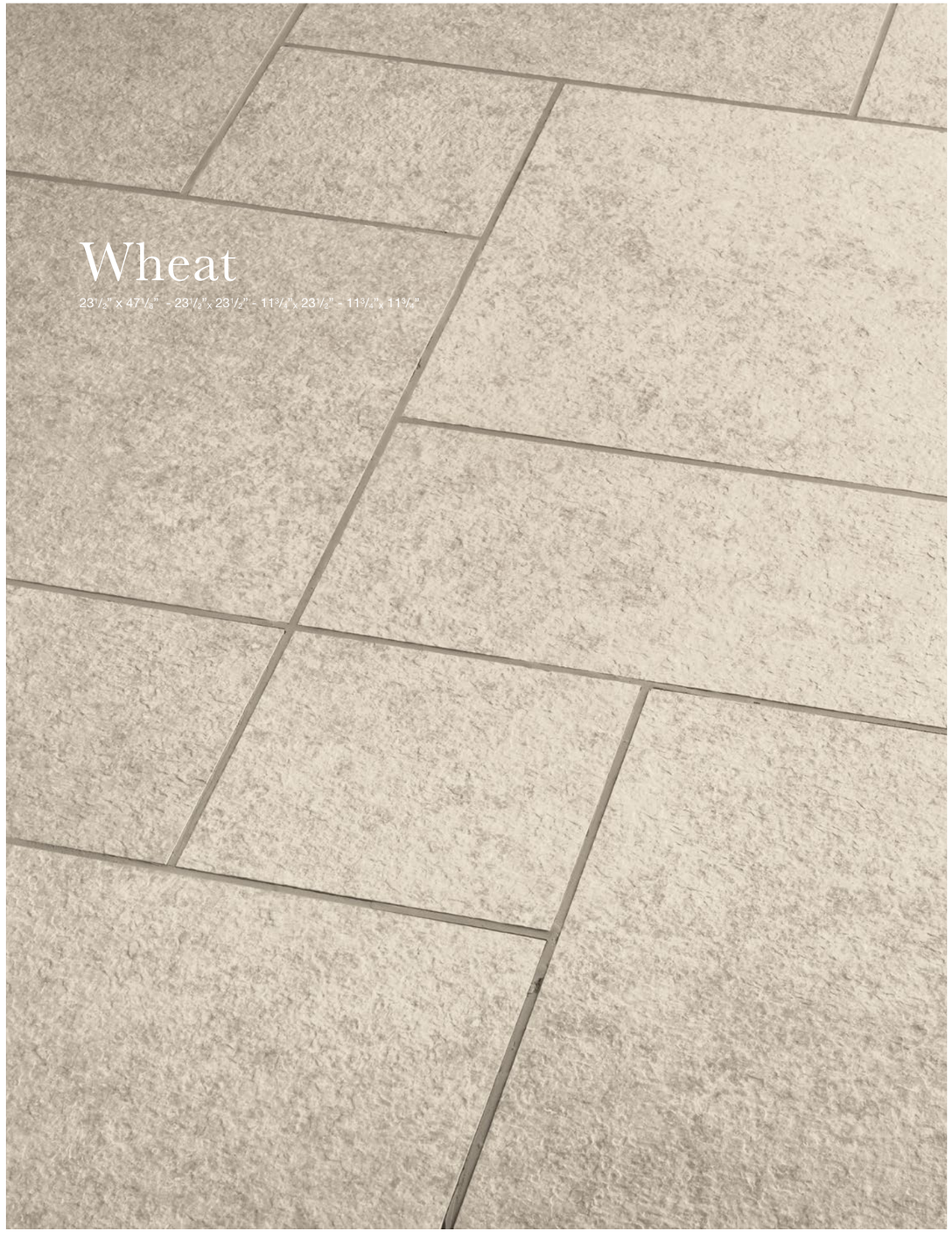
$23^{1}/_{2}$”x$47^{1}/_{8}$”

$23^{1}/_{2}$”x$23^{1}/_{2}$”



$11^{3}/_{4}$”x$23^{1}/_{2}$”

$23^{1}/_{2}$”x$35^{1}/_{2}$”



Wheat

23 1/2" x 47 1/8" - 23 1/4" x 23 1/2" - 11 3/4" x 23 1/8" - 11 3/4" x 11 5/8"

Steel

23 1/2" x 47 1/8" - 23 1/2" x 23 1/2" - 11 3/4" x 23 1/2" - 11 3/4" x 11 3/4"

DOLOMITE 2.0
Mineral Stone

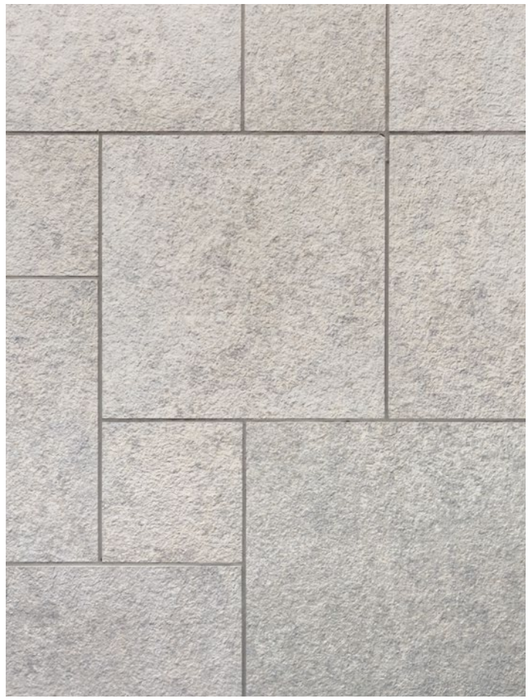
COLOURS

DOVE

V3
moderate variation

WHEAT

V3
moderate variation



STEEL

V3
moderate variation

SIZES

3/4”

23 1/2”x47 1/8”

US 8070 DOLOMITE - DOVE 2.0
US 8072 DOLOMITE - WHEAT 2.0
US 8071 DOLOMITE - STEEL 2.0

3/4”

23 1/2”x23 1/2”

US 8010 DOLOMITE - DOVE 2.0
US 8012 DOLOMITE - WHEAT 2.0
US 8011 DOLOMITE - STEEL 2.0

3/4”

11 3/4”x23 1/2”

110 0480 DOLOMITE - DOVE 2.0
110 0482 DOLOMITE - WHEAT 2.0
110 0481 DOLOMITE - STEEL 2.0

3/4”

11 3/4”x11 3/4”

US 8030 DOLOMITE - DOVE 2.0
US 8032 DOLOMITE - WHEAT 2.0
US 8031 DOLOMITE - STEEL 2.0

HERITAGE

The **Heritage finish** is a craftsmanship-inspired treatment that mimics the look of hand-carved stone. It is characterized by **irregular, slightly chipped edges**, giving the material an authentic, lived-in appearance reminiscent of ancient stone, but with a strong **contemporary and vintage** feel, typical of **reclaimed products**.

It is available **only in the multi-size format** consisting of:
- 1 PC 11 3/4”x23 1/2”
- 2 PC 23 1/2”x23 1/2”
- 1 PC 23 1/2”x35 1/2”

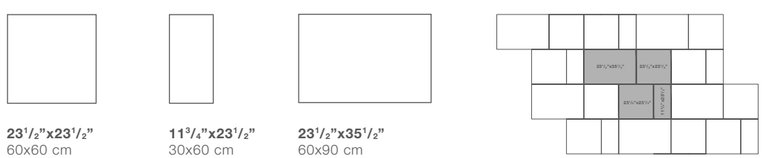
This finish is ideal for projects that combine **contemporary style with a vintage aesthetic**, while maintaining the technical characteristics of a modern product. Perfect for those looking for a natural, vintage appearance with a modern touch.

PACKAGING RECTIFIED

	Thickness	Unit/Box	SqFt/Box	Boxes/Pallet	SqFt/Pallet	Weight/Box	Weight/M²	Weight/SqFt	Weight/Pallet	Pallet size
23 1/2”x47 1/8”	3/4” - 20 mm	2	15,50	16	248,00	146,00 lbs	100,00 lb	9,29 lbs	2,373 lbs	30”x51”
23 1/2”x23 1/2”	3/4” - 20 mm	2	7,75	36	279,00	72 lbs	100,00 lb	9,29 lbs	2,626 lbs	42”x42”
11 3/4”x23 1/2”	3/4” - 20 mm	4	7,75	40	310,00	72 lbs	100,00 lb	9,29 lbs	2,914 lbs	42”x42”
11 3/4”x11 3/4”	3/4” - 20 mm	5	4,85	45	218,25	45 lbs	99,87 lb	9,29 lbs	2,059 lbs	42”x42”

Heritage Edge Dove

The Heritage edge is sold only in 23 1/2”x23 1/2” - 11 3/4”x23 1/2” - 23 1/2”x35 1/2” Modules



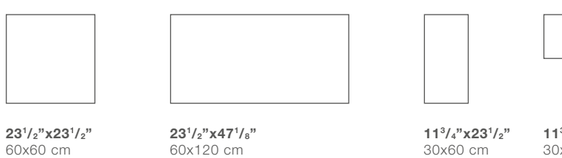
23 1/2”x23 1/2”
60x60 cm

11 3/4”x23 1/2”
30x60 cm

23 1/2”x35 1/2”
60x90 cm

3/4”

Rectified Edge Steel



23 1/2”x23 1/2”
60x60 cm

23 1/2”x47 1/8”
60x120 cm

11 3/4”x23 1/2”
30x60 cm

11 3/4”x11 3/4”
30x30 cm

3/4”

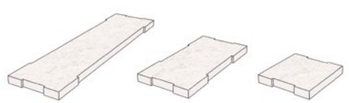
DOLOMITE 2.0
Mineral Stone

Special Pieces — 3/4”

DOUBLE BEVEL COPING
11¾”x23½”
Available in all colours

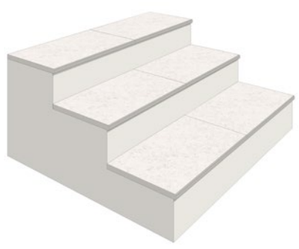
FULL BULLNOSE COPING
11¾”x23½”
Available in all colours

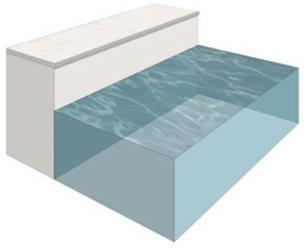
BLIND GRID
5¾”x23½” rectified / **5¾”x11¾”** rectified
5¾”x5¾” rectified
Available in all colours

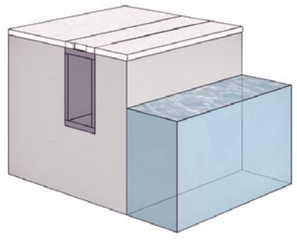


BLIND GRID ANGLE
5¾”x5¾”x11¾” rectified
Available in all colours.

SX DX







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

L SHAPE MITERED EDGE
11 3/4”x23 1/2” H 5/8”

Advantage

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

DOLOMITE 2.0
Mineral Stone

TECHNICAL CHARACTERISTICS

STANDARDS	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^2	139 mm^2
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	-	$\alpha=6.3x10^{-6}$ °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.

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