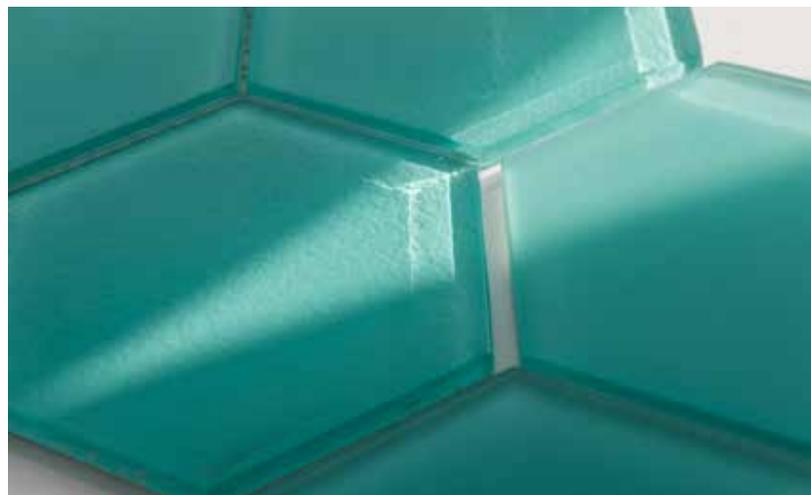




BRILLIANT GLASS TILES & MOSAICS



Product Guide
2020



Unique & Brilliant

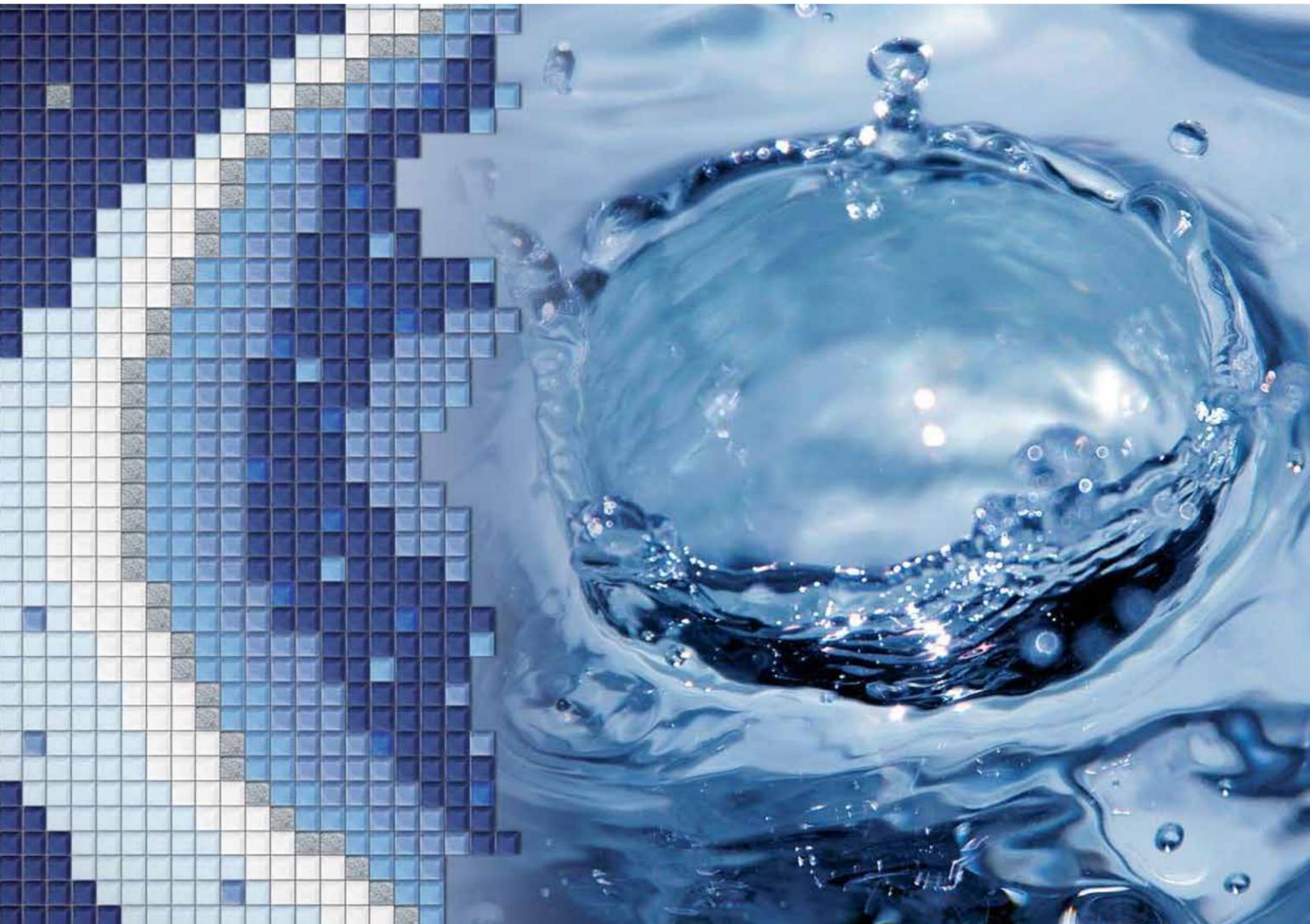
VILLI designs, develops and manufactures glass tiles and glass mosaics with world-class standards for quality, beauty and aesthetics.

Utilizing an innovative manufacturing process, VILLI products are created to provide a unique interplay of brilliant light and color.

Unlike any other product available, VILLI glass has a depth, texture and reflectance that will bounce light and color throughout your space. No matter where it is installed, VILLI will bring new sophistication to the places you live, work and play. It's brilliant.

VILLI USA
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T 678-990-5084 • F 678-990-5088
sales@villiusa.com

www.villiusa.com



Unlimited Creative Possibilities

The VILLI product line with its **wide range of colors and sizes** gives planners and designers all the scope they require to put their ideas into practice. Outstanding design for tiles and mosaics and the various surfaces offer **unlimited creative possibilities**. The profound depth of our products reflected in the interplay of light and shadow creates living spaces with a sense of well-being unknown hitherto. This is the expression of **stylish luxury and elegance**.

The Villi name stands for variety and perfection. The product range includes 6 square field tiles, 13 rectangular field tiles and a variety of

mosaics mounted on nets. The **modular design** of these sizes combined with **absolute dimensional accuracy** of every VILLI product allows for a **perfect combination of any formats**. Our mosaics, with a **joint width of only 1/8"**, are preset on 12" x 12" **mesh sheets**, ensuring a perfect fit. When the mosaics are used for trimmings or ornamental elements, these **mesh sheets can be cut to any size** as necessary. When using Villi products in underwater applications, it is important to eliminate any hollow spaces underneath the tile. For this reason, mosaics for underwater use are face mounted, using foil, which is a special order item.

SIZES TILES

NOM:	Nominal measurement
DIM:	Actual measurement
Tolerance:	± 0.016"
Modular combination:	YES
Joint width:	0.079"
Other sizes available on request	

	24" x 24"	NOM: 24" x 24" DIM: 23.54" x 23.54"
	12" x 24"	NOM: 12" x 24" DIM: 11.72" x 23.54"
	8" x 24"	NOM: 8" x 24" DIM: 7.78" x 23.54"
	4" x 24"	NOM: 24" x 4" DIM: 3.84" x 23.54"
	16" x 16"	NOM: 16" x 16" DIM: 15.66" x 15.66"
	8" x 16"	NOM: 8" x 16" DIM: 7.78" x 15.66"
	4" x 16"	NOM: 4" x 16" DIM: 3.84" x 15.66"
	2" x 16"	NOM: 2" x 16" DIM: 1.98" x 15.66"
	12" x 12"	NOM: 12" x 12" DIM: 11.72" x 11.72"
	4" x 12"	NOM: 4" x 12" DIM: 3.84" x 11.72"
	3" x 12"	NOM: 3" x 12" DIM: 2.86" x 11.72"
	2" x 12"	NOM: 2" x 12" DIM: 1.98" x 11.72"
	8" x 8"	NOM: 8" x 8" DIM: 7.78" x 7.78"
	4" x 8"	NOM: 4" x 8" DIM: 3.84" x 7.78"
	3" x 8"	NOM: 3" x 8" DIM: 2.86" x 7.78"
	2" x 8"	NOM: 2" x 8" DIM: 1.98" x 7.78"
	6" x 6"	NOM: 6" x 6" DIM: 5.81" x 5.81"
	3" x 6"	NOM: 3" x 6" DIM: 2.86" x 5.81"
	4" x 4"	NOM: 4" x 4" DIM: 3.84" x 3.84"

SIZES TRIM PIECES & FLAT LINERS

	NOM:	Nominal measurement
	DIM:	Actual measurement
	NOM:	1" x 16"
	DIM:	0.91" x 15.67"
	NOM:	1" x 12"
	DIM:	0.91" x 11.73"
	NOM:	5/8" x 12"
	DIM:	0.54" x 11.73"
	NOM:	1" x 8"
	DIM:	0.91" x 7.80"

5/8 inch by 12 inch Flat Liners stocked in select colors only.

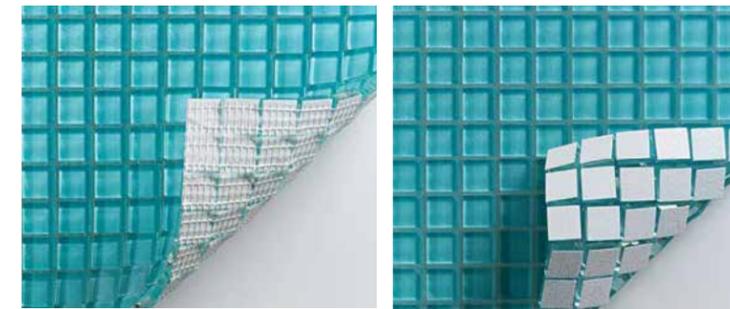
	NOM:	2" x 1"
	DIM:	1.89" x 0.91"
	NOM:	2" x 8"
	DIM:	1.89" x 7.80"
	NOM:	2" x 2"
	DIM:	1.89" x 1.89"

	NOM:	1" x 1"
	DIM:	0.91" x 0.91"
	NOM:	1" x 8"
	DIM:	0.91" x 7.80"

	NOM:	1" x 1"
	DIM:	0.91" x 0.91"
	NOM:	1" x 1"
	DIM:	0.91" x 0.91"
	NOM:	1" x 8"
	DIM:	0.91" x 7.80"

Art Border, Canale and Torello available in 8 inch lengths only.

SIZES MOSAICS



Preset on mesh sheets (joint width 2mm)

Sheet (foil) on the front for underwater applications and Metallic (joint width 2mm)

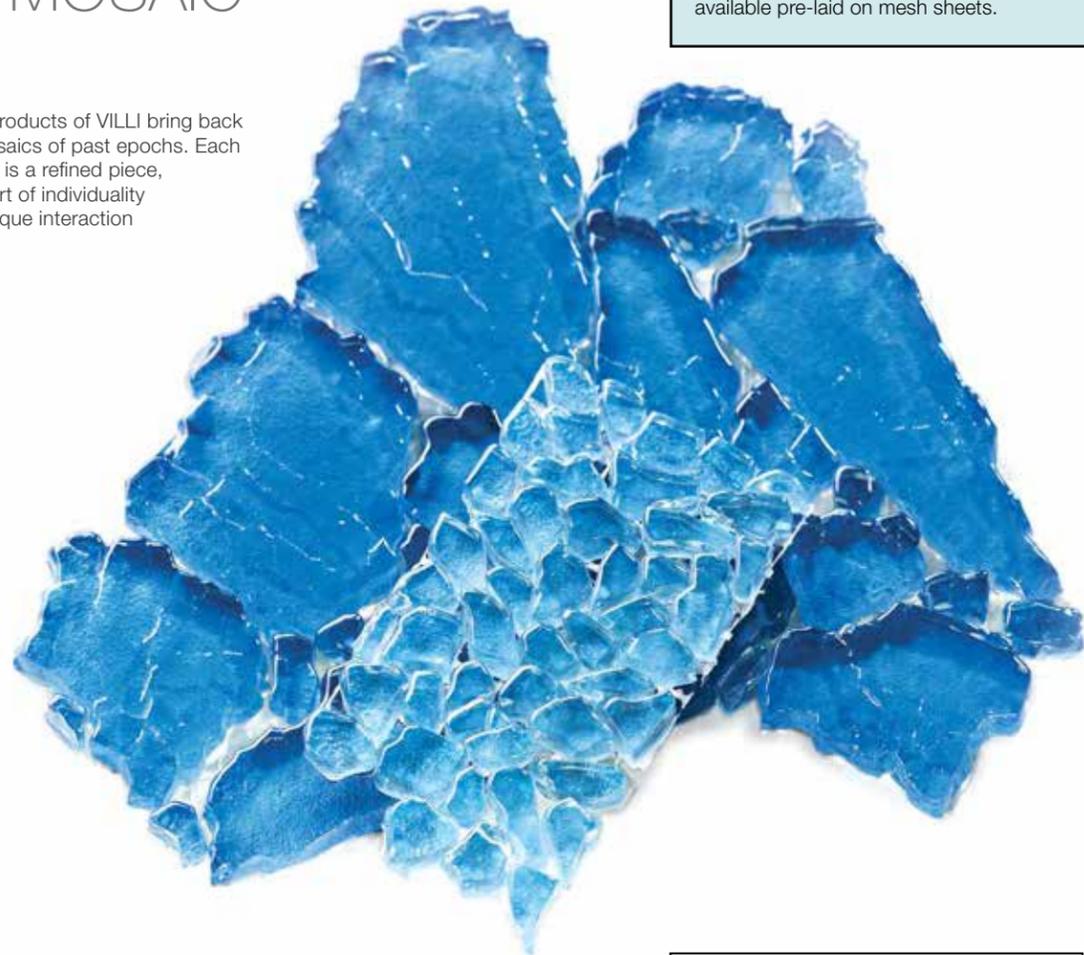
	2" x 4" @ 12" x 12" (stocked in selected colors only)	NOM: 2" x 4" DIM: 1.98" x 3.84" Prefabricated on: NOM: 12" x 12" DIM: 11.81" x 11.81" Material needed: 1 sqft = 1 pcs.
	2" x 2" @ 12" x 12"	NOM: 2" x 2" DIM: 1.98" x 1.98" Prefabricated on: NOM: 12" x 12" DIM: 11.81" x 11.81" Material needed: 1 sqft = 1 pcs.
	OFFSET 1" x 2" @ 12" x 12"	NOM: 1" x 2" DIM: 0.91" x 1.98" Prefabricated on: NOM: 12" x 12" DIM: 10.69" x 11.71" Material needed: 1 sqft = 1.14 pcs.
	PARALLEL 1" x 2" @ 12" x 12"	NOM: 1" x 2" DIM: 0.91" x 1.98" Prefabricated on: NOM: 12" x 12" DIM: 11.81" x 11.81" Material needed: 1 sqft = 1 pcs.
	1" x 1" @ 12" x 12"	NOM: 1" x 1" DIM: 0.91" x 0.91" Prefabricated on: NOM: 12" x 12" DIM: 11.81" x 11.81" Material needed: 1 sqft = 1 pcs.

	NOM:	Nominal measurement
	DIM:	Actual measurement
Tolerance mosaic		+ 0.016" - 0.016"
Tolerance mesh sheet		+ 0.016" - 0.016"
Prefabricated on mesh sheets.		
Modular combination:		YES
Joint width:		0.079"
Other formats available on request		

GENERAL INFORMATION

FORMATS RIVER MOSAIC

The River Mosaic products of VILLI bring back to life the art of mosaics of past epochs. Each mosaic component is a refined piece, representing the sort of individuality that becomes a unique interaction of light and colors.



Prefabricated on mesh sheets.
River Mosaic is chamfered and processed in two sizes (River and Baby River) and is available pre-laid on mesh sheets.



River Mosaic Puzzle @ 12" x 12"

NOM: 12" x 12"
DIM: approx. 11" x 11"
Material needed: 1 sqft = 1.235 pcs.



Baby River Mosaic @ 12" x 12"

NOM: 12" x 12"
DIM: 11.81" x 11.81"
Material needed: 1 sqft = 1 pcs.



Baby River Mosaic @ 6" x 12"

NOM: 6" x 12"
DIM: 5.81" x 11.81"
Material needed: 1 sqft = 2 pcs.



Baby River Mosaic @ 2" x 8"

NOM: 2" x 8"
DIM: 1.97" x 7.87"
Material needed: 1 sqft = 9.023 pcs.

Overview Product Range

Size	Packing	sq.ft./box	lbs/box	UNICOLOR					DECOR				
				GLOSSY	MATTE	ANTICO	FOSSIL	SKID RES.	BAROQUE	ELEMENTS	ONYX	RELIEF	
24" x 24"	3	12	47.64	•	•	-	-	-	-	-	-	-	-
16" x 16"	7	12.45	50.05	•	•	-	•	•	•	•	•	-	•
12" x 12"	12	12.00	47.40	•	•	-	•	•	-	-	-	-	-
8" x 8"	12	5.33	21.00	•	•	-	-	•	-	-	-	-	-
6" x 6"	24	6.00	24.24	•	•	-	-	-	-	-	-	-	-
4" x 4"	48	5.33	20.64	•	•	-	-	•	-	-	-	-	-
12" x 24"	6	12.00	47.64	•	•	-	-	-	-	-	-	-	-
8" x 24"	6	8	30.00	•	•	-	-	-	-	-	-	-	-
4" x 24"	18	12	47.70	•	•	-	-	-	-	-	-	-	-
8" x 16"	7	6.23	25.13	•	•	-	-	-	-	-	-	-	-
4" x 16"	14	6.22	25.06	•	•	-	-	-	-	-	-	-	-
4" x 12"	18	6.00	23.76	•	•	-	-	-	-	-	-	-	-
4" x 8"	24	5.33	21.12	•	•	-	-	-	-	-	-	-	-
3" x 12"	48	12	48.00	•	•	-	-	-	-	-	-	-	-
3" x 8"	48	8	36.00	•	•	-	-	-	-	-	-	-	-
3" x 6"	48	6	23.52	•	•	-	-	-	-	-	-	-	-
2" x 16"	28	6.22	28.00	•	•	-	-	-	-	-	-	-	-
2" x 12"	36	8	27.00	•	•	-	-	-	-	-	-	-	-
2" x 8"	36	4	18.00	•	•	-	-	-	-	-	-	-	-
1" x 16"	12	1.33	5.3	•	•	-	-	-	-	-	-	-	-
1" x 12"	12	1	4.00	•	•	-	-	-	-	-	-	-	-
1" x 8"	12	0.66	2.52	•	•	-	-	-	-	-	-	-	-
5/8" x 12"	108	5.63	23.76	•	•	-	-	-	-	-	-	-	-
BORDER ART	12		4.00	•	•	-	-	-	-	-	-	-	-
CORNER	4		1.00	•	•	-	-	-	-	-	-	-	-
RONDO	2		0.5	•	•	-	-	-	-	-	-	-	-
CANALE	12		4.00	•	•	-	-	-	-	-	-	-	-
CORNER	4		1.00	•	•	-	-	-	-	-	-	-	-
TORELLO	12		4.00	•	•	-	-	-	-	-	-	-	-
CORNER	4		1.00	•	•	-	-	-	-	-	-	-	-
RONDO	4		1.00	•	•	-	-	-	-	-	-	-	-
MOSAIC 2" x 4" @ 12" x 12"	6	6.00	21.42	•	•	-	•	-	-	-	-	-	-
MOSAIC 2" x 3" @ 12" x 12"	6	5.95	23.80	-	-	-	•	-	-	-	-	-	-
MOSAIC 2" x 2" @ 12" x 12"	6	6.00	22.80	•	•	•	-	-	-	-	•	-	-
MOSAIC OFFSET 1" x 2" @ 12" x 12"	6	5.28	19.37	•	•	•	-	-	-	-	-	-	-
MOSAIC PARALLEL 1" x 2" @ 12" x 12"	6	6.00	22.08	•	•	•	-	-	-	-	-	-	-
MOSAIC 1" x 1" @ 12" x 12"	6	6.00	19.92	•	•	•	•	-	-	-	•	•	-
MOSAIC Multiformat	6	6.00	21.2	•	•	-	-	-	-	-	-	-	-
MOSAIC Pencils	6	6.00	19.02	-	-	-	-	-	-	-	-	-	-
MOSAIC Buttons 1" @ 12" x 12"	6	6.00	17.58	-	-	-	-	-	-	-	-	-	-
MOSAIC Buttons 3/4" @ 12" x 12"	6	5.22	18.06	-	-	-	-	-	-	-	-	-	-
RIVER MOSAIC River Mosaic @ 12" x 12"	7	5.67	21.61	•	-	-	-	-	-	-	-	•	-
RIVER MOSAIC Baby River Mosaic @ 12" x 12"	6	6.00	21.61	•	-	-	-	-	-	-	-	•	-
RIVER MOSAIC Baby River Mosaic @ 6" x 12"	12	6.00	22.05	•	-	-	-	-	-	-	-	-	-
RIVER MOSAIC Baby River Mosaic @ 2" x 8"	12	1.33	4.85	•	-	-	-	-	-	-	-	•	-

INSTALLATIONS



TILES UNICOLOR Glossy



Other colors/sizes available on request

TILES UNICOLOR Matte



The delicate coat on the top side and a subsequent second fusing process give the surface a matte, slightly rough touch. That means the surface has not been sand-blasted and has closed pores. This makes it resistant to fingerprints, and grease stains are easier to clean.



Other colors/sizes available on request

Static coefficient of friction:	
Dry	0.9
Wet	0.7

	Size	Packaging	Sq. Ft.	Order Code
	24" x 24"	3	12.00	colorcode-6060-08-000
	16" x 16"	7	12.44	colorcode-4040-08-000
	12" x 12"	12	12.00	colorcode-3030-08-000
	8" x 8"	12	5.33	colorcode-2020-08-000
	6" x 6"	24	6.00	colorcode-1515-08-000
	4" x 4"	48	5.33	colorcode-1010-08-000
	12" x 24"	6	12.00	colorcode-6030-08-000
	8" x 24"	9	12.00	colorcode-6020-08-000
	4" x 24"	12	8.00	colorcode-6010-08-000
	8" x 16"	7	6.22	colorcode-4020-08-000
	4" x 16"	14	6.22	colorcode-4010-08-000
	2" x 16"	36	6.00	colorcode-4050-08-000
	4" x 12"	18	6.00	colorcode-3010-08-000
	3" x 12"	48	12.00	colorcode-3075-08-000
	2" x 12"	36	6.00	colorcode-3050-08-000
	4" x 8"	24	5.33	colorcode-2010-08-000
	3" x 8"	48	8.00	colorcode-2075-08-000
	2" x 8"	72	8.00	colorcode-2050-08-000
	3" x 6"	48	6.00	colorcode-1575-08-000

TILES UNICOLOR GLOSSY

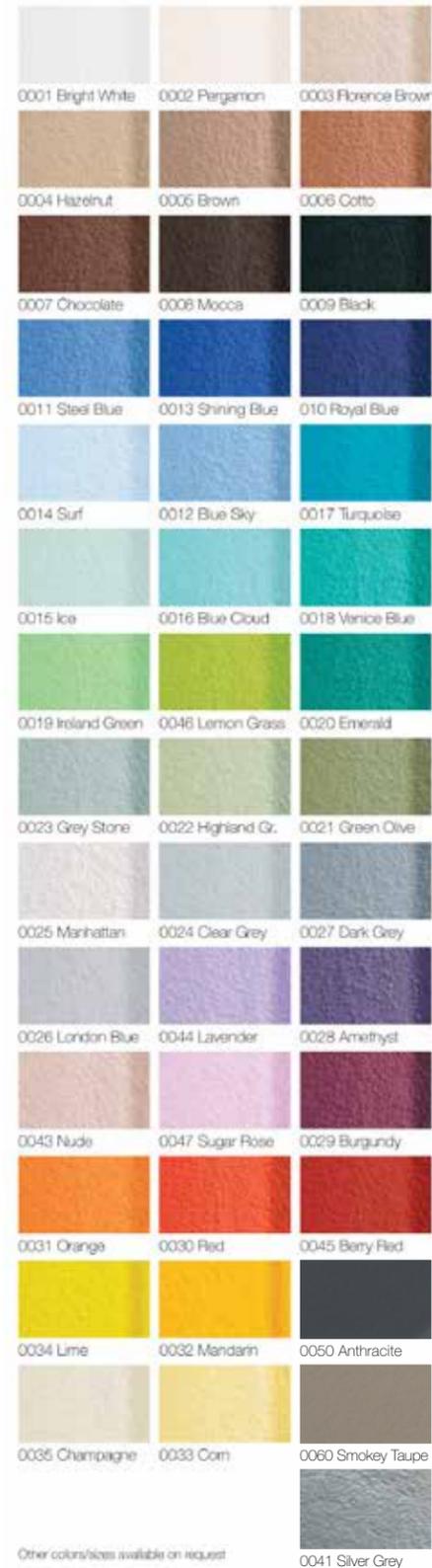
	Size	Packaging	Sq. Ft.	Order Code
	24" x 24"	3	12.00	colorcode-6060-08-001
	16" x 16"	7	12.44	colorcode-4040-08-001
	12" x 12"	12	12.00	colorcode-3030-08-001
	8" x 8"	12	5.33	colorcode-2020-08-001
	6" x 6"	24	6.00	colorcode-1515-08-001
	4" x 4"	48	5.33	colorcode-1010-08-001
	12" x 24"	6	12.00	colorcode-6030-08-001
	8" x 24"	9	12.00	colorcode-6020-08-001
	4" x 24"	12	8.00	colorcode-6010-08-001
	8" x 16"	7	6.22	colorcode-4020-08-001
	4" x 16"	14	6.22	colorcode-4010-08-001
	2" x 16"	36	6.00	colorcode-4050-08-001
	4" x 12"	18	6.00	colorcode-3010-08-001
	3" x 12"	48	12.00	colorcode-3075-08-001
	2" x 12"	36	6.00	colorcode-3050-08-001
	4" x 8"	24	5.33	colorcode-2010-08-001
	3" x 8"	48	8.00	colorcode-2075-08-001
	2" x 8"	72	8.00	colorcode-2050-08-001
	3" x 6"	48	6.00	colorcode-1575-08-001

TILES UNICOLOR MATTE

TILES UNICOLOR Skid Resistant Floor Tiles



Static coefficient of friction:	
Dry	1.1
Wet	1.05



TILES UNICOLOR Fossil Wall & Floor



Size	Packaging	Sq. Ft.	Order Code
16" x 16" 12" x 12"	7	12.45	colorcode-4040-08-114
			colorcode-3030-08-114

Available in every color shown in the adjacent color palette

TILES UNICOLOR FOSSIL

Size	Packaging	Sq. Ft.	Order Code
16" x 16" 12" x 12" 8" x 8" 4" x 4"	7	12.45	colorcode-4040-08-003
			colorcode-3030-08-003
			colorcode-2020-08-003
			colorcode-1010-08-003

Available in every color shown in the adjacent color palette

TILES UNICOLOR SKID RESISTANT FLOOR TILES



TRIM PIECES Glossy & Matte

	Size	Packing	Sq. Ft.	Order Code	
TRIM PIECES GLOSSY, MATTE	Flat Liner 1" x 16"	12	1.33	GLOSSY: colorcode-4025-08-408	
	Flat Liner 1" x 12"	12	1.00	GLOSSY: colorcode-3025-08-408	
	Flat Liner 1" x 8"	12	0.67	GLOSSY: colorcode-2025-08-408 MATTE: colorcode-2025-08-409	
	Flat Liner 5/8" X 12"	108	5.625	GLOSSY: colorcode-3015-08-408 MATTE: colorcode-3015-08-409	
	ART	BORDER	12		GLOSSY: colorcode-2050-08-400
		CORNER	4		GLOSSY: colorcode-5050-08-401
		RONDO	2		GLOSSY: colorcode-5050-08-402
	CANALE	BORDER	12		GLOSSY: colorcode-2025-08-403
		CORNER	4		GLOSSY: colorcode-5525-08-404
	TORELLO	BORDER	12		GLOSSY: colorcode-2025-08-405
		CORNER	4		GLOSSY: colorcode-5525-10-406
		RONDO	4		GLOSSY: colorcode-2525-10-407

Glossy available in every color shown in the adjacent color palette • Matte available as special order and stocked in selected colors in 1" x 8" and 5/8" x 12" sizes - Call for in-stock colors





MOSAIC UNICOLOR Glossy

	Size	Packing	Sq. Ft.	Order Code
	2" x 4" @ 12" x 12"	6	6.00	colorcode-1050-08-000
Available in every color shown in the adjacent color palette, plus any blend imaginable in our custom blend program (by special order)				
	2" x 2" @ 12" x 12"	6	6.00	colorcode-5050-08-100
Available in every color shown in the adjacent color palette, plus any blend imaginable in our custom blend program (by special order)				
	1" x 2" @ 12" x 12"	6	5.28	colorcode-5025-08-103
Available in every color shown in the adjacent color palette, plus any blend imaginable in our custom blend program (by special order)				
	1" x 2" @ 12" x 12"	6	6	colorcode-5025-08-102
Available in every color shown in the adjacent color palette, plus any blend imaginable in our custom blend program (by special order)				
	1" x 1" @ 12" x 12"	6	6.00	colorcode-2525-08-100
Available in every color shown in the adjacent color palette, plus any blend imaginable in our custom blend program (by special order)				
	Multiformat @ 12" x 12"	6	6.00	colorcode-3030-08-120
Available in every color shown in the adjacent color palette, plus any blend imaginable in our custom blend program (by special order)				

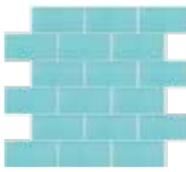
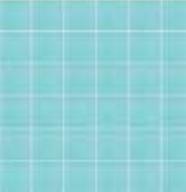
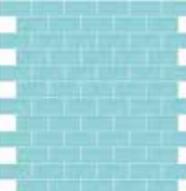
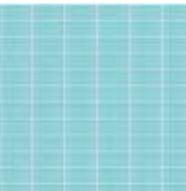
All sizes may not be stocked in all colors but can be made available by special order

MOSAIC UNICOLOR GLOSSY





MOSAIC UNICOLOR Matte

Size	Packing	Sq. Ft.	Order Code
 <p>Available in every color shown in the adjacent color palette, plus any blend imaginable in our custom blend program (by special order)</p>			
 2" x 4" @ 12" x 12"	6	6.00	colorcode-1050-08001
 <p>Available in every color shown in the adjacent color palette</p>			
 2" x 2" @ 12" x 12"	6	6.00	colorcode-5050-08-100
 <p>Available in every color shown in the adjacent color palette</p>			
 1" x 2" @ 12" x 12"	6	5.28	colorcode-5025-08-103
 <p>Available in every color shown in the adjacent color palette</p>			
 1" x 2" @ 12" x 12"	6	6.00	colorcode-5025-08-102
 <p>Available in every color shown in the adjacent color palette</p>			
 1" x 1" @ 12" x 12"	6	6.00	colorcode-2525-08-100

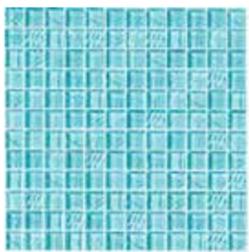
The delicate coat on the top side and a subsequent second fusing process give the surface a matte, slightly rough touch. That means the surface has not been sand-blasted and has closed pores. This makes it resistant to fingerprints, and grease stains are easier to clean.



Other colors available upon request



MOSAIC UNICOLOR Fossil

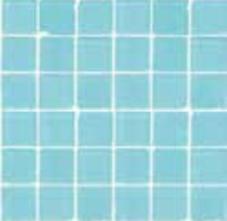
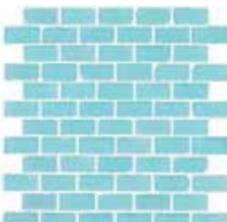
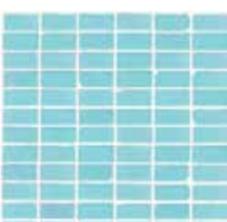
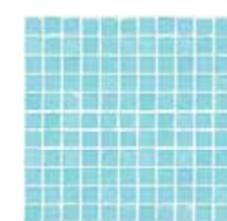
Size	Packing	Sq. Ft.	Order Code
 <p>Available in every color shown in the adjacent color palette</p>			
 2" x 3" @ 12" x 12"	7	5.95	colorcode-7550-08-114
 <p>Available in every color shown in the adjacent color palette</p>			
 1" x 1" @ 12" x 12"	6	6.00	colorcode-2525-08-114



Other colors available by special order only



MOSAIC UNICOLOR Antico

Size	Packing	Sq. Ft.	Order Code
	Available in every color shown in the adjacent color palette		
 2" x 2" @ 12" x 12"	6	6.00	colorcode-5050-08-206
	Available in every color shown in the adjacent color palette		
 OFFSET 1" x 2" @ 12" x 12"	6	5.28	colorcode-5025-08-211
	Available in every color shown in the adjacent color palette		
 PARALLEL 1" x 2" @ 12" x 12"	6	6.00	colorcode-5025-08-207
	Available in every color shown in the adjacent color palette		
 1" x 1" @ 12" x 12"	6	6.00	colorcode-2525-08-206

MOSAIC UNICOLOR ANTICO



MOSAIC DECOR Elements

Size	Packing	Sq. Ft.	Order Code
	Available in every color shown in the adjacent color palette		
 1" x 1" @ 12" x 12"	6	6.00	colorcode-7550-08-114

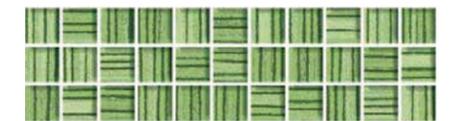
MOSAIC DECOR ELEMENTS



0210 Elements Virgin Forest



0211 Elements Vibrant Lava



0212 Elements Tropical Jungle



0213 Elements Pristine Springs

TILES DECOR Elements



0210 Elements Virgin Forest



0211 Elements Vibrant Lava



0212 Elements Tropical Jungle

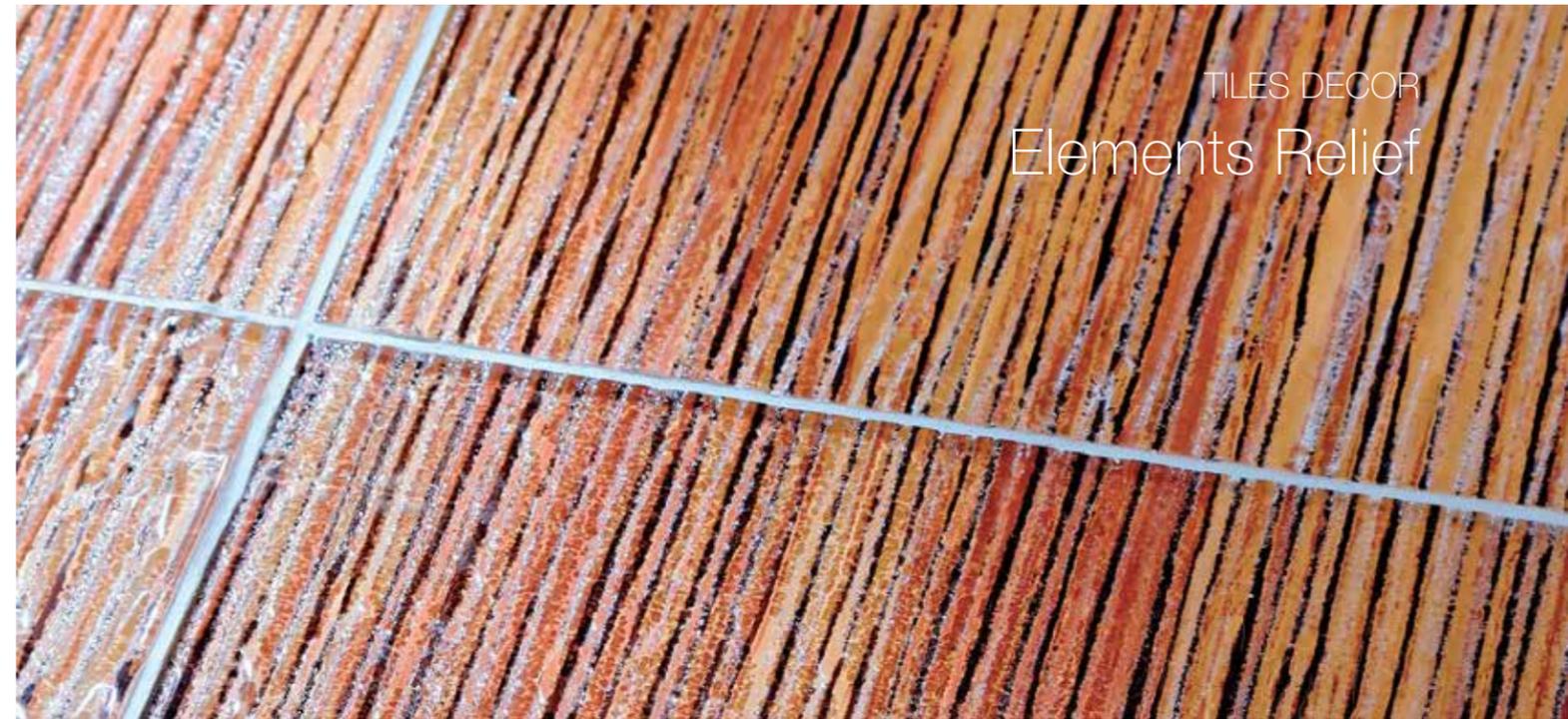


0213 Elements Pristine Springs

Size	
	16" x 16"
Packaging	Sq. Ft.
7	12.44
Order Code Elements	
Elements Virgin Forest	0210-4040-08-000
Elements Vibrant Lava	0211-4040-08-000
Elements Tropical Jungle	0212-4040-08-000
Elements Pristine Springs	0213-4040-08-000

Size	
	8" x 16"
Packaging	Sq. Ft.
7	6.22
Order Code Elements	
Elements Virgin Forest	0210-4020-08-000
Elements Vibrant Lava	0211-4020-08-000
Elements Tropical Jungle	0212-4020-08-000
Elements Pristine Springs	0213-4020-08-000

Size	
	4" x 16"
Packaging	Sq. Ft.
14	6.22
Order Code Elements	
Elements Virgin Forest	0210-4010-08-000
Elements Vibrant Lava	0211-4010-08-000
Elements Tropical Jungle	0212-4010-08-000
Elements Pristine Springs	0213-4010-08-000



TILES DECOR Elements Relief

Size	
	16" x 16"
Packaging	Sq. Ft.
7	12.44
Order Code Elements	
Elements Virgin Forest Deco Structured Relief	0210-4040-08-030
Elements Vibrant Lava Deco Structured Relief	0211-4040-08-030
Elements Tropical Jungle Deco Structured Relief	0212-4040-08-030
Elements Pristine Springs Deco Structured Relief	0213-4040-08-030



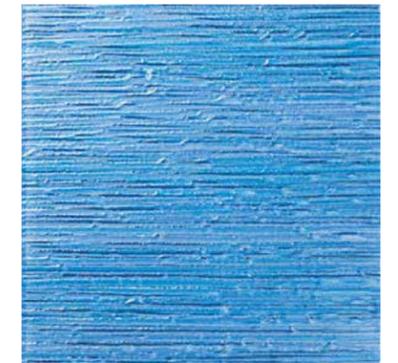
0210 Elements Virgin Forest
Deco Structured Relief



0211 Elements Vibrant Lava
Deco Structured Relief



0212 Elements Tropical Jungle
Deco Structured Relief



0213 Elements Pristine Springs
Deco Structured Relief





River Mosaic



Baby River Mosaic

River Mosaic GLOSSY

	Size	Packaging	Sq. Ft.	Order Code
RIVER MOSAIC GLOSSY	River Mosaic @ 12" x 12"	7	5.67	colorcode-3030-08-300
	Baby River Mosaic @ 12" x 12"	6	6.00	colorcode-3030-08-301
	Baby River Mosaic @ 6" x 12"	12	6.00	colorcode-3015-08-301
	Baby River Mosaic @ 2" x 8"	12	1.32	colorcode-2005-08-301

Available in every color shown in the adjacent color palette



Other colors available on request

Diamond Series

This unique shaped, geometric diamond mosaic is sized to be installed and enjoyed in either horizontal or vertical formats, and features both all glass and Carrara marble/glass mixes. All glass versions are available in Bright White, Surf and Silver Grey, plus a mix of bright white and our 3 grey colors. Carrara marble/glass mixes feature a random mix of marble and our 3 grey colors, Clear Grey, Dark Grey and Anthracite.

Size	
Diamonds 4" x 2"	
Packaging	Sq. Ft.
6	6
Order Code	
colorcode-1050-08-500	



1556 Carrara with 0027 Dark Grey



1554 Mix Grey with Bright White all glass



1555 Carrara with 0024 Clear Grey



0001 Bright White all glass



1557 Carrara with 0050 Anthracite



ARABESQUE

Size	
Arabesque 4" x 5"	
Packaging	Sq. Ft.
6	5.166
Order Code	
colorcode-3225-08500	

HEXAGON GLOSSY

Size	
Hexagons 6" x 5"	
Packaging	Sq. Ft.
6	3.936
Order Code	
colorcode-1315-08-700	

HEXAGON MATTE

Size	
Hexagons 6" x 5"	
Packaging	Sq. Ft.
6	3.936
Order Code	
colorcode-1315-08-701	

Arabesque and Hexagons

Hip and retro at the same time, our Arabesque features a mix of 1/3 structured tile with 2/3 glossy finish, which brings depth and pop to the reflective properties of Villi glass. We also stock Arabesque in all glossy in Silver Grey.

Our large hexagons deliver a beautiful look, especially with the versatility of using glossy, matte or both in areas where these deep colors and statement-making shapes are desired.

Both Arabesque and Hexagons are offered in our six top-selling colors.



MOSAIC DECOR Onyx Glossy



0201 Onyx Terra



0202 Onyx Cielo



0203 Onyx Mare



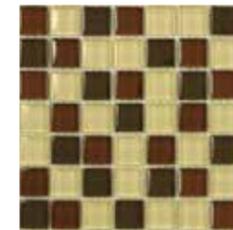
0204 Onyx Alpi



0205 Onyx Vulcano

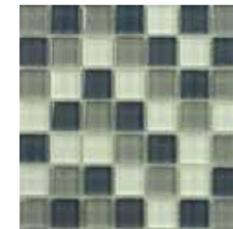
Size	Packing	Sq. Ft.	Order Code	
 <p>Available in every color shown in the adjacent color palette</p>				
 2" x 2" @ 12" x 12"	6	6.00	colorcode-5050-08-100	MOSAIC DECOR ONYX
 <p>Available in every color shown in the adjacent color palette</p>				
 1" x 1" @ 12" x 12"	6	6.00	colorcode-2525-08-100	RIVER MOSAIC ONYX
 River Mosaic @ 12" x 12"	7	5.67	colorcode-3030-08-300	
 Baby River Mosaic @ 2" x 8"	12	1.32	colorcode-2005-08-301	

MOSAIC MULTICOLOR Mixes Glossy



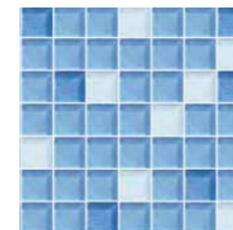
Kalahari

 **Mix Kalahari 1" x 1"**
@ 12" x 12
No. 1091-2525-08108
Mocha, Chocolate,
Champagne Glossy



Mojave

 **Mix Mojave 1" x 1"**
@ 12" x 12
No. 1090-2525-08108
Bright White, Dark Grey,
Clear Grey Glossy



Salerno

 **Mix Salerno 1" x 1"**
@ 12" x 12
No. 1044-2525-08-108
 **Mix Salerno 1" x 2"**
@ 12" x 12
No. 1044-5025-08-111
Surf Glossy, Steel Blue
Glossy, Blue Sky Glossy

MOSAIC MULTICOLOR Mixes Glossy/Matte



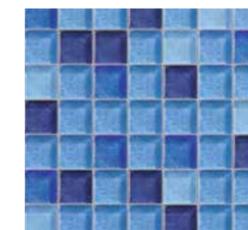
Chopin

 **Mix Chopin 1" x 1"** @ 12" x 12
No. 1050-2525-08-108
 **Mix Chopin 1" x 2"** @ 12" x 12
No. 1050-5025-08-111
Pergamon Matte, Hazelnut
Glossy, Clear Grey Glossy



Corsica

 **Mix Corsica 1" x 1"** @ 12" x 12
No. 1053-2525-08-108
 **Mix Corsica 1" x 2"** @ 12" x 12
No. 1053-5025-08-111
Pergamon Matte, Hazelnut
Glossy, Brown Glossy, Cotto
Glossy



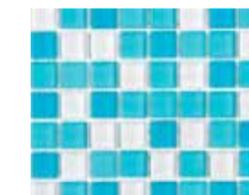
Cannes

 **Mix Cannes 1" x 1"** @ 12" x 12
No. 1058-2525-08-108
 **Mix Cannes 1" x 2"** @ 12" x 12
No. 1058-5025-08-111
Royal Blue Glossy & Matte,
Steel Blue Glossy, Blue Sky
Glossy, Shining Blue Glossy



Mix Chai

 **Mix Chai 1" x 1"** @ 12" x 12
No. 1088-2525-08-108
Highland Green Glossy & Matte,
Champagne Glossy & Matte, Grey
Stone Glossy & Matte, Green Olive
Glossy & Matte



Taurus

 **Mix Taurus 1" x 1"** @ 12" x 12
No. 1018-2525-08-108
Bright White Glossy, Blue Cloud
Glossy & Matte, Turquoise Matte



MOSAIC MULTICOLOR Mixes Fossil

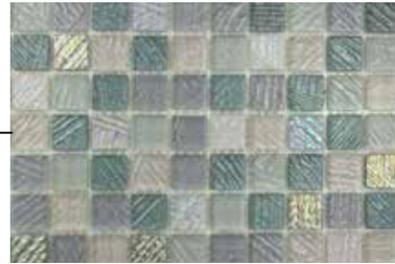
 **Mix Arno 1" x 1"** @ 12" x 12"
No. 0753-2525-08114
 **Mix Arno 2" x 3"** @ 12" x 12"
No. 0753-7550-08114

Arno



 **Mix Bahia 1" x 1"** @ 12" x 12"
No. 0701-2525-08114
 **Mix Bahia 2" x 3"** @ 12" x 12"
No. 0701-7550-08114

Bahia



 **Mix Elba 1" x 1"** @ 12" x 12"
No. 0706-2525-08114
 **Mix Elba 2" x 3"** @ 12" x 12"
No. 0706-7550-08114

Elba



 **Mix Fiji 1" x 1"** @ 12" x 12"
No. 1406-2525-08114
 **Mix Fiji 2" x 3"** @ 12" x 12"
No. 1406-7550-08114

Fiji

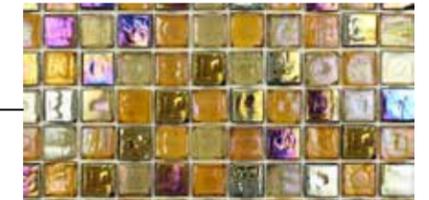


MOSAIC MULTICOLOR Jewel Blends

Limited Availability

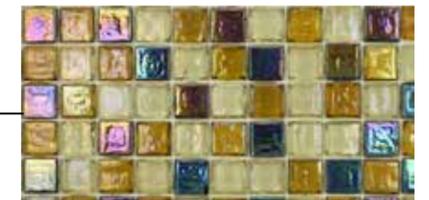
 **Mix Citrine Dark 1" x 1"** @ 12" x 12"
No. 1700-2525-08108

Citrine Dark



 **Mix Citrine Light 1" x 1"** @ 12" x 12"
No. 1701-2525-08108

Citrine Light



 **Mix Peridot 1" x 1"** @ 12" x 12"
No. 1702-2525-08108

Peridot



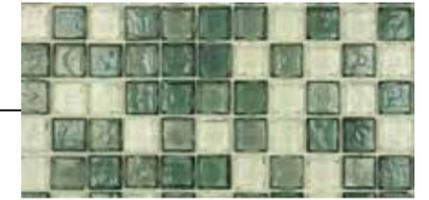
 **Mix Sapphire 1" x 1"** @ 12" x 12"
No. 1703-2525-08108

Sapphire



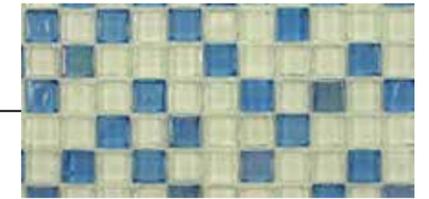
 **Mix Crystal 1" x 1"** @ 12" x 12"
No. 1705-2525-08108

Crystal



 **Mix Tanzanite 1" x 1"** @ 12" x 12"
No. 1704-2525-08108

Tanzanite



MOSAIC MULTICOLOR Specialty Designs

 Diamond @ 12" x 12 No. 0001-1313-08000	Diamond Hexagon Shapes	
 Glittering Clouds @ 12" x 12 No. 0001-1008-08056 <small>OFFSET</small>  Glittering Clouds @ 12" x 12 No. 0001-1008-08055 <small>PARALLEL</small>	Glittering Clouds Pencil with Metallic Silver	
 Basket Weave @ 12" x 12 No. 0001-8055-08000	Basket Weave Bright White Only — <i>other colors are special order</i>	

MOSAIC MULTICOLOR Fossil Blends

Combination of Fossil, Glossy, and Iridescent in 1" x 1"

 Mix Sea Life 1" x 1" @ 12" x 12 No. 1601-2525-08040	Sea Life	
 Mix Blue Ocean 1" x 1" @ 12" x 12 No. 1603-2525-08040	Blue Ocean	
 Mix Seven Seas 1" x 1" @ 12" x 12 No. 1602-2525-08040	Seven Seas	
 Mix Fedora 1" x 1" @ 12" x 12 No. 1600-2525-08040	Fedora	

MOSAIC MULTICOLOR Mixes Glass & Metal Coating

 Mix Savannah 1" x 1" No. 1071-2525-08-006 Bright White Glossy, Bright White Matte, Hazelnut Glossy, Bronze (Metal Coating)	Savannah *	
 Mix Glacier 1" x 1" No. 1070-2525-08-006 Bright White Glossy, Clear Grey Glossy, Light Silver (Metal Coating), Dark Silver (Metal Coating)	Glacier *	
 Mix Savannah Off-Set No. 1071-0803-08058 Bright White Glossy, Bright White Matte, Hazelnut Glossy, Bronze (Metal Coating)	Savannah *	
 Mix Glacier Off-Set No. 1070-0803-08058 Bright White Glossy, Clear Grey Glossy, Light Silver (Metal Coating), Dark Silver (Metal Coating)	Glacier *	
 Mix Savannah Parallel No. 1071-0803-08059 Bright White Glossy, Bright White Matte, Hazelnut Glossy, Bronze (Metal Coating)	Savannah *	
 Mix Glacier Parallel No. 1070-0803-08059 Bright White Glossy, Clear Grey Glossy, Light Silver (Metal Coating), Dark Silver (Metal Coating)	Glacier *	

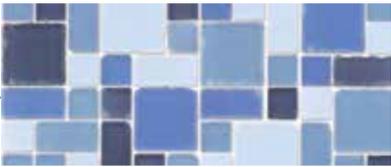
* These mosaics can be used in wet areas but for vertical wall application only. **These mosaics are not to be submerged or to be used in underwater areas.** They have excellent abrasion, corrosion and oxidation resistance.

MOSAIC MULTICOLOR Mixes Blooming Orchids Glossy Multi-Format

	Vanda	 Blooming Orchids Mix Vanda No. 0803-3030-08-120 Royal Blue Glossy, Steel Blue Glossy, Blue Sky Glossy, Surf Glossy
	Medinilla	 Blooming Orchids Mix Medinilla No. 0802-3030-08-120 Blue Cloud Glossy, Turquoise Glossy, Venice Blue Glossy
	Guzmania	 Blooming Orchids Mix Guzmania No. 0806-3030-08-120 Ice Glossy, Ireland Green Glossy, Emerald Glossy
	Cambria	 Blooming Orchids Mix Cambria No. 0807-3030-08-120 Pergamon Glossy, Orange Glossy, Mandarin Glossy, Corn Glossy
	Paphiopedia	 Blooming Orchids Mix Paphiopedia No. 0804-3030-08-120 Florence Brown Glossy, Brown Glossy, Chocolate Glossy, Mocca Glossy
	Cattleya	 Blooming Orchids Antico Mix Cattleya No. 0809-3030-08-120 Bright White Glossy, Light Grey Glossy, Dark Grey Glossy, Black Glossy



Mixes Blooming Orchids Antico MULTIFORMAT

 Blooming Orchids Antico Mix Vanda No. 0803-3030-08-121 Royal Blue Antico, Steel Blue Antico, Blue Sky Antico, Surf Antico	Vanda Antico	
 Blooming Orchids Antico Mix Medinilla No. 0802-3030-08-121 Blue Cloud Antico, Turquoise Antico, Venice Blue Antico	Medinilla Antico	
 Blooming Orchids Antico Mix Guzmania No. 0806-3030-08-121 Ice Antico, Ireland Green Antico, Emerald Antico	Guzmania Antico	
 Blooming Orchids Antico Mix Cambria No. 0807-3030-08-121 Pergamon Antico, Orange Antico, Mandarin Antico, Corn Antico	Cambria Antico	
 Blooming Orchids Antico Mix Paphiopedia No. 0804-3030-08-121 Florence Brown Antico, Brown Antico, Chocolate Antico, Mocca Antico	Paphiopedia Antico	
 Blooming Orchids Antico Mix Cattleya No. 0809-3030-08-121 Bright White Antico, Light Grey Antico, Dark Grey Antico, Black Antico	Cattleya Antico	

Buttons

	1" Rounds • Bermuda Sand	Mix Bermuda Sand No. 1060-0202-08-005 Champagne Glossy, Champagne Matte
	1" Rounds • Tranquility	Mix Tranquility No. 1061-0202-08-005 Bright White Glossy, Bright White Matte
	1" Rounds • Chai	Mix Chai No. 1088-0202-08-005 Highland Green Glossy & Matte, Champagne Glossy & Matte, Grey Stone Glossy & Matte, Green Olive Glossy & Matte
	1" Rounds • Ocean Mist	Mix Ocean Mist No. 1062-0202-08-005 Surf Glossy, Steel Blue Glossy, Blue Sky Glossy
	3/4" Rounds • Savannah *	Mix Savannah No. 1071-0202-08-005 Pergamon Glossy, Pergamon Matte, Hazelnut Glossy, Bronze (Metal Coating)
	3/4" Rounds • Glacier *	Mix Glacier No. 1070-0202-08-005 Bright White Glossy, Clear Grey Glossy, Light Silver (Metal Coating), Dark Silver (Metal Coating)

* These mosaics can be used in wet areas but for vertical wall application only.
These mosaics are not to be submerged or to be used in underwater areas. They have excellent abrasion, corrosion and oxidation resistance.



Random Width and Random Length on 12 x 12 Net Pencils Brick (Linear)

	Vanilla	Mix Vanilla No. 1080-0802-08009 Bright White Glossy
	Latte	Mix Latte No. 1081-0802-08009 Bright White Glossy, Bright White Matte
	Misto	Mix Misto No. 1082-0802-08009 Bright White Glossy, Bright White Matte, Clear Grey Glossy, Clear Grey Matte
	Chai	Mix Chai No. 1088-0802-08009 Highland Green Glossy & Matte, Champagne Glossy & Matte, Grey Stone Glossy & Matte, Green Olive Glossy & Matte
	Cappuccino	Mix Cappuccino No. 1084-0802-08009 Pergamon Glossy, Champagne Glossy, Florence Brown Glossy
	Espresso	Mix Espresso No. 1083-0802-08009 Hazelnut Glossy, Mocca Glossy, Champagne Glossy, Florence Brown Glossy
	Medinilla (Orchids)	Mix Medinilla (Orchids) No. 0802-0802-08700 Blue Cloud Glossy, Turquoise Glossy, Venice Blue Glossy
	Vanda (Orchids)	Mix Vanda (Orchids) No. 0803-0802-08700 Royal Blue Glossy, Steel Blue Glossy, Blue Sky Glossy, Surf Glossy
	Guzmania (Orchids)	Mix Guzmania (Orchids) No. 0806-0802-08700 Ice, Ireland Green, Emerald Glossy



1/4" Random Length on 12 x 12 Net Pencils Glossy & Matte

	Vanilla	Mix Vanilla No. 1080-0802-08-007 Bright White Glossy
	Latte	Mix Latte No. 1081-0802-08-007 Bright White Glossy, Bright White Matte
	Misto	Mix Misto No. 1082-0802-08-007 Bright White Glossy, Bright White Matte, Clear Grey Glossy, Clear Grey Matte
	Chai	Mix Chai No. 1088-0802-08-007 Highland Green Glossy & Matte, Champagne Glossy & Matte, Grey Stone Glossy & Matte, Green Olive Glossy & Matte
	Cappuccino	Mix Cappuccino No. 1084-0802-08-007 Pergamon Glossy Champagne Glossy Florence Brown Glossy
	Espresso	Mix Espresso No. 1083-0802-08-007 Hazelnut Glossy Mocca Glossy Champagne Glossy Florence Brown Glossy

1/4" x 4" on 12 x 12 Net Pencils with Marble

	Alps	Mix Alps No. 1801-0803-08056 OFFSET Mix Alps No. 1801-0803-08055 PARALLEL
	Yosemite	Mix Yosemite No. 1802-0803-08056 OFFSET Mix Yosemite No. 1802-0803-08055 PARALLEL
	McKinley	Mix McKinley No. 1804-0803-08056 OFFSET Mix McKinley No. 1804-0803-08055 PARALLEL
	Rainier	Mix Rainier No. 1805-0803-08056 OFFSET Mix Rainier No. 1805-0803-08055 PARALLEL
	Everest	Mix Everest No. 1806-0803-08056 OFFSET Mix Everest No. 1806-0803-08055 PARALLEL
	Makalu	Mix Makalu No. 1807-0803-08056 OFFSET Mix Makalu No. 1807-0803-08055 PARALLEL

* These mosaics can be used in wet areas but for vertical wall application only.
These mosaics are not to be submerged or to be used in underwater areas. They have excellent abrasion, corrosion and oxidation resistance.

MOSAIC MULTICOLOR Mixes Glass & Stone

	Dogwood	 Mix Dogwood 1" x 1" No. 1072-2525-08-006 Emperador Light, Champagne Glossy & Matte
	Maple	 Mix Maple 1" x 1" No. 1073-2525-08-006 Emperador Dark, Champagne Glossy & Matte
	Birch	 Mix Birch 1" x 1" No. 1074-2525-08-006 Golden Onyx, Chocolate Glossy, Brown Glossy, Hazelnut Matte

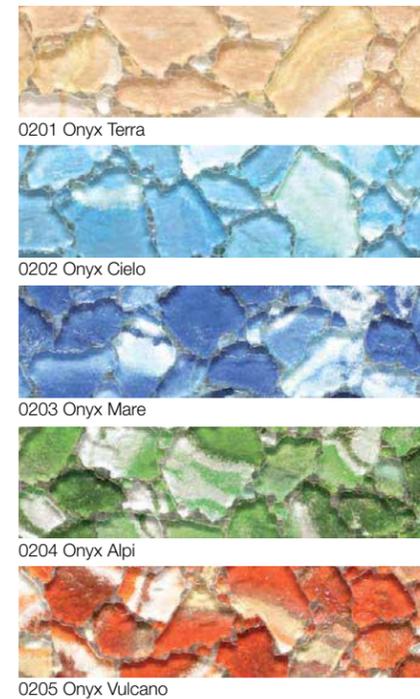
1/4" Random Length on 12 x 12 Net Pencils Glass & Stone

	Dogwood	 Mix Dogwood 1" x 1" No. 1085-0802-08-007 Emperador Light, Champagne Glossy & Matte
	Maple	 Mix Maple 1" x 1" No. 1086-0802-08-007 Emperador Dark, Champagne Glossy & Matte
	Birch	 Mix Birch 1" x 1" No. 1087-0802-08-007 Golden Onyx, Chocolate Glossy, Brown Glossy, Hazelnut Matte



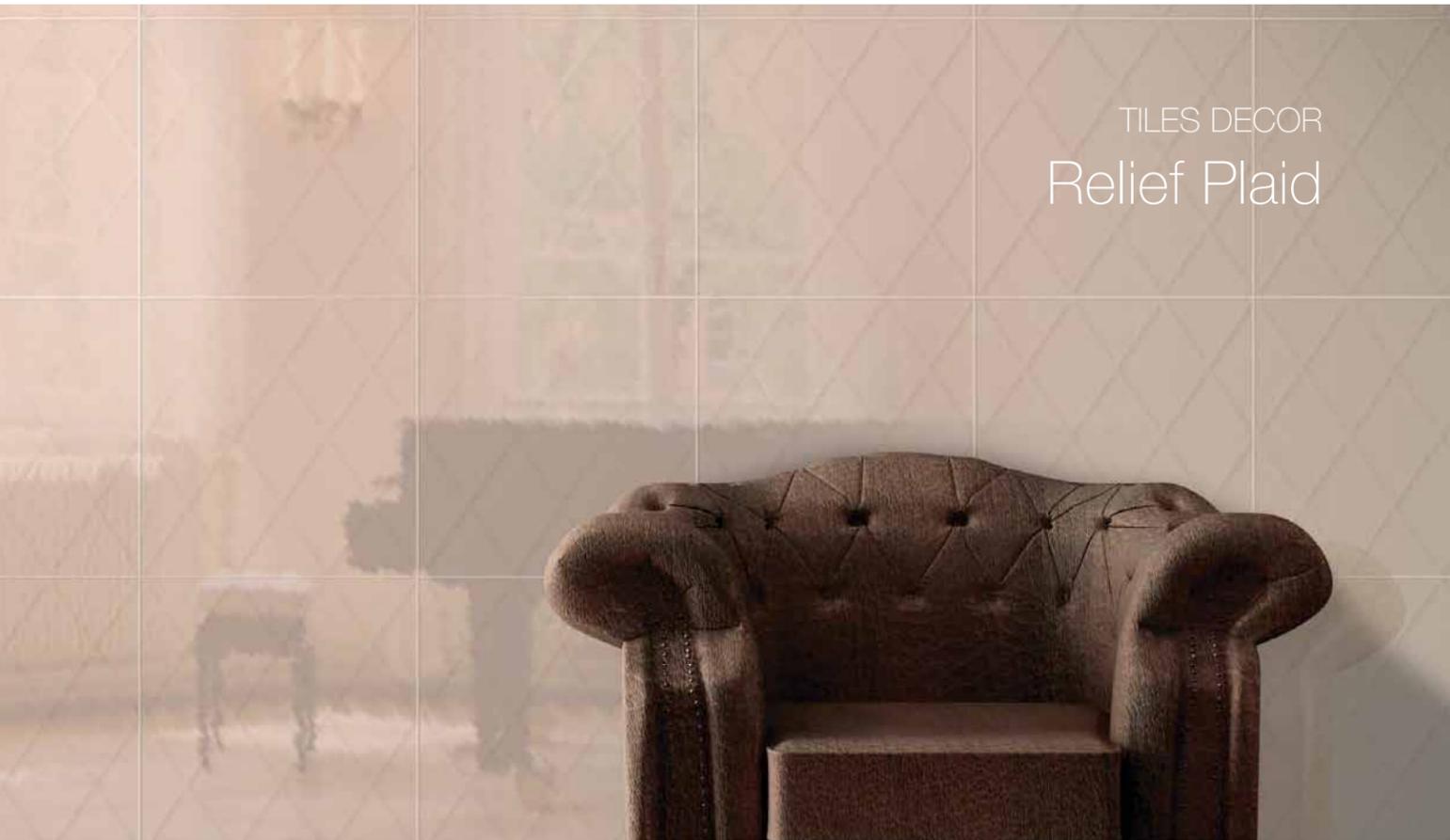
Light and shadow, water and air, fire and earth – the series Onyx is modeled after the varied and colorful interplay of the elements and, in a timeless manner, pays homage to the beauty of nature – right in your home.

River Mosaic ONYX



Size	Packaging	Sq. Ft.	Order Code	
 River Mosaic @ 12" x 12"	7	5.67	colorcode-3030-08-300	ONYX GLOSSY
 Baby River Mosaic @ 12" x 12"	6	6.00	colorcode-3030-08-302	
 Baby River Mosaic @ 6" x 12"	12	6.00	colorcode-3015-08-301	
 Baby River Mosaic @ 2" x 12"	12	1.33	colorcode-2005-08-301	

Available in every color shown in the adjacent color palette

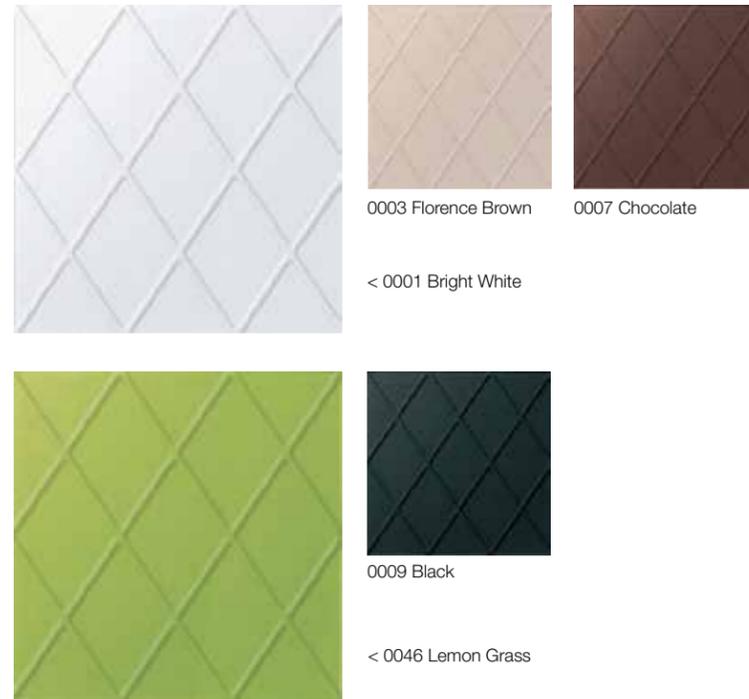


TILES DECOR
Relief Plaid

TILES DECOR
Relief Lines & Waves



Size	
	16" x 16"
Packaging	Sq. Ft.
7	12.45
Order Code Relief Lines (Deco Str. Relief)	
Bright White Deco Structured Relief	0001-4040-23-014
Florence Brown Deco Structured Relief	0003-4040-23-014
Chocolate Deco Structured Relief	0007-4040-23-014
Black Deco Structured Relief	0009-4040-23-014
Lemon Grass Deco Structured Relief	0046-4040-23-014



Size	
	16" x 16"
Packaging	Sq. Ft.
7	12.45
Order Code Relief Lines (Deco Str. Relief)	
Bright White	0001-4040-23-015
Florence Brown	0003-4040-23-015
Chocolate	0007-4040-23-015
Black	0009-4040-23-015
Lemon Grass	0046-4040-23-015
Order Code Relief Waves (Deco Str. Relief)	
Bright White	0001-4040-23-016
Florence Brown	0003-4040-23-016
Chocolate	0007-4040-23-016
Black	0009-4040-23-016
Lemon Grass	0046-4040-23-016



TILES DECOR Baroque Daphne



0001
Bright
White
Deco
Matte



0035
Champagne
Deco
Matte



0009
Black
Deco
Matte

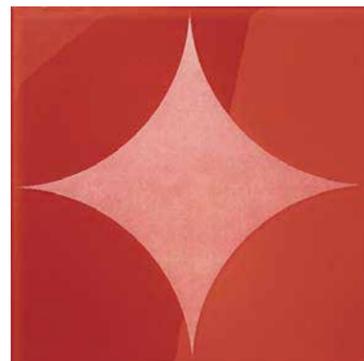
TILES DECOR Classic Circles

Size	
	16" x 16"
Packaging	Sq. Ft.
7	12.45
Order Code Elements	
Retro Classic Circles 0001 Bright White Deco Matte	0001-4040-20-004
Retro Classic Circles 0009 Black Deco Matte	0009-4040-20-004
Retro Classic Circles 0030 Red Deco Matte	0030-4040-20-004

Other colors/sizes available on request



0001 Bright White Deco Matte



0030 Red Deco Matte



0009 Black Deco Matte

Size	
	16" x 16"
Packaging	Sq. Ft.
7	12.45
Order Code Elements	
0001 Bright White Deco Matte	0001-4040-20-007
0035 Champagne Deco Matte	0035-4040-20-007
0009 Black Deco Matte	0009-4040-20-007



PLEASE READ THESE INSTALLATION INSTRUCTIONS CAREFULLY BEFORE BEGINNING INSTALLATION!

VILLI makes high-quality, architectural building materials. Installation of large format glass tiles requires skillful techniques and training, and it is essential to adhere strictly to the relevant instructions for installation. For this reason installation should only be carried out by properly trained professionals. The owner or end user of the tiles is responsible for determining the acceptability of the product for the particular installation being considered. If the customer has any doubt as to whether the tile is suited to the application being considered it is strongly suggested a call be made to Villi USA to discuss the concern.

COLOR / SHADE

Glass always has its own natural coloring, which increases as the thickness/density increases. The color of the final consignment may deviate slightly from the color of the original sample. This is referred to as a shade variation and does not constitute any reason to return the goods. This color variation is reduced with Opti-Glass, but is not completely eradicated. We strongly recommend that all tiles should be dry-laid and examined for variation and shading prior to installation. VILLI USA assumes NO responsibility for problems related to product installation and No adjustments will be made after installation.

Important factors for a successful Villi installation:

PREPARATIONS

The contractor is to examine substrates and advise the General Contractor and Architect of existing conditions and surface contamination requiring correction before work commences. Before starting, substrates are to comply with deflection requirements as defined by International Building Code (IBC), International Residential Code (IRC), or applicable local building code. Substrates are to be cleaned to remove curing compounds, sealers, soil, mortar, dirt, dust, etc. Curing compounds and sealers are to be mechanically removed (e.g. metal bead-blasting, grit / sand blasting, diamond wheel grinding with vacuum attachment). After removal of the curing compounds and sealers, all rough and uneven substrates are to be brought into required tolerances. For tiles with edges shorter than 15 inches (375mm), maximum allowable variation is ¼ inch in 10 feet (6 millimeters in 3 meters) from the required plane, with no more than 1/16 inch variation in 12 inches (1.5 millimeters variation in 300 millimeters) when measured from the high points in the surface. For tiles with at least one edge 15 inches (375 millimeters) in length, maximum allowable variation is 1/8 inch in 10' (3 millimeters in 3 meters) from the required plane, with no more than 1/16 inch variation in 24 inches (1.5 millimeters variation in 600 millimeters) when measured from the high points in the surface. For modular substrate units, such as exterior glue plywood panels or adjacent concrete masonry units, adjacent edges cannot exceed 1/32 inch (0.8 millimeters) difference in height. Use LATICRETE 3701 Fortified Mortar. Dry, dusty concrete or masonry surfaces must be water washed and excess water removed just prior to the application of LATICRETE installation materials.

EXPANSION AND CONTROL JOINTS

Existing joints in substrate must be carried through the tile work and conform to architectural details. Expansion joints to be installed where tile work abuts restraining surfaces, such as perimeter walls, curbs, columns, corners, etc. Expansion joints to be installed at all "changes of plane" in tile work. Refer to Tile Council of North America (TCNA) Detail EJ-171 (Current Year) for industry recommendations.

INSTALLATION OF CRACK SUPPRESSION MEMBRANE

Install HYDRO BAN® over all hairline cracks (≤ 1/8" or 3mm) in surfaces, prior to installing tiles, in accordance with the LATICRETE® written installation instructions. Refer to LATICRETE DS 663.0 and DS 663.5 for complete information.

MIXING

Mix according to LATICRETE printed product instructions included with each product package.

THINSET INSTALLATION OF TILES

Ensure that the backs of the glass tiles have been thoroughly washed, rinsed, and completely dried prior to installation. Use LATICRETE Glass Tile Adhesive Mortar to install tiles, via thin-set method. Installation is to comply with current revisions of ANSI A108.02 (3.11), A108.1B and ANSI A108.5. Use an appropriate sized notched trowel to facilitate full coverage of the thinset mortar to the backs of the tiles. Use the flat side of the trowel to firmly apply LATICRETE Glass Tile Adhesive Mortar onto the substrate. Next, apply LATICRETE Glass Tile Adhesive Mortar in a horizontal direction using notched side of the trowel. Use the flat side of the trowel to knock down the ridges and create a smooth setting bed. Check for voids and fill in where necessary. Next, back butter each clean, dry tile using LATICRETE Glass Tile Adhesive Mortar. Verify that 100% coverage has been achieved by removing a tile while the thin-set mortar is still fresh. The face of the glass tile can also be checked before setting to verify the appearance of full coverage. Tiles must be dry prior to installation to avoid the appearance of water spots on backs of tile. Apply glass tile into the wet thin-set mortar using firm, even pressure to establish contact and eliminate any voids. Remove excess thin-set mortar from in between tile edges. If voids or water spots in the thin-set mortar are visible through the tiles, remove the tile and correct the installation at this point. Allow the tile installation to cure a minimum of 48 hours at 70°F (21°C) prior to grouting. Clean excess thin-set mortar from the face of the glass tiles and joints between pieces while fresh, before it hardens.

EPOXY GROUTING

Store liquid components of SPECTRALOCK® PRO Premium Grout† for 24 hours @ 70-80°F (21-27°C), prior to use, to facilitate mixing and application. Substrate temperature must be 40-95°F (4-35°C). Verify joints are free of dirt, debris, thin-set mortar or grout spacers. Sponge or wipe dust/dirt off glass and remove all water standing in joints. Cut open pouch and pour SPECTRALOCK PRO Premium Grout Part A Liquid into a clean mixing pail. Then open pouch and pour SPECTRALOCK PRO Premium Grout Part B Liquid into the mixing pail. Mix by hand or with a slow speed (<300 rpm) mixer until the two liquids are well blended. Then, while mixing, add SPECTRALOCK Grout Part C Powder and blend until uniform. For narrow joints, it is acceptable to leave out up to 10% of the SPECTRALOCK Grout Part C Powder to produce a more fluid mix. Install SPECTRALOCK PRO Premium Grout in compliance with current revisions of ANSI A108.02 (3.13) and ANSI A108.6 (3.0 - 4.0). Spread using a sharp edged, firm rubber float and work grout into joints. Using strokes diagonal (at 45° angle) to the grout lines, pack joints full and free of voids/pits. Then hold float face at a 90° angle to grouted surface and use float edge to "squeegee" off excess grout, stroking diagonally to avoid pulling grout out of filled joints. Once excess grout is removed, a thin film/haze will be left. Initial cleaning of the remaining film/haze can begin approximately 20 minutes after grouting (wait longer when temperatures are cooler). Begin by mixing one cleaning additive packet with 2 gallons (7.6 L) of clean water in a clean bucket to make cleaning solution. Dip a clean sponge into the bucket and then wring out cleaning solution until sponge is damp. Using a circular motion, lightly scrub grouted surfaces with the damp sponge to loosen grout film/haze. Then drag sponge diagonally over the panel surfaces to remove froth. Rinse sponge frequently and change cleaning solution at least every 50 ft2 (4.7m2). Discard sponges as they become "gummy" with residue. Check work as you clean and repair any low spots with additional grout. One (1) hour after finishing first cleaning, clean the same area again following the same procedure but utilizing a clean white scrub pad and fresh cleaning solution. Rinse scrub pad frequently. Drag a clean sponge diagonally over the panel surfaces to remove froth. Use each side of sponge only once before rinsing and change cleaning solution at least every 50 ft2 (4.7m2). Allow cleaned areas to dry and inspect panel surfaces. For persistent grout film/haze (within 24 hours), repeat scrubbing procedure with undiluted white vinegar and clean pad. Rinse with clean water and allow surface to dry. Inspect grout joint for pinholes/voids and repair them with freshly mixed LATICRETE® SPECTRALOCK® PRO Premium Grout†. Caution: Do not use acid cleaners on epoxy grout less than 7 days old.

PORTLAND CEMENT GROUTING

Verify grout joints are free of dirt, debris, thin-set mortar and grout spacers. Sponge or wipe dust/dirt off all surfaces. Remove all water standing in joints. Surface temperature must be between 40-90° F (4-32°C). Mixing: Pour approximately 64 oz. (1.9 L) of clean, potable water into a clean mixing container. Add a 25 lb. (11.3 kg) bag of LATICRETE PERMACOLOR™ Grout to the container while

mixing. Mix with a slow speed mixer to a smooth, stiff consistency. Allow to slake for 5 minutes and remix. Install grout per current revisions of ANSI A108.1A (7.0 Grouting of tile), ANSI A108.02 (4.5 Cleaning tile) and ANSI A108.10. Dampen dry surfaces with clean water. Spread using a sharp edged, hard rubber float and work grout into joints. Using diagonal (at 45° angle to direction of grout line) strokes, pack joints full and free of voids/pits. Hold float face at a 90° angle to panel surface and use float edge to "squeegee" off excess grout, stroking diagonally to reduce pulling grout out of filled joints. Initial cleaning can begin when grout has become firm, typically 15-20 minutes after grouting @ 70° F (21°C). Higher temperatures may require faster time to initial cleaning; wider joints or lower temperatures may require a longer time to initial cleaning. Begin initial cleaning by lightly dampening the entire grouted area with a damp sponge. Then, wash clean the entire area with a damp (not wet) sponge. Drag a clean, dampened sponge diagonally over the panel surfaces to remove grout haze left after "squeegeeing." Rinse towel/sponge frequently. Change rinse water at least every 200 ft2 (19m2). Repeat this cleaning sequence again if grout haze is still present. Allow grout joints to become firm. Buff surface of grout with clean coarse cloth. Inspect joint for pinholes/voids and repair them with freshly mixed grout. Within 24 hours, check for remaining haze and remove it with warm soapy water and a nylon scrubbing pad, using a circular motion, to lightly scrub surfaces and dissolve haze/film. Do not use acid cleaners on latex Portland cement grout less than 10 days old.

PROTECTION

The contractor must take precautions to protect the finished work from damage by other trades. Allow the cement grout to cure for a minimum of 7 days at 70° F (21° C) before aggressive cleaning.

COLD WEATHER NOTE

The curing of installation materials is retarded by low temperatures and finished work should be protected for an extended period of time. Typically, for every 18° F below 70° F (10°C below 21°C), installation materials take twice as long to cure.

GROUT JOINT WIDTH

VILLI glass tiles should be set with a minimum of 1/8 inch grout joint. We also recommend non-sanded grout to prevent any scratching on the tile surface. If applications call for sanded grout, we recommend the use of a soft rubber float to minimize the possibility of scratching the tile. After installation, it is recommended that the tile be cleaned with a commonly accepted grout cleaner, e.g. Aqua Mix (1-800-366-6877) or TEC (1-800-832-9023).

CUTTING VILLI TILES

There are various ways to cut Villi tiles. These include:

SCORING AND BREAKING

Scoring can be done using a glass cutter (tile cutter, e.g. hand cutter 6 or 8 mm carbide wheel housed in a ball bearing casing). The breaking is then done evenly, applying a constant pressure, using glazier's pliers. The cut edges should then be sanded with sanding pads, to minimize risk of injury. The lighter you score (apply the least amount of pressure to score the tile) the better it snaps – the glass tile does not break because of the force, it breaks because of the heat generated from the carbide wheel.

USING A WET SAW

Using a wet saw may result in chipping on both the top and bottom of the tile causing an irregular edge and some color loss. Using a wet saw is only recommended when the cut area will be covered by more than ¼" of switch plate or molding. Wet saws generally are not recommended for cutting VILLI tiles. Most wet saws cannot cut the tile without excessive vibrations, which cause chipping. If you do use a wet saw, use a Glass Blade 10" wet saw blade which is made specifically for glass. In addition, the tile has to be cut extremely slowly: Example: One piece of 4x4 glass tile should take approx. 1-1/2 to 2 minutes to cut. Use masking tape or blue painters tape all the way around the tile when the cut is being made and cutting the tile upside down will prevent the backing from chipping as much and will put the worst edge on the front of the tile. This edge should then be sanded and re-polished if needed.

USING A WATER-JET MACHINE

A water jet machine is an excellent option for cutting Villi products, especially for more difficult cuts. There is a difference in cutting glass versus stone. The water jet machines are set to 50-60,000 psi. For glass, it must be reduced to 18-20,000 psi. Also, there should either be a change to the metering disc to restrict the amount of sand that is used or a vacuum assist pump should be used. The water jet company can contact Villi for any further questions.

TO CUT OUT A SECTION OF THE TILE E.G. FOR POWER OUTLETS

First, mark out the piece which needs to be cut out. Where the mark-out lines intersect, drill a hole with a diameter of at least 5mm. Using a wet drill bit designed for drilling glass tile, drill half way through the tile from the front, turn it over and then drill half way through from the back, meeting in the middle. This is necessary to avoid chipping and stress fractures once the tile is set. The cutting should then be done using a water-cooled glass saw. The saw should be positioned at right angles to the tile.

DRILLING HOLES

Holes with a smaller diameter can be drilled using a diamond drill suitable for drilling glass, while constantly using cooling water. When drilling holes starting from a 10 mm diameter, care must be taken to drill on both sides. First drill on the colored side halfway through the tile, then drill on the glass side. This is necessary to avoid chipping the color and potential breaking due to stress. It is advisable to use a rabbet or similar aid. While drilling, it is essential to use cooling water.

INSTALLATION OF BATHROOM FIXTURES & FITTINGS

When installing bathroom fixtures/fittings (e.g. toilets, sinks, mirrors, etc.) by means of screws, place suitable plastic washers between the screws/bearing surface and the glass tile. When you tighten the screws, the plastic washers ensure an even distribution of pressure and prevent the tiles from breaking under the stress.

PLACING HARDWARE AND ACCESSORIES

- All hardware anchors or blocking for heavy objects must be set directly into the structure. Do not put any weight loads on the immediate substrate (cementitious board, greenboard, hardibacker, etc.) and never on to the glass tile itself.
- Shower doors and glass panel hardware should be set before setting glass tile. Do not set heavy items directly onto the glass. Blocking is required where doors attach to the wall. This reduces stress to the wall.
- The glass must be physically separated from towel bars, light fixtures, hooks, or any other hardware. Use cork material or 1/16" rubber sheeting to separate hardware from the glass tile. Cut to size and shape as needed.

CLEANING INSTRUCTIONS FOR GLASS TILES

GENERAL INFORMATION

Market research, studies and, above all, practical experience confirm that glass scores excellently well in comparison with other covering materials. The decisive criteria include, above all, long-lasting beauty and easy cleaning, together with high functionality, in both private homes and public areas. When using cleaning agents, please observe the instructions for use and the danger warnings given by the manufacturers. We cannot accept any liability for damage caused through failure to follow these instructions and warnings. Never use cleaning agents which contain hydrofluoric acid or any of its compounds (fluoride). Even when heavily diluted, these will corrode the glass tiles.

Important: When cleaning, always also take the surrounding materials into account!

BASIC GUIDELINES

There is an old saying which has not lost its wisdom: "dirt which is never carried inside need never be cleaned away!" Shoe-scraper grids, doormats and walk-off areas in front of the entrance area stop a great deal of dirt from getting in. Optimal cleaning results can be achieved using clean water and a microfiber cloth: simply dampen the cloth and polish the glass tiles/mosaics – and finished! In the event of heavy soiling, glass should always be rinsed with clean water beforehand, to remove dust and silica sand. If cleaning agents must be used, then these should

contain a small amount of alcohol or acid, and be used with a microfiber cloth. CAUTION: Please do not use any blades or lambskin – both of these cleaning aids can damage the glass! All cleaning devices must always be free of “grainy” elements.

CLEANING

A distinction is made between the final building cleaning, basic cleaning and maintenance cleaning (daily cleaning).

Final building cleaning or first cleaning

This refers to the cleaning at the end of building work, immediately after completing the surface. After the heaviest dirt has been rinsed off, the thorough cleaning is carried out using a suitable cleaning agent.

Grout joints

Grout joints must always be protected by wetting them with water beforehand. Once they are saturated with water the joint sealer cannot absorb any further liquids (cleaning agents), and therefore cannot suffer corrosion. Acidic cleaning agents corrode the (cement-based) joint sealer. After use, rinse thoroughly and neutralize if necessary.

- Cement-based joint sealer: clean with cement residue remover
- “Epoxy” joint sealer (clinics): clean with silicone remover

Tiles / Mosaics

Usually cleaned using basic sanitary cleaning agents (phosphoric acid – pH 0.5 – in a concentrated form: 5 – 10%), to achieve the highest possible degree of cleanliness.

Facades

Each facade must undergo a final cleaning after being laid or mechanically mounted. Mechanically-held facades preferably require a neutral cleaning to remove oily and greasy dirt produced during assembly, while conventionally cemented facades require acid-based cleaning to remove the cement residue.

Basic cleaning (precision building cleaning)

This is usually carried out using basic sanitary cleaning agents (phosphoric acid – pH 0.5 – in a concentrated form: 5 – 10%), to achieve the highest possible degree of cleanliness.

Maintenance cleaning, cleaning for daily use

The “everyday cleaning” is trouble-free and will be necessary at varying intervals, according to the amount of dirt and use: weekly, daily, or several times a day in the event of especially intensive use. Generally, water and a microfiber cloth suffice for maintenance cleaning. We recommend cleaning with citric acid cleaning agents (pH 2 – 2.5) in sanitary facilities. Cleaning agents containing special care agents are not necessary and may even cause problems if continually used: sticky layers of grease, wax and plastic can build up, which not only look unsightly, but are also bad for hygiene, safety (danger of slipping) and cleaning.

Sanitary areas

If cleaning agents are used, these should contain a small amount of alcohol, be free of tensides or be slightly acidic.

Living areas

Normal dirt can be most easily removed using slightly alkaline (up to pH 10) or neutral cleaning agents.

Cleaning in clinics

Surface disinfectants can be recommended with no problem: alcohol-based, spray-on and pour-on disinfectants, hand disinfectants, wound disinfectants.

CLEANING DIFFERENT VILLI SURFACES

Glossy and Matte

Clean using clean water and microfiber cloth, alcohol-based / tenside-free cleaning agent – acidic maintenance cleaning agent (sanitary areas). The “Matte” surface is virtually non-porous (i.e. grease- and oil-resistant) and should be cleaned in the same way as glass or a mirror surface.

CAUTION: DO NOT USE aggressive LIME-SCALE REMOVERS!

PLEASE NOTE: Do not use any cleaning agents which have a sealing effect or add a surface layer.

Fossil, Structured Relief

The same method as in the final building cleaning is recommended, but in addition it is essential to thoroughly clean the surface “grooves”. Immediately rinse with a lot of water and clean the surface using cement residue remover. Clean using clean water and microfiber cloth, alcohol-based / tenside-free cleaning agent – acidic maintenance cleaning agent (sanitary areas)

Skid Resistant (floor tile)

Clean using clean water and microfiber cloth, alcohol-based / tenside-free cleaning agent – acidic maintenance cleaning agent (sanitary areas)

Deco Matte

CAUTION: Do NOT USE aggressive LIME-SCALE REMOVERS!

PLEASE NOTE: Do not use any cleaning agents which have a sealing effect or add a surface layer. Clean with clean water and microfiber cloth, alcohol-based / tenside-free cleaning agent.

River Mosaic (mosaic pieces)

The toughened safety glass used for the manufacture of mosaic pieces is basically more “delicate” than float glass. The important thing is that, immediately after laying, the River Mosaic should be cleaned (see recommended final building cleaning) to remove any joint sealer residue from the fine surface lines.

Afterwards, thoroughly rinse with water. Clean with clean water and microfiber cloth, alcohol-based / tenside-free cleaning agent – acidic maintenance cleaning agent (sanitary areas).

CONSULT RECOMMENDED ADHESIVE AND GROUTED PRODUCTS ON FOLLOWING PAGE.

LIMITED WARRANTY

VILLI glass products are produced using a worldwide patented procedure. The organic color pigments are melted into the glass therefore no corrosion can occur and change the color. VILLI products are produced from homogeneous glass slates; they don't absorb water and are therefore frost resistant. VILLI products can be installed in and outdoors. VILLI products are manufactured in accordance with industry standards, and they are warranted to be reasonably free of defects in materials and workmanship. When properly handled and correctly installed, VILLI glass tiles are guaranteed to conform (within accepted industry standards and tolerances) to the manufacturer's declared specifications. Villi USA cannot accept responsibility for the performance of these products after they are installed. Except for the warranties set forth above, Villi makes no other warranties, expressed or implied, including but not limited to any implied warranties of merchantability or fitness for a particular purpose.

Additional information is available at www.villiusa.com

Physical Properties

Weight	8 mm Thickness • 4.1 lbs/sq.ft
Water	absorption 0%
Frost-proof	✓
Color-fast, no corrosion	✓
Light-fast	✓
Surface resistant to acid and lye	e.g. chlorine
Pigments are fused in and are therefore color-fast and do not corrode	✓
Scratch hardness on the Mohs scale	6
Break strength of tiles	795 lbs/sqi
Required for ceramic	280 lbs/sqi
Thermal expansion on temperature change of 100°C	1 mm/m
Electrical conductivity	0

Tile Council Of North America - Product Test Results

Tests Run	Required Minimums	Test Results – Villi Glass Products	
ANSI A137.2-2012 Section 7.9: "Thermal Shock Resistance of Glass Tile" (a.k.a. immersion test)	Visible defects? No	Observations? None	
ASTM C648-04 (2009): "Standard Method for Breaking Strength of Ceramic Tile"	Mosaic and porcelain tiles = 250 lbf	Average of 640 lbf	
	Glazed wall tiles = 150 lbf		
	Fused or Low temperature Mosaic Glass tiles = 250 lbf		
	Cast Mosaic Glass tiles = 350 lbf		
ANSI A137.1-2012 Section 9.6.1: "Wet Dynamic Coefficient of Friction (DCOF)" – Matte Finish	0.42 or higher	3 tiles tested Tile 1 = 0.82 Tile 2 = 0.84 Tile 3 = 0.72	
ISO 10545-4: "Determination of Modulus of Rupture and Breaking Strength"	Fused Large Format Glass Tile	Min av breaking strength = 600 N	2767 N
		Min av MOR = 12 N/mm ²	MOR = 68 N/mm ²
Mohs' Scratch Hardness	No minimum	6 (same as Feldspar)	
ANSI A137.2-2012 Section 7.7: "Shear Bond Strength of Glass Tile"	Large Format Glass Tile	28 Day dry: Min 150 PSI	Average = 392 PSI
		21 Day dry + 7 Day Submerged: Min 100 PSI	Average = 220 PSI
ASTM C372: Standard Test Method for Linear Thermal Expansion of Porcelain Enamel and Glaze Frits and Fired Ceramic Whiteware Products by the Dilatometer Method.	There is no standard for glass tiles	Test results are available on request	

Recommended adhesive and grouting products

VILLI recommends the use of the following LATICRETE products:

Latex Portland Cement Thick Bed Mortar: LATICRETE® 3701 Fortified Mortar
Crack Suppression Membrane: HYDRO BAN®
Latex Portland Cement Thinset Mortar: Glass Tile Adhesive Mortar
Stain-Resistant Epoxy Grout: SPECTRALOCK® PRO Premium Grout
Polymer-Fortified Cement Grout: PERMACOLOR® Grout

Latex Portland Cement Unsanded Grout: LATICRETE 1600 Unsanded Grout mixed with LATICRETE 1776 Grout Enhancer (for joint widths less than or equal to 1/8 inch [3mm])
100% Silicone caulk: LATASIL™

For questions relating to setting materials, please contact **LATICRETE International, Inc.**, Bethany, CT, USA

Telephone: 1 (203) 393-0010

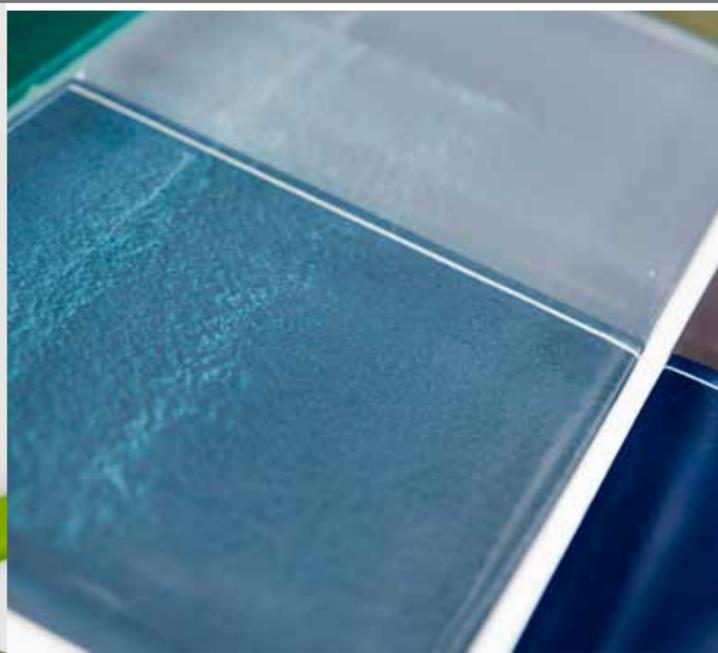
Fax: 1 (203) 393-1684

E-mail: technicalservices@laticrete.com

Website: www.laticrete.com

Care should be taken when using light colored Villi products or light colored grout. Use a white colored adhesive to prevent shadowing through the tile and visible thinsset bubbles in the grout lines. Back-buttering each piece of tile with the flat edge of the trowel will help to provide a void free installation; good contact with the mortar bed is also recommended – 100% coverage is needed! Larger tiles may require a larger notched trowel. Refer to current TCNA Handbook for Ceramic Tile Installations.

For further information contact: sales@villiusa.com, or call toll free: 1-866-724-5836





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