

## Series: Flow Technical Data

A USA porcelain stoneware tiles for walls and floors.

### Product characteristics

A USA full body porcelain stoneware tiles, glazed, composed of a very fine mixture of quality clay with the addition of feldspar, quartz and kaolin, manufactured by dry pressing of atomized powders and subsequently sintered by industrial firing at temperatures above 1200°C.

The complete vitrification of the tiles allows for a compact, non-absorbent, frost-proof product, resistant to bending, impacts, staining, chemical attack and thermal shock.

### Compliance with ANSI A 137.1

The Flow collection is in compliance with the regulations required for first quality products in USA ANSI A137.1 – Table 10: Porcelain tile.

### Quality and environmental certifications

The collection helps to meet the criteria for obtaining LEED credits. The content of "pre-consumer" recycled material is 40%, as certified by a qualified external body (LEED V4 Regulations - MR Credit). The product contains no VOC (volatile organic compounds) and has obtained the GREENGUARD GOLD certification. The Environmental Product Declaration (EPD) is available, this tool communicates clearly the environmental performances of the Flow collection based on its Cycle Assessment (LCA).

The collection is certified by Green Squared, a TCNA initiative aimed to recognize and certify sustainable products according to the ANSI 138.1 law.

### Antibacterial properties

Thanks to Protect antibacterial technology, the tiles from the Flow collection have continuous, effective and durable protection against the proliferation of bacteria, tested and certified in accordance with ISO 22196 and ASTM E3031.



| Commercial description of the product |                                   |
|---------------------------------------|-----------------------------------|
| Company                               | Legacy Tile - Distributor         |
| Country of origin                     | USA                               |
| Collection                            | FLOW                              |
| Colours                               | Ice, Ivory, Grey, Desert, Natural |
| Nominal Sizes                         | 12"x24"                           |
| Surface Finish                        | GLAZED                            |
| Surfaces Processing                   | NATURAL                           |
| Edges                                 | NOT RECTIFIED                     |
| Thickness                             | 9 mm                              |



LEED



LEED



40%



GREENGUARD  
GOLD



TCNA Environmental  
product certification



ANTIMICROBIAL



Water absorption ≤ 0.5 %

## Series: Flow Technical Data

### Technical features

Product type: Porcelain stoneware – Class P1 (GL)  
According to: ANSI A137.1



| Technical characteristics              | Test method            | Value required for Porcelain Tile<br>ANSI A137.1: Table 10 | Average Values<br>FLOW                                       |
|--|------------------------|--|--|
| Water absorption                       | ASTM C373              | ≤ 0.5 %  | Conforms   |
| Breaking strength                      | ASTM C648              | ≥ 250 lbf  | 350 lbf  |
| Surface abrasion resistance            | ASTM C1027             | As indicated by manufacturer                               | PEI 5 (Ice)<br>PEI 4 (Ivory, Desert, Grey, Natural)          |
| Linear thermal expansion               | ASTM C372              | not required   | $\alpha \leq 4.4 \times 10^{-6} \text{ }^\circ\text{F}^{-1}$ |
| Thermal shock resistance               | ASTM C484              | no sample must show visible signs                          | Conforms   |
| Chemical resistance (*)                | ASTM C650              | As indicated by manufacturer                               | A Resistant  |
| Stain resistance                       | ASTM C1378             | As indicated by manufacturer                               | A Resistant  |
| Freeze/Thaw resistance                 | ASTM C1026             | no sample must show visible signs                          | Resistant  |
| Bond strength                          | ASTM C482              | ≥ 50 PSI (0.34 MPa)  | Conforms   |
| Crazing resistance                     | ASTM C424              | As reported  | Pass   |
| Warpage edge                           | ASTM C485<br>Porcelain | Calibrated: max ±0.50% or max ±0.07"                       | Conforms   |
| Warpage diagonal                       | ASTM C485<br>Porcelain | Calibrated: max ±0.50% or max ±0.07"                       | Conforms   |
| Nominal dimensions                     | ASTM C499<br>Porcelain | Calibrated: max ±3.0% of nominal dimensions                | Conforms   |
| Caliber range                          | ASTM C499<br>Porcelain | Calibrated: max ±0.50% or max ±0.08"                       | Conforms   |
| Wedging                                | ASTM C502<br>Porcelain | Calibrated: max ±0.50% or max ±0.08"                       | Conforms   |
| Thickness                              | ASTM C499              | Max range 0.040 inch (1.02 mm)                             | max ± 0.030 inch   |
| Surface Hardness                       | Mohs Scale             | As reported  | Mohs 7   |
| Dynamic Coefficient of Friction (DCOF) | ANSI A326.3            | ≥ 0.42 (internal wet environments)                         | ≥ 0.42   |
| Shade variation                        | ANSI A137.1            | As indicated by manufacturer                               | V2   |
| Flame spread                           | ASTM E84               | -  | Class A  |

(\*) Excluding hydrofluoric acid and its derivatives



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## Series: Flow Technical Data

### Dimensional Specifications

| 12"x24" Natural Linear Size (mm) |               |
|----------------------------------|---------------|
| Caliber                          | Avg. Size     |
| G                                | 294.0 x 592.0 |
| H                                | 295.2 x 594.4 |
| I                                | 296.4 x 596.8 |
| Q                                | 297.6 x 599.2 |
| T                                | 298.8 x 601.6 |
| U                                | 300.0 x 604.0 |
| V                                | 301.2 x 606.4 |
| W                                | 302.4 x 608.8 |
| Y                                | 303.6 x 611.2 |



### Recommendations

#### Grout Joint Recommendations

Per TCNA Handbook, the minimum required joint width for ceramic tile and natural stone is 1/16th". Setting ceramic or stone without a grout joint of a least 1/16th", often referred to as a butt joint, does not provide sufficient accommodation for dynamic building movement, differential thermal expansion, or allowable variation in fabrication or manufacturing. Florida Tile recommends a minimum 3/16th grout joint for all ceramic tile and natural stone installations and 1/8th grout joint for rectified tiles.

#### Offset Installations (Brick Patterns)

The TCNA Handbook recommends no more than a 33% offset and a wider grout joint for offset installations of tile larger than 15" on the longest side. This is because all tiles are higher in the middle than at the edges. When the highest point (middle) of one tile is next to the lowest point (edge) of the tile next to it, unacceptable lippage can result. It is recommended that installers wish use tiles (especially 12"x24" tiles) in brick patterns with a 50% offset. Typically, our tiles are flatter than those of our competitors and better suited for this type of application. We encourages installers to follow the TCNA Handbook recommendations. If an offset greater than 33% is specified, specifier and owner must approve mock-up and lippage. TCNA handbook recommends a minimum 1/8th grout joint for rectified tiles and a minimum 3/16th grout joint for calibrated tiles. We recommend a wider (3/16" minimum) grout joint for this type of installation and it is important to avoid 'wash' lighting that is set close to the tiled surface which can aggravate the appearance of lippage due to shadows. Care must be taken to follow the subfloor flatness and installation guidelines in the TCNA Handbook for a successful installation.

#### Wet Area Applications

Due to the nature of the material, ceramic and porcelain tile will absorb water. The structure of the tile determines the amount of water the material will absorb. Thus, proper waterproofing methods and drainage systems need to be in place for a successful wet area installation. If water penetrates behind shower tiles, it soaks into the body and changes the color of the tile. This is common for ceramic tile due to its high absorption rate. Water penetration could be the result of a leak in the shower, damaged corner joints, leaking taps, or missing grout (grout not being flushed with the surface of the tile). A leak in the shower is a serious problem and can quickly get worse. Once repaired, the tiles will dry naturally, and the tile color will return to normal.



LEED



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40%



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GOLD



TCNA Environmental  
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ANTIMICROBIAL

















Water absorption ≤ 0.5 %

## Series: Flow Packaging

### TECHNICAL FEATURES

**COLOURED-BODY GLAZED STONEWARE** according to ANSI A137.1 (Glazed Porcelain Tiles - P1 Class)

| TECHNICAL FEATURES  | TEST METHOD            | REQUIRED VALUES - ANSI A137.1 | FLOW AVERAGE VALUES  |
|---|------------------------|-------------------------------|--|
|  <b>WATER ABSORPTION</b>                           | ASTM C373              | ≤ 0.5%                        | <b>CONFORMS</b>  |
|  <b>BREAKING STRENGTH</b>                          | ASTM C648              | ≥ 250 lbf                     | <b>350 lbf</b> 9 mm  |
|  <b>SURFACE ABRASION RESISTANCE</b>                | ASTM C1027             | As indicated by manufacturer  | <b>PEI 4</b> IVORY - DESERT - GREY - NATURAL<br><b>PEI 5</b> ICE   |
|  <b>LINEAR THERMAL EXPANSION</b>                   | ASTM C372              | No provision                  | $\alpha \leq 4.4 \times 10^{-6} \text{ }^{\circ}\text{F}^{-1}$<br>$\alpha \leq 8 \times 10^{-6} \text{ }^{\circ}\text{C}^{-1}$                     |
|  <b>STAIN RESISTANCE</b>                           | ASTM C1378             | As indicated by manufacturer  | <b>A RESISTANT</b>   |
|  <b>CHEMICAL RESISTANCE<sup>(*)</sup></b>          | ASTM C650              | As indicated by manufacturer  | <b>A RESISTANT</b>   |
|  <b>FROST RESISTANCE</b>                           | ASTM C1026             | As indicated by manufacturer  | <b>RESISTANT</b>   |
|  <b>BOND STRENGTH</b>                             | ASTM C482              | ≥ 50 PSI                      | <b>CONFORMS</b>  |
|  <b>SLIP RESISTANCE</b>                          | DIN EN 16165 - Annex B | -                             | <b>R11</b> Anti-Slip****   |
|   | DIN EN 16165 - Annex A | -                             | <b>C (A+B+C)</b> Anti-Slip****   |
|   | ANSI A326.3            | -                             | <b>ID - DCOF ≥ 0.42 (dry)</b> Natural<br><b>IW - DCOF ≥ 0.42 (wet)</b> Natural<br><b>IW+</b> Natural*** - Anti-Slip****<br><b>EW</b> Anti-Slip**** |
|  <b>SHADE VARIATION</b>                          | ANSI A137.1            | As indicated by manufacturer  | <b>V2</b> Slight variation   |
|  <b>FLAME SPREAD</b>                             | ASTM E84               | -                             | <b>Class A</b>   |
|  <b>THERMAL CONDUCTIVITY</b>                     | EN 12524               | -                             | $\lambda = 1,3 \text{ W/m }^{\circ}\text{K} / 0.7 \text{ BTU/h }^{\circ}\text{F}$  |
|  <b>RECOMMENDED MINIMUM JOINT<sup>(**)</sup></b> | NOT RECT (INDOOR)      | -                             | <b>3/16"</b> - 4.7 mm approx   |
|   | OUTDOOR                | -                             | <b>3/16"</b> - 4.7 mm approx   |
|  <b>THICKNESS</b>                                | <b>SIZES</b>           |                               |  |
|   | 12"x24" - 30x60.4 cm   | -                             | <b>9 mm</b>  |

(\*) Excluding hydrofluoric acid and its derivatives.

(\*\*) Grout Joint Recommendations. Per TCNA Handbook, the minimum required joint width for ceramic tile and natural stone is 1/16". Setting ceramic or stone without a grout joint of a least 1/16", often referred to as a butt joint, does not provide sufficient accommodation for dynamic building movement, differential thermal expansion, or allowable variation in fabrication or manufacturing.

(\*\*\*) With the exception of areas characterized by a higher risk of slipping (such as public showers, indoor swimming pools, locker rooms and steam rooms) for which an Anti-Slip surface is recommended.

(\*\*\*\*) Anti-Slip surface special order only.

**PROTECT**  
ANTIMICROBIAL SURFACE  
with MICROBAN®

### PACKINGS AND WEIGHTS

| SIZES                         | SF / CTN | LINEAR FT / CTN | PIECES / CTN | CTN / PALLET | SF / PALLET | LBS / CTN | LBS / PALLET |
|-------------------------------|----------|-----------------|--------------|--------------|-------------|-----------|--------------|
| 12"x24" Natural / Anti-Slip   | 15.82    | -               | 8            | 32           | 506.32      | 66.58     | 2,130.56     |
| MOSAIC 25 PCS 12"x12" Natural | 3.87     | -               | 4            | 81           | 313.87      | 16.53     | 1,338.93     |
| MURETTO 12"x28" Natural       | 7.75     | -               | 4            | 30           | 232.5       | 31.97     | 959.1        |
| COVE BASE 6"x12" Natural      | 3.87     | -               | 8            | 108          | 417.96      | 16.5      | 1,782        |
| BULLNOSE 4"x24" Natural       | -        | 31.71           | 16           | 60           | -           | 43.87     | 2,632.2      |

## Series: Flow Product Detail

COLOURED-BODY GLAZED STONEWARE

INTENDED USE: NATURAL    ANTI-SLIP 

# Stocked

ICE



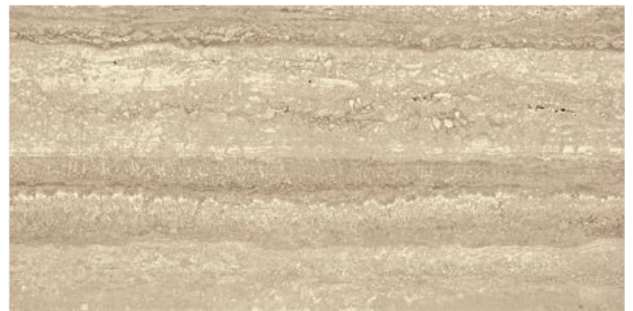
IVORY



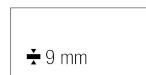
GREY



DESERT



NATURAL



12"x24" - 30x60.4 cm

NATURAL  
ANTI-SLIP\*

Anti-Slip surface special order only

\* No antimicrobial protection

**PROTECT**  
ANTIMICROBIAL SURFACE  
with MICROBAN®

## Series: Flow Product Detail

### Stocked

DECOS

COLOURED-BODY GLAZED STONEWARE



**MOSAIC ICE**

12"x12" - 30x30 cm

NATURAL

± 9 mm



**MOSAIC IVORY**

12"x12" - 30x30 cm

NATURAL

± 9 mm



**MOSAIC GREY**

12"x12" - 30x30 cm

NATURAL

± 9 mm



**MOSAIC DESERT**

12"x12" - 30x30 cm

NATURAL

± 9 mm



**MOSAIC NATURAL**

12"x12" - 30x30 cm

NATURAL

± 9 mm

**P R ( ) T E C T**

ANTIMICROBIAL SURFACE

with **MICROBAN**<sup>®</sup>

TRIM PIECES **Stocked**



**BULLNOSE**

4"x24" - 9.5x60.4 cm

NATURAL

± 9 mm

All colors available

**Special Order**



**COVE BASE**

6"x12" - 15x30 cm

NATURAL

± 9 mm

Special orders only

## Series: Flow Product Detail

### Special Order

**PROTECT**

ANTIMICROBIAL SURFACE  
with MICROBAN®

COLOURED-BODY GLAZED STONEWARE

INTENDED USE: NATURAL    ANTI-SLIP 

#### DECOS



**MURETTO ICE** Mesh Mounted

12"x28" - 30x71 cm

NATURAL

± 9 mm



**MURETTO IVORY** Mesh Mounted

12"x28" - 30x71 cm

NATURAL

± 9 mm



**MURETTO GREY** Mesh Mounted

12"x28" - 30x71 cm

NATURAL

± 9 mm



**MURETTO DESERT** Mesh Mounted

12"x28" - 30x71 cm

NATURAL

± 9 mm



**MURETTO NATURAL** Mesh Mounted

12"x28" - 30x71 cm

NATURAL

± 9 mm

## Series: Flow Product Detail

