

## Tender specifications TRUE collection

Supply of Panaria USA porcelain stoneware tiles for walls and floors.

### Product characteristics

Panaria 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 True 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 True 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.

Commercial description of the product				
Company	PANARIA USA			
Country of origin	USA			
Collection	TRUE			
Colours	Warm White, Light Beige, Mild Gery, Soft Black			
Nominal Sizes	18"x36" NAT	18"x18" NAT	12"x24" NAT	12"x12" NAT
	18"x36" NAT RECT	24"x24" ANTI-SLIP 20mm		
Surface Finish	GLAZED			
Surfaces Processing	NATURAL (NAT) ANTI-SLIP			
Edges	RECTIFIED (RECT), NOT RECTIFIED			
Thickness	9 mm 10 mm 20 mm			



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40%



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EPD



TCNA Environmental  
product certification



Water absorption ≤ 0.5 %

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**Technical features**

Product type: Porcelain stoneware – Class P1 (GL)

According to: ANSI A137.1

Technical characteristics	Test method	Value required for Porcelain Tile ANSI A137.1: Table 10	Average Values TRUE
Water absorption	ASTM C373	≤ 0.5 %	Conforms
Breaking strength	ASTM C648	≥ 250 lbf	Thickness 9 mm: 350 lbf Thickness 10 mm: 425 lbf Thickness 20 mm: 2,800 lbf
Surface abrasion resistance	ASTM C1027	As indicated by manufacturer	PEI 5 (Warm White, Light Beige, Mild Grey) PEI 4 (Soft Black)
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	Conforms
Stain resistance	ASTM C1378	As indicated by manufacturer	Conforms
Freeze/Thaw resistance	ASTM C1026	no sample must show visible signs	Conforms
Bond strength	ASTM C482	≥ 50 PSI (0.34 MPa)	Conforms
Crazing resistance	ASTM C424	As reported	Conforms
Warpage edge	ASTM C485 Porcelain	Rectified: max ±0.40% or max ±0.05" up to 24x24"; max ±0.07" for tiles larger than 24x24" Calibrated: max ±0.50% or max ±0.07"	Conforms
Warpage diagonal	ASTM C485 Porcelain	Rectified: max ±0.40% or max ±0.07" Calibrated: max ±0.50% or max ±0.07"	Conforms
Nominal dimensions	ASTM C499 Porcelain	Rectified: -3.0%/+2.0% of nominal dimensions Calibrated: max ±3.0% of nominal dimensions	Conforms
Caliber range	ASTM C499 Porcelain	Rectified: max ±0.25% or max ±0.03" Calibrated: max ±0.50% or max ±0.08"	Conforms
Wedging	ASTM C502 Porcelain	Rectified: max ±0.25% or max ±0.03" 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
Slip resistance	DIN 51130	-	R11 (Anti-Slip 20 mm)
Slip resistance	DIN 51097	-	A+B+C (Anti-Slip 20 mm)
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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### Dimensional Specifications

18"x36" Natural Linear Size (mm)	
Caliber	Avg. Size
H	447.6 x 892.2
I	448.5 x 894.0
Q	449.4 x 895.8
M	450.3 x 897.6
T	451.2 x 899.4
S	452.1 x 901.2
U	453.0 x 903.0
X	453.9 x 904.8
V	454.8 x 906.6
Z	455.7 x 908.4

18"x18" Natural Linear Size (mm)	
Caliber	Avg. Size
F	441.2
G	443.0
H	444.8
I	446.6
Q	448.4
T	450.2
U	452.0
V	453.8
W	455.6
Y	457.4

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

12"x12" Natural Linear Size (mm)	
Caliber	Avg. Size
G	294.0
H	295.2
I	296.4
Q	297.6
T	298.8
U	300.0
V	301.2
W	302.4
Y	303.6

18"x36" Rectified Linear Size (mm)		
Caliber	Avg. Size	
X	447	895
Y	442	890

Thicker 20 mm 24"x24" Natural Linear Size (mm)	
Caliber	Avg. Size
Q	597.0
M	599.0
T	601.0
S	603.0
U	605.0
X	607.0
V	609.0
Z	611.0
W	613.0

### 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. Florida Tile is aware that many installers wish to 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. Florida Tile 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. Florida Tile recommends 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.



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## 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.



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Water absorption  $\leq$  0.5 %