

Technical Characteristics: Metropolitan

ANSI/ASTM Standards

Products: Lime, Concrete, Cement, Portland, Silicon

Sizes (")/Thicknesses (mm):

✓ Rectified sizes: 36"x36"/11; 18"x36"/11; 9"x36"/11; 24"x24"/10; 12"x24"/10

✓ Calibrated (not rectified): 24"x24"/10; 18"x18"/9

Surface: Natural

Product group: Unglazed Porcelain Tile - P1 Class (Water Absorption $\leq 0.5\%$)

Surface property: Antibacterial Microban surface (ISO 22196 test method)

Technical characteristics	Test method	ANSI A137.1: Value required for Unglazed Porcelain Tile - P1 Class	URBANATURE Series Values
Water absorption	ASTM C373	$\leq 0.5\%$	$\leq 0.1\%$
Breaking strength	ASTM C648	≥ 250 lbs	Conforms
Deep abrasion resistance	ASTM C1243	not required	≤ 145 mm ³
Linear thermal expansion	ASTM C372	not required	$\alpha \leq 8 \cdot 10^{-6} \text{ } ^\circ\text{C}^{-1}$ $\alpha \leq 4.4 \cdot 10^{-6} \text{ } ^\circ\text{F}^{-1}$
Thermal shock resistance	ASTM C484	no sample must show visible signs	Resistant
Chemical resistance	ASTM C650	not required	Resistant
Stain resistance	CTI 81-7 D	not required	Resistant
Frost resistance	ASTM C1026	no sample must show visible signs	Resistant
Bond strength	ASTM C482	≥ 50 PSI	Conforms
Warpage edge	ASTM C485	Rectified: max $\pm 0.40\%$ or max $\pm 0.05''$ up to 24x24"; max $\pm 0.07''$ for tiles larger than 24x24"	Conforms
		Calibrated: max $\pm 0.75\%$ or max $\pm 0.09''$	
Warpage diagonal	ASTM C485	Rectified: max $\pm 0.40\%$ or max $\pm 0.07''$	Conforms
		Calibrated: max $\pm 0.50\%$ or max $\pm 0.08''$	
Nominal dimensions	ASTM C499	Rectified: $-3.0\%/+2.0\%$ of nominal dimensions	$\pm 1.5\%$
		Calibrated: max $\pm 3.0\%$ of nominal dimensions	
Caliber range	ASTM C499	Rectified: max $\pm 0.25\%$ or max $\pm 0.03''$	Conforms
		Calibrated: max $\pm 0.50\%$ or max $\pm 0.08''$	
Thickness	ASTM C499	≤ 0.040 inch	≤ 0.030 inch
Wedging	ASTM C502	Rectified: max $\pm 0.25\%$ or max $\pm 0.03''$	Conforms
		Calibrated: max $\pm 0.50\%$ or max $\pm 0.08''$	
Shade Variation	ANSI A137.1	According to manufacturer's statement	V2 (slight variation)
Dynamic Coefficient of Friction (DCOF)	ANSI A137.1	≥ 0.42 (internal wet environments)	≥ 0.42