

## PERFORMANCE SPECIFICATIONS

By ANSI Standard Specification A137.1 Metropolitan Ceramics' unglazed tile is classified as quarry tile, however, the exceptional technical characteristics noted enable them to be used in virtually any application suitable for ceramic tile. Metropolitan Ceramics' unglazed tile meets both the ASTM standards, the ANSI A137.1 specification for quarry tile, and Metropolitan internal requirements as listed.

SPECIFICATION	TEST	STANDARD	RESULT
Abrasion Resistance	ASTM C1243	Maximum value of 275 mm <sup>3</sup>	Metropolitan tests at < 275 mm <sup>3</sup>
Absorption 5-hour boil	ASTM C373	Maximum 5%	Metropolitan tests at 3% maximum and qualifies as vitreous.
Breaking Strength	ASTM C648	Average ≥ 250 lbf.	Metropolitan tests at 400 lbf. or better.
Thickness	ASTM C499	Max. range of .050"	Metropolitan meets the standard.
Nominal Size	ASTM C499	The facial dimension of each tile in the sample shall not vary more than ±2.00% from the nominal dimension.	Metropolitan meets the standard.
Freeze/ Thaw	ASTM C1026	Observations after 300 cycles. No visible damage.	Metropolitan meets the standard.
Shear Bond Strength	ASTM C482	50 P.S.I. or better	Metropolitan exceeds the standard.
DCOF Acu Test (wet)	ANSI A137.1 - 2012 BOT 3000	No industry standard Threshold of 0.42	At time of manufacture, Metropolitan QUARRYBASICS® abrasive and QUARRYBASICS® X-Colors tests at ≥0.75. All other Metropolitan products test above 0.60.
Warpage	ASTM C485	Min. -1.5% Max. 1.5% along any edge. Min -1.0% Max 1.0% on either diagonal.	Metropolitan meets the standard.
Wedging	ASTM C502	Min. -1.0% Max. 1.0%	Metropolitan meets the standard.
Chemical Resistance	ASTM C650	As Reported	Class A Classification
Stain Resistance	ASTM C1378	As Reported	Metropolitan meets the standard.
Scratch Hardness	MOHS	No Industry Standard	7

