



American Granite Curb Producers

**White Mount Airy Granite**

<b>Client:</b>	North Carolina Granite	<b>Project:</b>	White Mount Airy Granite
<b>Material:</b>	White Mount Airy Granite	<b>Project Number:</b>	
<b>Source:</b>	Mount Airy Quarry	<b>Report Number:</b>	TCNA – 224-13
<b>Date Sampled:</b>		<b>Sampled By:</b>	Client
<b>Date Tested:</b>	5/10/13 - 5/17/2013	<b>Tested By:</b>	TCNA

**Report of Compressive Strength of Dimension Stone**

**Test Method: ASTM C170**

Specimen	Load Parallel to Rift		Load Perpendicular to Rift	
	Dry Condition, psi	Wet Condition, psi	Dry Condition, psi	Wet Condition, psi
1	14,150	10,006	12,725	12,475
2	13,589	11,959	12,974	6,329
3	11,190	7,167	8,248	12,915
4	11,982	12,575	12,354	10,037
5	12,278	7,027	16,627	9,977
<b>Avg</b>	12,638	9,747	12,586	10,347

- All twenty specimens were compressed on the Forney compression tester at a rate of 5000 psi/min until failure.
- The ASTM C 615 specification for granite gives a minimum compressive strength of 19,000 psi

**Report of Flexural Strength of Dimension Stone Testing**

**Test Method: ASTM C 880**

<b>Stone Type: Granite</b>		<b>Preconditioning Procedure: ½ Dried in an Oven (48 hours), ½ Submerged in Water</b>		
Sample#	Load Parallel to Rift		Load Perpendicular to Rift	
	Dry Condition, psi	Wet Condition, psi	Dry Condition, psi	Wet Condition, psi
1	1261	1434	1689	1312
2	1141	1437	966	1381
3	1879	1418	1246	1327
4	1552	1585	1572	1320
5	1535	1555	1654	1497
<b>Avg</b>	1474	1486	1426	1368

- All twenty specimens were broken by a four-point load on an Instron universal tester.
- Parallel to Rift: Standard deviation for dry, 287. Standard deviation for wet 78.
- Perpendicular to Rift: Standard deviation for dry 311. Standard deviation for wet 77.
- The ASTM C 615 specification for granite gives a minimum flexural strength requirement of 1200 psi.

**Absorption and Bulk Specific Gravity of Dimension Stone**

**Test Method: ASTM C97**

Sample Number	Dry Weight	SSD Weight	Weight in Water	Absorption, % of Dry Weight	Bulk Specific Gravity	Units Weight lbs/cu ft
1				0.23		164.8
2				0.23		164.8
3				0.24		164.8
4				0.23		164.8
5				0.26		164.7
<b>Avg</b>				0.24		164.8

The ASTM C 615 specification for granite gives a maximum absorption requirement of 0.4% and a minimum density requirement of 160 lb/ft<sup>3</sup>.



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Modulus of Rupture of Dimension Stone				
Test Method: ASTM C99				
Stone Type: Granite		Preconditioning Procedure: ½ Dried in an Oven (48 hours), ½ Submerged in Water		
Sample#	Load Parallel to Rift		Load Perpendicular to Rift	
	Dry Condition, psi	Wet Condition, psi	Dry Condition, psi	Wet Condition, psi
1	1914	1620	1750	1534
2	1725	1525	1958	1595
3	1910	1512	1749	1570
4	1878	1484	1918	1575
5	1925	1565	1650	1463
<b>Avg</b>	1870	1541	1805	1547

- All twenty specimens were broken by a three-point load on an Instron universal tester with a load rate of 1000 lbf/min and a span of 7 inches.
- The ASTM C 615 specification for granite gives a minimum modulus of rupture of 1500 psi.

Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing					
Test Method: Modified ASTM C666 (Procedure A)					
Condition	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Start Weight, grams	1125.7 g	1155.2 g	1126.3 g	1151.1 g	1150.8 g
End Weight, grams	1128.5 g	1158.0 g	1129.0 g	1153.8 g	1153.5 g
Weight Change, grams	2.8 g	2.8 g	2.7 g	2.7 g	2.7 g
% Change	0.25%	0.24%	0.24%	0.23%	0.23%

- Before and after freeze/thaw cycling the specimens were observed for visible cracks, broken pieces, or other visible defects.
- There were no visible changes observed after freeze/thaw cycling.



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