NATURAL STONE INSTITUTE

Report of Physical Property Tests

Test Specimens Provided by: **Las Vegas Rock, Inc.**
PO Box 19118
Jean, NV 89019

Material: **Metaquartzite**
Origin: **USA**
Test Procedure: **ASTM C 99 Standard Test Method for Modulus of Rupture of Dimension Stone**
Rift Orientation: **Perpendicular**
Preconditioning: **Wet**

Specimen Number	Span (in)	Width (in)	Thickness (in)	Load @ Failure (lbs)	Modulus of Rupture (lbs/in²)	Modulus of Rupture (MPa)
PP-W-99-1	7.00	3.95	2.21	3,355	1,830	12.6
PP-W-99-2	7.00	4.01	2.26	1,944	1,000	6.9
PP-W-99-3	7.00	3.96	2.23	3,291	1,750	12.1
PP-W-99-4	7.00	4.08	2.31	2,632	1,270	8.8
PP-W-99-5	7.00	4.01	2.26	2,089	1,070	7.4
				Average Modulus of Rupture:	**1,380**	**9.6**
				Standard Deviation:	**385**	**2.7**
				Coefficient of Variation:	**27.9%**	**27.7%**

Date of Tests: Thursday, 30 August, 2018
Tests performed by: R. Lawson
Report and Data Reviewed by: **C. Muehlbauer**

These tests were performed on a Applied Testing Systems Universal Testing Machine Model 910. Loads were measured on Interface Model 1020AF-12.5K-B Load Cell, Serial No. 561415A, Last Date of Calibration: August 21, 2018, traceable to the National Institute of Standards Technology (NIST).

380 E. Lorain Street • Oberlin, OH 44074
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Test Procedure: **ASTM C 99 Standard Test Method for Modulus of Rupture of Dimension Stone**
Rift Orientation: **Perpendicular**
Preconditioning: **Dry**

Specimen Number	Span (in)	Width (in)	Thickness (in)	Load @ Failure (lbs)	Modulus of Rupture (lbs/in²)	Modulus of Rupture (MPa)
PP-D-99-1	7.00	3.89	2.26	3,898	2,060	14.2
PP-D-99-2	7.00	4.00	2.27	1,753	890	6.2
PP-D-99-3	7.00	3.95	2.26	4,547	2,370	16.3
PP-D-99-4	7.00	3.85	2.26	3,430	1,830	12.6
PP-D-99-5	7.00	4.01	2.29	1,982	990	6.8
				Average Modulus of Rupture:	**1,630**	**11.2**
				Standard Deviation:	**658**	**4.5**
				Coefficient of Variation:	**40.4%**	**40.2%**

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Material: **Metaquartzite**
Origin: **USA**
Test Procedure: **ASTM C 99 Standard Test Method for Modulus of Rupture of Dimension Stone**
Rift Orientation: **Parallel**
Preconditioning: **Wet**

Specimen Number	Span (in)	Width (in)	Thickness (in)	Load @ Failure (lbs)	Modulus of Rupture (lbs/in²)	Modulus of Rupture (MPa)
LL-W-99-1	7.00	4.01	2.25	1,646	850	5.9
LL-W-99-2	7.00	4.04	2.34	2,142	1,020	7.0
LL-W-99-3	7.00	4.01	2.26	1,440	740	5.1
LL-W-99-4	7.00	4.04	2.33	2,206	1,060	7.3
LL-W-99-5	7.00	4.02	2.27	2,012	1,020	7.0
				Average Modulus of Rupture:	**940**	**6.5**
				Standard Deviation:	**137**	**0.9**
				Coefficient of Variation:	**14.6%**	**14.4%**

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Rift Orientation: **Parallel**
Preconditioning: **Dry**

Specimen Number	Span (in)	Width (in)	Thickness (in)	Load @ Failure (lbs)	Modulus of Rupture (lbs/in²)	Modulus of Rupture (MPa)
LL-D-99-1	7.00	4.02	2.26	2,404	1,230	8.5
LL-D-99-2	7.00	4.00	2.25	1,709	890	6.1
LL-D-99-3	7.00	4.02	2.22	2,202	1,170	8.0
LL-D-99-4	7.00	3.99	2.23	1,710	900	6.2
LL-D-99-5	7.00	4.02	2.26	2,732	1,400	9.6
				Average Modulus of Rupture:	**1,120**	**7.7**
				Standard Deviation:	**220**	**1.5**
				Coefficient of Variation:	**19.6%**	**19.7%**

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