



CLIENT: Select Stone Inc.
P.O. Box 6403
Bozeman, MT 59771-6403

Attn: Chris Luckay

Test Report No: 31190-1	Date: December 11, 2003
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SUBJECT: ASTM C 97 Water Absorption, Density, and Specific Gravity of Dimension Stone.

REFERENCE: Letter.

SAMPLE ID: Stone samples identified by the client as "Frontier Sandstone" was received on 11/14/03. The samples were received in good condition.

PROCEDURE: The samples were tested for Water Absorption, Density, and Specific Gravity in accordance with ASTM C 97-96. No revisions to this report will be allowed after 90 days of the report date.

RESULTS: See test data and results on the following page.

TEST DATE: 12/4/03.

CERTIFICATION: The tests reported here were conducted under the continuous direct supervision of SGS U.S. Testing Company Inc., Tulsa, OK.

**SIGNED FOR AND ON BEHALF OF
SGS U.S. TESTING COMPANY INC.**

Dale E. Holloway
Branch Manager Laboratory Operations

bk Jeffrey Simmons
Manager Laboratory Operations

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Test Procedure and Results

Samples: "Frontier Sandstone"

ASTM C 97 – Absorption and Specific Gravity

Specimen	Wet Weight (g)	Dry Weight (g)	Volume (cm ³)	Density (lb/ft ³)	Specific Gravity	Absorption (%)
1	367.58	363.70	141.31	160.60	2.574	1.07
2	381.23	377.47	146.74	160.52	2.572	1.00
3	378.56	374.53	145.41	160.72	2.576	1.08
Average	-	-	-	160.61	2.574	1.05

Minimum Requirements:

			Absorption, max.	Density, min.
ASTM C 503-97	Marble	(Class I, Calcite)	0.20	162
		(Class II, Dolomite)	0.20	175
		(Class III, Serpentine)	0.20	168
		(Class IV, Travertine)	0.20	144
ASTM C 615-96	Granite		0.40	160 lb/ft ³
ASTM C 568-96	Limestone	(Low Density)	12.00	110
		(Medium Density)	7.50	135
		(High Density)	3.00	160
ASTM C 616-97	Quartz Based	(Sandstone)	8.00	125
		(Quartzitic Sandstone)	3.00	150
		(Quartzite)	1.00	160

End of Report



CLIENT: Select Stone Inc.
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Attn: Chris Luckay

Test Report No: 31190-2	Date: December 11, 2003
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SUBJECT: ASTM C 99 Modulus of Rupture of Dimension Stone.

REFERENCE: Letter.

SAMPLE ID: Stone samples identified by the client as "Frontier Stone" was received on 11/14/03. The samples were received in good condition.

PROCEDURE: The material was tested for Modulus of Rupture in accordance with ASTM C 99-96. No revisions to this report will be allowed after 90 days of the report date.

RESULTS: See test data and results on the following page.

TEST DATE: 12/2/03.

CERTIFICATION: The tests reported here were conducted under the continuous direct supervision of SGS U.S. Testing Company Inc., Tulsa, OK.

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Manager Laboratory Operations

Dale E. Holloway
Branch Manager Laboratory Operations

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Test Procedure and Results

Samples: "Frontier Sandstone"

ASTM C 99 – Modulus of Rupture

<u>Specimen</u>	<u>Width, in.</u>	<u>Thickness, in.</u>	<u>Ultimate Load, lbs.</u>	<u>Modulus of Rupture, psi</u>
1	4.065	2.309	4245	2058
2	4.057	2.347	4976	2338
3	4.040	2.349	4580	2158
4	4.031	2.320	5620	2721
5	4.061	2.334	4854	2305
Average (English)	4.050	2.332	-	2316 Psi
Average (metric)	-	-	-	15.97 MPa

Minimum Requirements:

Modulus of Rupture (MIN)

ASTM C568-96	Limestone (low-density)	400 Psi
	Limestone (med-density)	500
	Limestone (high-density)	1000
ASTM C616-97	Sandstone	350
	Quartzitic Sandstone	1000
	Quartzite	2000
ASTM C 503-97	Marble (Class I, II, III, IV)	1000
ASTM C 615-96	Granite	1500

End of Report



CLIENT: Select Stone Inc.
P.O. Box 46403
Bozeman, MT 59771-6403

Attn: Chris Luckay

Test Report No: 31190-3	Date: December 11, 2003
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SUBJECT: ASTM C 170, Compressive Strength of Dimension Stone.

REFERENCE: Letter.

SAMPLE ID: Stone samples identified by the client as "Frontier Sandstone" was received on 11/14/03. The samples were received in good condition.

PROCEDURE: The material was tested for Compressive Strength in accordance with ASTM C 170-90. All samples were tested perpendicular to the rift of the stone and conditioned in the dry state. No revisions to this report will be allowed 90 days after the report date.

RESULTS: See test data and results on the following page.

TEST DATE: 12/2/03.

CERTIFICATION: The tests reported here were conducted under the continuous direct supervision of SGS U.S. Testing Company Inc., Tulsa, OK.

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Test Procedure and Results

Samples: "Frontier Sandstone"

TEST RESULTS:

ASTM C 170 – Compressive Strength

<u>Specimen</u>	<u>Width (in)</u>	<u>Length (in)</u>	<u>Ultimate Load (lbs)</u>	<u>Compressive Strength (Psi)</u>
1	2.007	2.094	60026	14286
2	2.089	2.032	63124	14878
3	2.090	2.076	66779	15395
4	2.102	2.033	69113	16177
5	2.024	2.070	65417	15618
Average	-	-	-	15271 Psi
Average	-	-	-	105.38 MPa

MINIMUM REQUIREMENTS:

Compressive Strength (MIN)

ASTM C615-96 Granite		19000	Psi
ASTM C503-97 Marble	(Class I, Calcite)	7500	
	(Class II, Dolomite)	7500	
	(Class III, Serpentine)	7500	
	(Class IV, Travertine)	7500	
ASTM C568-96 Limestone	(Low Density)	1800	
	(Medium Density)	4000	
	(High Density)	8000	
ASTM C616-97 Quartz Based	(Sandstone)	4000	
	(Quartzitic Sandstone)	10000	
	(Quartzite)	20000	

End of Report



CLIENT: Select Stone Inc.
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Attn: Chris Luckay

Test Report No: 31190-4

Date: December 11, 2003

SUBJECT: ASTM C 880, Flexural Strength.

REFERENCE: Letter.

SAMPLE ID: Stone samples identified by the client as "**Frontier Sandstone**" was received on 11/14/03. The samples were received in good condition.

PROCEDURE: The material was tested for Flexural Strength in accordance with ASTM C 880-96. No revisions to this report will be allowed 90 days after the report date.

RESULTS: See test data and results on the following page.

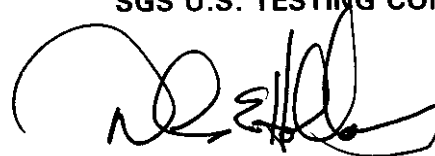
TEST DATE: 12/2/03.

CERTIFICATION: The tests reported here were conducted under the continuous direct supervision of SGS U.S. Testing Company Inc., Tulsa, OK.

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Test Procedure and Results

Samples: "Frontier Sandstone"

TEST RESULTS:

ASTM C 880 – Flexural Strength

Tested Dry

<u>Specimen</u>	<u>Width (in)</u>	<u>Thickness, (in.)</u>	<u>Ultimate Load (lbs)</u>	<u>Flexural Strength (Psi)</u>
1	4.032	1.325	2382	3281
2	4.041	1.339	1908	2568
3	4.054	1.325	1529	2096
4	4.038	1.324	2051	2827
5	-	-	0	-
Average	-	-	-	2693 Psi

Minimum Requirements:

Flexural Strength (min)

ASTM C 503-97	Marble (Class I, II, III, IV, IV-Travertine)	1000 psi
ASTM C 568-96	Limestone (Low, Med., High)	n/a
ASTM C 615-96	Granite (all-types)	1200 psi
ASTM C 616-97	Quartz Based (Sandstone, Quartzitic Sandstone, Quartzite)	n/a
ASTM C 629-97	Slate (Interior, Exterior)	n/a

End of Report