



TEST REPORT

CLIENT: TexaStone Quarries  
P.O. Box 38  
Garden City, TX  
  
Attn: Quade Weaver

Test Report No: 2228173 Date: January 5, 2011

REFERENCE: Service Offer Agreement: M10404R  
SUBJECT: Report of Loss of Flexural Strength due to Accelerated Weathering in accordance with test methods ASTM STP 1385.  
SAMPLE ID: Samples identified as "Cedar Hill Cream" were received from the client on 11/04/10. The samples were received in good condition.  
PROCEDURE: The tests were performed in accordance with tests and methodologies as specified in ASTM STP 1385, Accelerated Weathering Test section. 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: 12/11/10 - 1/04/11  
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.

Robert Ross  
Materials Department Technician

S. Scott Parkhurst  
Tulsa Technical Manager

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**Test Procedure and Results**

The test procedure consists of testing samples to ASTM C880-09 "Standard Test Method for Flexural Strength of Dimension Stone" as control specimens. These results from the control specimens are then compared to results of ASTM C880-09 testing on specimens that have been subjected to accelerated weathering conditions.

All conditioning of the control specimens was performed in accordance with ASTM C880-09, Section 8.1 in the dry condition only, by being placed in a drying chamber for a period of 48 hours. The chamber was monitored and maintained at 140 ± 4°F (60 ± 2°C) during the 48 hours. At the 46<sup>th</sup>, 47<sup>th</sup>, and 48<sup>th</sup> hour, the samples were weighed to ensure the weight was the same. Concluding the 48 hour drying period, the samples were removed from the chamber and placed in a desiccator to allow cooling to ambient room temperature. These samples were then tested in accordance with ASTM C880-09, section 9.

Samples for accelerated weathering were placed in a 4 pH sulfurous acid solution as described in ASTM STP 1385, Accelerated Weathering Test. The specimens were then subjected to one-hundred (100) cycles between -23°C to +77°C (-10°F to +170°F). The intent of this methodology is that the 4 pH sulfurous acid solution simulates acid rain, while the temperature extreme simulates heating and cooling as well as freezing and thawing. Following the conditioning as described for accelerated weathering, the specimens were tested in accordance with methodology as stated in ASTM C880-09, section 9. Results of the comparison between control specimens and specimens subjected to accelerated weathering are reported in Table 1 below. Observations of the accelerated weathering specimens as reported during the temperature cycling are reported in Table 2 below.

**Table 1- Loss of Flexural Strength due to Accelerated Weathering**

	Flexural Strength, psi	
	Control Specimens	Accelerated Weathering Specimens
	579	235
	545	222
	490	263
	502	224
	386	305
Average	500	250
Average Loss of Flexural Strength	250	

**Table 2- Freeze-Thaw Observations**

Cycle	Observations
100	Samples showed no flaking, visual defects, or cracks after cycles were completed

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**End of Report**

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