

TEST REPORT



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

Attn: Quade Weaver

Test Report No: 2115294-2 Date: October 4, 2010

SUBJECT: Report of Loss of Flexural Strength due to Accelerated Weathering in accordance with test methods ASTM STP 1385.
SAMPLE ID: Samples identified as "Coral" were received from the client on 07/08/10. 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: 7/12/10 – 10/01/10
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
Materials Department Manager

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

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 $140 \pm 4^\circ\text{F}$ ($60 \pm 2^\circ\text{C}$) during the 48 hours. At the 46th, 47th, and 48th 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 $+77^\circ\text{C}$ (-10°F to $+170^\circ\text{F}$). 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
	1661	575
	1423	601
	1539	803
	1477	624
	1653	393
Average	1551	599
Average Loss of Flexural Strength	952	



Table 2- Freeze-Thaw Observations

Cycles	Observations
100	All samples showed no visible deterioration

End of Report