NATIONAL CONCRETE MASONRY ASSOCIATION
Sustainable Concrete Products for Structures and Hardscapes

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ASTM C482-02 (2014) Test Report
Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement Paste

Job No: 17-247B
Report Date: 4/4/2017

Client: Living Stones
1653 Lititz Pike
Lancaster, PA 17601

Testing Agency: National Concrete Masonry Assoc.
Research and Development Laboratory
Address: 13750 Sunrise Valley Drive
Herndon, VA 20171-4662

Unit Description: Manufactured Stone Veneer

Sampling Party: Living Stones

Date Received: 2/22/2017

The client provided five manufactured stone veneer units for shear bond testing. Shear bond assemblies were constructed in accordance with ASTM C482-02 (2014) utilizing the mortar substrate for non-vitreous tile, as modified by ASTM C1670/C1670M-16, and portland cement paste substrate as a bonding matrix. Each assembly was tested for shear bond strength in accordance with ASTM C482-02 (2014).

Individual Unit Test Results

Date Tested: 3/16/2017

Shear Bond Specimens

	Stone Sample Avg. Width (in.)	Avg. Height (in.)	Shear Bond Area* ($in.^2$)	Maximum Load (lb)	Shear Bond Strength (psi)
Unit #1	4.01	3.94	15.77	3880	246
Unit #2	4.02	4.00	16.09	2840	176
Unit #3	4.00	4.02	16.11	3440	214
Unit #4	4.01	4.05	16.26	4010	247
Unit #5	4.01	4.02	16.09	3570	222
Average	4.01	4.01	16.06	3548	221

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* Shear bond area calculated by multiplying the width and length of manufactured stone sample.

Nicholas R. Lang
Director of Business Development