ACCREDITED Testing Laboratory

CLEMSON UNIVERSITY

THE BISHOP MATERIALS LABORATORY

TEST REPORT

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Results of Tests on Specimens conducted in accordance with PCI Specification for Thin Brick using methods outlined in ASTM C67/C67M, ASTM C650, ASTM C666/C666M

05/20/2020

Name:	King Klinker 501 Eagle Court Onalaska, WI 54650	Plant: Report Number: Received Date:	King Klinker 8914-20944 6/18/2019	
Phone:	608-406-9723	Sampled Date:	6/18/2019	*Temperature: 60 - 90F *Humidity: 30% - 70%

Description: Red Clay Body - Embedded in Precast Concrete Panels

Test Method

The following is an overview of the method used to test the specimens received from King Klinker.

1) PCI Panels were inspected for damage upon arrival at BML.
2) The 10 panels were assigned Sample IDs and labeled with their Sample ID and number sequentially 1 thru 10.
3) Panels were held until cured a minimum of 28 days beyond their cast date before testing was started.
4) Panels 1 thru 5 had their center bricks cleaned and ground in preparation for attaching pull block.
5) Pull blocks were attached using the anchorage material shown below and cured as identify bellow.
6) Panels were loaded until failure using the hardware and speed shown below, per modified ASTM E488 method.
7) Panels 6 thru 10 were subjected to Rapid Freeze-Thaw testing per the method in ASTM C666 Procedure A.
8) After Rapid Freeze-Thaw cycling was completed, the samples were allowed to dry for a minimum of two days.
9) Panels 6 thru 10 then were then tested as outlined in procedures 4 thru 6 shown above.
10) The results of the testing are shown below.

Anchorage Used:	Latapoxy Rapid Stone Adhesive 310
Curing Time For Anchorage:	Cured a minimum of 48 hours
Adhesion Area Length (in):	7.63
Adhesion Area Width (in):	2.25
Test Equipment:	Instron 1137 Tensil/Compression Tester
Load Cell Used:	30,000 LB Load Cell A532-1 SN-127
Load Rate:	2 mm/min

Tensile Bond Strength - As Received

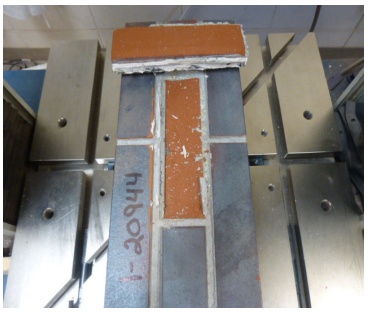
Sample #	1	2	3	4	5	Average
Peak Load (lbs)	2,719	4,738	3,745	4,924	4,505	4,126
Peak Load (psi)	158	276	218	287	262	240
Test Date	6/25/19	6/25/19	9/12/19	9/12/19	9/12/19	
Technician	GB					

Tensile Bond Strength - Post Freeze Thaw

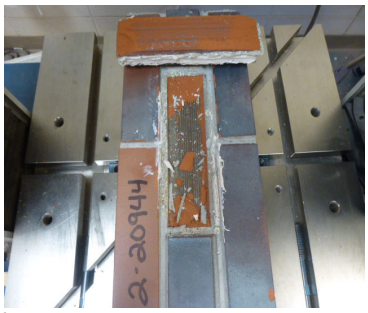
Sample #	6	7	8	9	10	Average
Peak Load (lbs)	3,504	3,368	3,683	3,199	3,106	3,372
Peak Load (psi)	204	196	215	186	181	196
Test Date	5/18/20	5/18/20	5/18/20	5/18/20	5/18/20	
Technician	GB					

As Received Tensile Pull Results Pictures

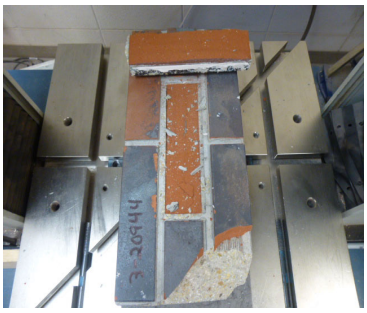
Sample 1



Sample 2

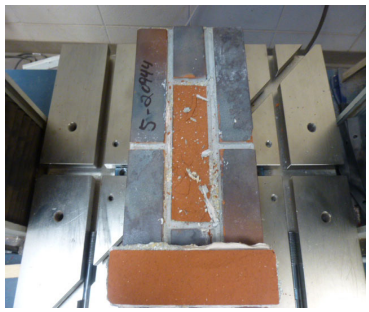


Sample 3



Sample 4

Sample 5



Post Freeze Thaw Tensile Pull Results Pictures

Sample 6

Sample 7

Sample 8

Sample 9

Sample 10

Michael Walker, Quality Manager

**The temperature and humidity of the Bishop Materials Laboratory is constantly kept between 60 -90F, and 30-70% RH*
The results shown above apply only to the samples tested, which are provided by the customer.
This test report shall not be reproduced except in full, without written approval of the laboratory.