



TEST REPORT

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Results of Tests on Brick conducted in accordance with ASTM C67-13 Standard Method for Sampling and Testing

Brick and Structural Clay Tile

10/14/2014

| | | | | |
|--------|--|----------------|--------------------------|------------------------|
| Name: | The Belden Brick Company P. O. Box 430 Sugarcreek , OH 44681 | Plant: | The Belden Brick Company | *Temperature: 60 - 90F |
| Phone: | 330-852-2424 | Report Number: | 5895-11138 | *Humidity: 30% - 70% |
| Fax: | 330-852-2958 | Received Date: | 09/04/2014 | |
| | | Sampled Date: | 09/04/2014 | |
| | | Lot: | | |
| | | Product Code: | | |

Sample Description: **PLT 4 ROMAN 3-5/8 X 1-5/8 X 11-5/8, SHALE & FIRECLAY IRONSPOT**

| | | | | | | Test Date |
|---|----------|----------|----------|----------|----------|----------------|
| Absorption | 1 | 2 | 3 | 4 | 5 | Average |
| 24 Hour Submersion in Cold Water (%) | 3.30 | 2.78 | 3.06 | 2.15 | 2.43 | 2.74 |
| 5 Hour Submersion in Boiling Water (%) | 4.36 | 3.38 | 3.31 | 2.49 | 2.82 | 3.27 |
| Saturation Coefficient (Ratio of 24H to 5H) | 0.76 | 0.82 | 0.92 | 0.86 | 0.86 | 0.85 |

*Measurement Uncertainty ± 0.55 %

*The 1 and 2 hour boiled water absorption tests are not required by the customer

| Compressive Strength | 1 | 2 | 3 | 4 | 5 | Average | |
|-----------------------------|----------|----------|----------|----------|----------|----------------|------------|
| psi | 13,177 | 14,747 | 15,516 | 16,394 | 15,641 | 15,095 | 09/12/2014 |
| MPa | 90.8 | 101.7 | 107.0 | 113.0 | 107.8 | 104.1 | |

*Measurement Uncertainty ± 231 psi

| Efflorescence | 11 | 12 | 13 | 14 | 15 | |
|----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------|
| | Not Effloresced | Not Effloresced | Not Effloresced | Not Effloresced | Not Effloresced | 10/14/2014 |

| IRA (Oven Dried Method) | 6 | 7 | 8 | 9 | 10 | Average | |
|---------------------------------|----------|----------|----------|----------|-----------|----------------|------------|
| g/min/30 in.² | 1.2 | 2.0 | 0.9 | 1.1 | 0.7 | 1.2 | 10/14/2014 |

*Measurement Uncertainty ± 1.5 g/min/30 in.²

The brick represented by the test results shown here comply with the physical property requirements of the standards listed below:

ASTM C 216 - 14 Standard Specification for Facing Brick (Solid Masonry Units Made From Clay or Shale)
Grade: SW, MW, with absorption alternate in section 6.1.2

John Sanders, Ph.D., PE, Director

Gary W. Parker, Laboratory Supervisor

*This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2

*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.