

*Results of Tests on Brick conducted in accordance with ASTM C67-12 Standard Method for Sampling and*

*Testing Brick and Structural Clay Tile*

01/24/2013

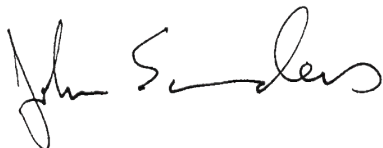
|        |   |                |                                     |
|--------|---|----------------|-------------------------------------|
| Name:  | Whitacre-Greer Fireproofing Company<br>1400 South Mahoning Avenue<br>Alliance, OH 44601 | Plant:         | Whitacre-Greer Fireproofing Company |
| Phone: | (330) 206-2009  | Report Number: | WGFC-0051                           |
| Fax:   |   | Sampled Date:  | 01/14/2013                          |
|        |   | Lot:           |                                     |
|        |   | Product Code:  |                                     |

Sample Description: **4x8x2-3/4 Bevel w/ Spacing Lugs 30 Series**

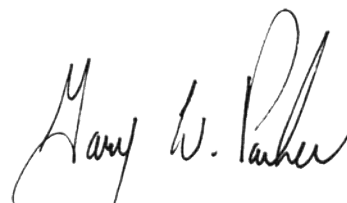
|   |                 |          |          |          |          |           | Test Date      |
|---|-----------------|----------|----------|----------|----------|-----------|----------------|
| <b>Absorption</b>                           |                 | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b>  | <b>Average</b> |
| 24 Hour Submersion in Cold Water (%)        |                 | 5.47     | 2.76     | 5.05     | 2.26     | 3.16      | 3.74           |
| 5 Hour Submersion in Boiling Water (%)      |                 | 7.39     | 4.77     | 6.96     | 4.06     | 5.08      | 5.65           |
| Saturation Coefficient (Ratio of 24H to 5H) |                 | 0.74     | 0.58     | 0.72     | 0.56     | 0.62      | 0.64           |
| <b>Compressive Strength</b>                 |                 | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b>  | <b>Average</b> |
|   | <i>psi</i>      | 11,285   | 14,397   | 14,687   | 17,876   | 15,203    | 14,690         |
|   | <i>MPa</i>      | 77.8     | 99.3     | 101.3    | 123.3    | 104.8     | 101.3          |
| <b>Breaking Load</b>                        |                 | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> | <b>Average</b> |
|   | <i>(lb/in.)</i> | 1,055    | 1,201    | 1,236    | 1,237    | 1,240     | 1,194          |
| <b>Abrasion Resistance</b>                  |                 | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b>  | <b>Average</b> |
|   |                 | 0.05     | 0.02     | 0.03     | 0.01     | 0.02      | 0.03           |

*The brick represented by the test results shown here comply with the standards listed below:*

ASTM C 1272 - 11 Standard Specification for Heavy Vehicular Paving Brick  
Type: R, F



John Sanders, Ph.D., PE, Director



Gary W. Parker, Laboratory Supervisor