



**Certification of Physical Properties**  
Florida Tile Quality Assurance Department

**Abrasion Resistance**

|                                            |                                             |
|--------------------------------------------|---------------------------------------------|
| <b>Series:</b> Renaissance                 | <b>Glaze Finish:</b> Glazed                 |
| <b>Color - Sizes:</b> 24830 - 12x12, 18x18 | <b>ANSI Tile Type:</b> Porcelain Floor Tile |
| <b>Reported by:</b> John Heckman           | <b>Report Date:</b> August 20, 2009         |

Procedure: ASTM C1027

Description: Tiles are placed on an ASTM compliant abrasion tester and abraded by the rotation of an abrasive media acting on the tiles.

Classification:

| Revolutions to Visible Abrasion | Class | Classification                  |
|---------------------------------|-------|---------------------------------|
| 100                             | 0     | Not recommended for floors      |
| 150                             | 1     | Light Residential               |
| 600                             | 2     | Residential                     |
| 750 or 1500                     | 3     | Heavy Residential/Lt Commercial |
| 2100, 6000, or 12000            | 4     | Commercial                      |
| 12000+ and stain test           | 5     | Heavy Commercial                |

Results:

| Revolutions | Class | Classification |
|-------------|-------|----------------|
| 2100        | 4     | Commercial     |

Dan Marvin  
Director of Quality Assurance

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\*\* Tests were conducted by an independent third party laboratory using industry standard equipment and techniques. Values are offered in good faith as being accurate and typical of normal production. Due to natural variation of raw materials and manufacturing processes, the values of tile purchased for any particular installation may vary from these numbers. Buyer should evaluate suitability and safety of any product prior to installation. No warranty of any kind, expressed or implied, is made with respect to the information contained herein.



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**Breaking Strength**

|                                            |                                             |
|--------------------------------------------|---------------------------------------------|
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| <b>Color - Sizes:</b> 24830 - 12x12, 18x18 | <b>ANSI Tile Type:</b> Porcelain Floor Tile |
| <b>Reported by:</b> John Heckman           | <b>Report Date:</b> August 20, 2009         |

Procedure: ASTM C648

Description: Tiles are placed on a standard breaking strength machine and stressed until broken. The maximum force achieved before breaking is the strength of the sample. Reported value is the average of 10 pieces.

Requirement: ANSI standards require a minimum breaking strength for tile of this type to be equal or greater than 250 lbs

Results:

|                 |                |             |
|-----------------|----------------|-------------|
| <b>Average:</b> | <b>400 lbs</b> | <b>Pass</b> |
|-----------------|----------------|-------------|

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**Moh's Hardness**

|                                            |                                             |
|--------------------------------------------|---------------------------------------------|
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| <b>Reported by:</b> John Heckman           | <b>Report Date:</b> August 20, 2009         |

Procedure: EN 101

Description: Tiles are tested by moving a mineral tipped stylus across the surface and looking for a scratch to be produced during 4 test cycles. The scale is calibrated using increasingly more dense minerals.

Classification:

| Moh's Scale | Mineral     |
|-------------|-------------|
| 5           | Apatite     |
| 5.5         | Opal        |
| 6           | Turquoise   |
| 6.5         | Jade        |
| 7           | Quartz      |
| 7.5         | Emerald     |
| 8           | Topaz       |
| 8.5         | Alexandrite |
| 9           | Ruby        |
| 10          | Diamond     |

Results:

| Moh's Scale | Mineral |
|-------------|---------|
| 7           | Quartz  |

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**Water Absorption**

|                                            |                                             |
|--------------------------------------------|---------------------------------------------|
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| <b>Color - Sizes:</b> 24830 - 12x12, 18x18 | <b>ANSI Tile Type:</b> Porcelain Floor Tile |
| <b>Reported by:</b> John Heckman           | <b>Report Date:</b> August 20, 2009         |

Procedure: ASTM C373

Description: Dried samples are boiled for 5 hours, then allowed to sit for 24 hours in distilled water. The percent water absorption is calculated by the difference in weight between the wet tile and the dry tile.

Classification:

| Scale        | Classification |
|--------------|----------------|
| ≤0.5%        | Porcelain      |
| 0.5% - 3.0%  | Vitreous       |
| 3.0% - 7.0%  | Semi-Vitreous  |
| 7.0% - 20.0% | Non-Vitreous   |

Results:

| Result | Classification |
|--------|----------------|
| ≤0.5%  | Porcelain      |

Third Party Certification: This product is Certified Porcelain by the Porcelain Tile Certification Agency



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**Static Coefficient of Friction**

|                                            |                                             |
|--------------------------------------------|---------------------------------------------|
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| <b>Color - Sizes:</b> 24830 - 12x12, 18x18 | <b>ANSI Tile Type:</b> Porcelain Floor Tile |
| <b>Reported by:</b> John Heckman           | <b>Report Date:</b> August 20, 2009         |

Procedure: ASTM C1028

Description: Tiles are tested wet and dry. A neolite 'heel' is weighted with a 50 lb weight and force is applied until assembly begins to move. The peak force is recorded and the coefficient of friction is calculated versus a standard tile. Reported averages are from three separate test samples from the same lot

Results:

|             |     |
|-------------|-----|
| Wet Average | 0.6 |
| Dry Average | 0.8 |

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**Percentage of Recycled Content**

|                                            |                                             |
|--------------------------------------------|---------------------------------------------|
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| <b>Color - Sizes:</b> 24830 - 12x12, 18x18 | <b>ANSI Tile Type:</b> Porcelain Floor Tile |
| <b>Reported by:</b> John Heckman           | <b>Report Date:</b> December 8, 2010        |

Procedure: Calculated per LEED for New Construction and Major Renovations Rating System, April 2009

Description: The amount of pre- and post-consumer waste is calculated based on a percentage of the body by weight

|                 |                   |        |
|-----------------|-------------------|--------|
| <u>Results:</u> | Pre-consumer RMC  | 42.00% |
|                 | Post-consumer RMC | 0%     |

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**Bond Strength**

|                                            |                                             |
|--------------------------------------------|---------------------------------------------|
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| <b>Color - Sizes:</b> 24830 - 12x12, 18x18 | <b>ANSI Tile Type:</b> Porcelain Floor Tile |
| <b>Reported by:</b> John Heckman           | <b>Report Date:</b> August 13, 2010         |

Procedure: ASTM C482

Description: Tiles are bonded with a standard mortar to a standard cement block.  
Force is applied to the tile until the bond fails. Results are average force required for failure for 5 pieces.

Requirement: ANSI standards require a minimum bond strength for tile of this type to be equal to or greater than 50 PSI

|                 |                 |                |             |
|-----------------|-----------------|----------------|-------------|
| <u>Results:</u> | <b>Average:</b> | <b>377 PSI</b> | <b>Pass</b> |
|-----------------|-----------------|----------------|-------------|

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