**SHOTCRETE MS**

**PRODUCT NO. 1229-80, 1229-88, 1229-86, 1229-83**

**PRODUCT DESCRIPTION**

QUIKRETE® Shotcrete MS products are high performing, pneumatically applied concrete products designed for rehabilitation and new construction projects. They are ideal products for jobs requiring high quality, shotcrete placement.

**PRODUCT NAMES**

- 50# QUIKRETE® Shotcrete MS 1229-80
- 50# QUIKRETE® Shotcrete MS Coarse 1229-88
- 50# QUIKRETE® Shotcrete MS w/ Polypropylene Fibers 1229-86
- 50# QUIKRETE® Shotcrete MS w/ AR Glass Fibers 1229-83

**PRODUCT USE**

QUIKRETE® Shotcrete MS mixes are designed for use as repair materials for bridges, tunnels, parking garages, ramps, beams, piers, sewer pipes and dams. They may be used in new construction projects as well. QUIKRETE® Shotcrete MS products are well-proportioned blends of Portland cement, concrete sand (and gravel for the Coarse version), and microsilica suitable for general-use construction. Advantages include high strength, improved sulphate resistance, high adhesion, low permeability, low rebound and low sag. Other performance levels are also available to meet specific jobsite requirements, including the addition of various fibers and/or integral corrosion inhibitors. Also available without microsilica.

**SIZES**

QUIKRETE® Shotcrete MS products are packaged in 50 lb (22.6 kg) bags as well as 80 lb (36.2 kg) bags and 3000 lb (1361 kg) bulk bags.

**YIELD**

- A 50 lb bag will yield approximately 0.38 cubic feet.
- An 80 lb bag will yield approximately 0.61 cubic feet.
- A 3,000 lb bulk bag will yield approximately 22.8 cubic feet.

Unit weight: ~ 125 to 145 lb/ft$^3$

**TECHNICAL DATA**

**APPLICABLE STANDARDS**

- ASTM C 39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
- ASTM C 42 Standard Test Method for Obtaining and Testing Drilled Cores and Saved Beams of Concrete (AASHTO T24)
- ASTM C 78 Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
- ASTM C 469 Standard Test Method for Static Modulus of Elasticity and Poisson's Ratio of Concrete in Compression
- ASTM C 496 Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens

**PHYSICAL /CHEMICAL PROPERTIES**

The performance of QUIKRETE® Shotcrete MS products in the laboratory are not representative of field results. However, laboratory data is important for quality control purposes and for making comparisons between formulations. QUIKRETE® Shotcrete MS products have been extensively tested both in the laboratory and in the field. The field test data are offered only as an example of what can be achieved with qualified operators using proper techniques. The quality of dry process shotcreting is very dependent on the skills of the operator. Table 1 shows typical laboratory data for QUIKRETE® Shotcrete MS products. Typical field results for QUIKRETE® Shotcrete MS products are shown in Table 2. The QUIKRETE® Shotcrete MS products in Tables 1 and 2 comply with either the requirements of ASTM C 1480 Type FA (Fine Aggregate) or Type CA (Coarse Aggregate). Additionally, QUIKRETE® Shotcrete...
MS products comply with Grades GU (General Utility), SR (Sulfate-Resistant), and LP (Low Permeability). Consult a local QUIKRETE® representative for details.

**INSTALLATION**

**PREPARATORY WORK / SURFACE PREPARATION**

QUIKRETE® recommends that job mock-ups be prepared by the contractor and tested prior to beginning a project. QUIKRETE® recommends that American Concrete Institute (ACI) Committee 506 procedures and recommendations be followed for surface preparation. This typically includes but is not limited to removing all spalled, severely cracked, deteriorated, loose and unsound concrete from existing concrete surface by chipping, water blasting or other mechanical methods. Adequate pre-wetting of the concrete substrates should be done prior to shotcreting. Concrete surfaces receiving the Shotcrete material should be saturated surface-dry (SSD).

**EQUIPMENT / METHODS / APPLICATION**

QUIKRETE® recommends that American Concrete Institute (ACI) Committee 506 procedures and recommendations be followed for equipment selection, nozzleman certification, shotcrete placement, and curing procedures. Refer to the current revisions of the following publications:

- ACI 506R Guide to Shotcrete
- ACI 506.2 Specifications for Shotcrete
- ACI 506.1R Committee Report on Fiber Reinforced Shotcrete
- ACI CP-60 Craftsman Workbook for ACI Certification of Shotcrete Nozzleman

**WARRANTY**

**NOTICE:** Obtain the applicable LIMITED WARRANTY at www.quikrete.com/product-warranty or send a written request to The Quikrete Companies, LLC, Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured under the authority of The Quikrete Companies, LLC. © 2019 Quikrete International, Inc.

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### TABLE 1: TYPICAL LABORATORY PROPERTIES

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<tr>
<th></th>
<th>Shotcrete MS</th>
<th>Shotcrete MS Coarse</th>
<th>Shotcrete MS Fibers</th>
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<tbody>
<tr>
<td>Compressive Strength, ASTM C 109 (Modified) / C 39 (Modified)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Age</td>
<td>PSI (MPa)</td>
<td>PSI (MPa)</td>
<td>PSI (MPa)</td>
</tr>
<tr>
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<td>1750 (12.0)</td>
<td>1750 (12.0)</td>
<td>1750 (12.0)</td>
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<tr>
<td>7 Days</td>
<td>3500 (24.1)</td>
<td>3500 (24.1)</td>
<td>3500 (24.1)</td>
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<tr>
<td>28 Days</td>
<td>5500 (37.9)</td>
<td>5500 (37.9)</td>
<td>5500 (37.9)</td>
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</tbody>
</table>

### TABLE 2: TYPICAL FIELD APPLIED PROPERTIES

<table>
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<th>Shotcrete MS</th>
<th>Shotcrete MS Coarse</th>
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<tr>
<td>Age</td>
<td>PSI (MPa)</td>
<td>PSI (MPa)</td>
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<tr>
<td>1 Day</td>
<td>3500 (24.1)</td>
<td>3500 (24.1)</td>
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<td>3 Days</td>
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<td>6000 (41.3)</td>
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<tr>
<td>7 Days</td>
<td>6500 (44.8)</td>
<td>6500 (44.8)</td>
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<tr>
<td>28 Days</td>
<td>7500 (51.7)</td>
<td>7500 (51.7)</td>
</tr>
</tbody>
</table>

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* Refer to www.quikrete.com for the most current technical data, SDS, and guide specifications.