**PRODUCT DESCRIPTION**
QUIKRETE® Form & Pour Concrete Mix MS is a high strength, high flow, low shrinkage, pumpable material. It consists of Portland cement, microsilica, fine and coarse aggregate, air-entraining admixture and other approved ingredients for densification, shrinkage compensation, and increased freeze-thaw durability. It includes a migrating corrosion inhibitor for maximum corrosion protection. The product exceeds the compressive strength requirements of ASTM C387 and is tested according to ASTM C1202 for reduced permeability.

**PRODUCT USE**
QUIKRETE® Form & Pour Concrete Mix MS is designed for the following uses:
- Large volume, full depth structural repairs to concrete bridges, parking structures, industrial floors, and balconies.
- Structural repairs where the quantities or placement conditions make ready-mixed concrete impractical.
- Repairs using the form and pour technique on vertical surfaces such as walls and columns.
- General or keyway grouting where a nominal maximum aggregate size of 3/8 in (9.5 mm) is desirable.
- Leveling beds with a thickness of 2 in (50 mm) or more.

**SIZES**
- QUIKRETE® Form & Pour Concrete Mix is packaged in both 80 lb (36.2 kg) bags and 3000 lb (1360 kg) bulk bags.

**YIELD**
- Each 80 lb (36.2 kg) bag yields approximately 0.6 cu ft (17 L).
- Each 3000 lb (1360 kg) bulk bag yields approximately 22.5 cu ft (637 L).

**TECHNICAL DATA**

**APPLICABLE STANDARDS**
- ASTM C39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
- ASTM C78 Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
- ASTM C403 Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance
- ASTM C231 Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
- ASTM C496 Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens
- ASTM C666 Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
- ASTM C672 Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals
- ASTM C882 Standard Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete by Slant Shear
- ASTM C1202 Standard Test Method for Electrical Indication of Concrete’s Ability to Resist Chloride Ion Penetration
- ASTM C1611 Standard Test Method for Slump Flow of Self-Consolidating Concrete
- ACI 305R Guide to Hot Weather Concreting
- ACI 306R Guide to Cold Weather Concreting

**PHYSICAL/CHEMICAL PROPERTIES**
Typical test results for QUIKRETE® Form & Pour Concrete Mix MS, when tested in accordance with applicable ASTM Test Methods, are shown in Table 1.

**INSTALLATION**

**SURFACE PREPARATION**
- Prepare existing concrete surfaces for application by thoroughly cleaning, using appropriate techniques to remove loose or unsound concrete and foreign materials such as dirt, dust, paint, sealer, or bond breakers.
- If rusty reinforcing steel is present, it must be abrasively blasted to remove rust. Wear personal protective equipment. In many cases, it will be best to remove most material to completely expose the steel reinforcement. Steel reinforcement may need additional protection; such as epoxy coating.
- Dampen the substrate before product is placed. Do not leave standing puddles. Before placement, existing surfaces should be SSD (Saturated Surface Dry).
- For additional guidance please refer to ACI RAP Bulletin 4.

**MIXING**
- Wear impervious gloves, such as nitrile, when handling the product.
- Mechanically mix with a barrel mixer, mortar mixer, drum mixer, or drill and paddle mixer.
- Add approximately 4-1/2 qt (4.3 L) of clean, potable water to the mixer for each 80 lb (36.2 kg) bag to achieve the target slump flow range.
- Add the product to the water. Mix for 3 to 5 minutes or until thoroughly blended. If water quantity needs to be adjusted to obtain the recommended slump flow of 18 in to 22 in (455 mm to 555 mm), adjust the water quantity by small amounts at a time. Do not exceed the required slump flow. Excessive water will impact the compressive strengths as well as other physical properties.
- For best results, place and consolidate within thirty minutes of mixing. Do not re-temper with additional mixing water after this time.
Curing
Proper curing increases the strength and durability of concrete. Exposed concrete must be moist cured by keeping the surface wet or by covering the concrete surface with wet burlap and plastic sheeting. Curing should be continued for a period of five days. To eliminate the need for moist curing, seal the surface with QUIKRETE® Acrylic Concrete Cure & Seal (No. 8730) using a sprayer, brush or roller after finishing and when the concrete surface has hardened but is still damp (not wet).

Precautions
- Minimum application thickness: 2 in (50 mm)
- QUIKRETE® Form & Pour Concrete Mix MS is formulated for low plastic shrinkage; for large areas standard jointing practices should be used.
- For large or deep pours, follow project and engineering specifications to ensure proper placement and to control heat generation within the pour.
- Follow ACI 305 when using product in hot weather. An example of an additional step would be using cold water when mixing in extremely hot weather.
- Follow ACI 306 when using product in cold weather. An example of additional steps would be using hot water when mixing in severely cold weather. Additionally, the concrete should be protected from freezing during the first 48 hours. Plastic sheeting and insulation blankets should be used if temperatures are expected to fall below 32 °F (0 °C).

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. © 2020 Quikrete International, Inc.

### TABLE 1 TYPICAL PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Age</th>
<th>PSI (MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slump Flow, ASTM C1611</td>
<td>1 day</td>
<td>2000 (13.7)</td>
</tr>
<tr>
<td></td>
<td>7 days</td>
<td>5000 (34.4)</td>
</tr>
<tr>
<td></td>
<td>28 days</td>
<td>6500 (44.8)</td>
</tr>
<tr>
<td>Flexural Strength, ASTM C78</td>
<td>1 day</td>
<td>2000 (13.7)</td>
</tr>
<tr>
<td></td>
<td>7 days</td>
<td>5000 (34.4)</td>
</tr>
<tr>
<td></td>
<td>28 days</td>
<td>6500 (44.8)</td>
</tr>
<tr>
<td>Rapid Chloride Permeability, ASTM C1202</td>
<td></td>
<td>≥ 800 (5.5)</td>
</tr>
<tr>
<td>Length Change, ASTM C157</td>
<td>28 days</td>
<td>≤ 2000 coulombs</td>
</tr>
<tr>
<td>Air Content, ASTM C231</td>
<td></td>
<td>4 – 8%</td>
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<tr>
<td>Split Tensile Strength, ASTM C496</td>
<td>28 days</td>
<td>≥ 500 (3.4)</td>
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<tr>
<td>Freeze Thaw Resistance, ASTM C666</td>
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<td>≥ 93% Durability Factor</td>
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<tr>
<td>Scaling Resistance after 25 Cycles, ASTM C672</td>
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<td>≤ 0.5</td>
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<tr>
<td>Slant Shear Bond Strength, ASTM C882</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 days</td>
<td>≥ 2000 (13.7)</td>
</tr>
<tr>
<td></td>
<td>28 days</td>
<td>≥ 2500 (17.2)</td>
</tr>
</tbody>
</table>