

# M-Macro (Monofilament Stick)



<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Enhances durability, fatigue and flexural performance</li> <li>• Provides secondary reinforcement with equal strength to WWM and light rebar</li> <li>• Alkali resistant &amp; non-corrosive</li> <li>• Three dimensional reinforcement to prohibit cracking</li> <li>• Reduces in place costs</li> <li>• High impact resistance and wear resistance</li> <li>• Easily added to the concrete</li> </ul>
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<b>BENEFITS</b>	M-Macro fiber added to concrete mechanically locks in the fresh concrete matrix, controlling cracking. M-Macro provides secondary reinforcement for WWM and light rebar replacement which eliminates crack formation that causes permanent weakening of the concrete. With M-Macro, concrete is more durable, fatigue resistant, adds flexural toughness and is highly impact resistant and improves your Bottom Line.
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<b>APPLICATIONS</b>	M-Macro's characteristics lend itself to a variety of concrete applications including: slab-on-grade, precast concrete (thin wall application such as septic tanks and burial vaults), shot-crete (for tunnel linings, slope stabilization and pool construction), UTW (Ultra-thin White Toppings), paving and elevated deck concrete applications.
<b>DOSAGE RATES</b>	Dosage rates will vary and there is usually an ARS (Average Residual Strength) requirement that needs to be met. Dosage rates can range from 3.0 lbs. per cubic yard (1.8 kg per cubic meter) to 20.0 lbs. per cubic yard (12 kg. per cubic meter). M-Macro fibers comply with ASTM C 1116, Standard Specification for Fiber Reinforced Concrete and Shotcrete.



<b>MIXING</b>	Follow ASTM C-94 guidelines. M-Macro can be added directly to the mix at the jobsite or during batching of ingredients, but not as the first ingredient and should be mixed for a minimum of 5 minutes at full mixing speed.
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<b>PACKAGING</b>	M-Macro is bagged in 3lb., 4lb. or 5 lb. bags.
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<b>FINISHING</b>	M-Macro can be placed by using several methods such as by chute, pumping or shotcrete and can be finished with a hand trowel, power trowel, laser screed or broom finished. A slight slump loss will occur with a 3-5 lb. dosage and larger doses will give a greater slump loss. (See recommendations)
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<b>PHYSICAL PROPERTIES</b>	<table border="0"> <tr> <td>Material</td> <td>100% Virgin Polypropylene</td> </tr> <tr> <td>Specific Gravity (g/m<sup>3</sup>)</td> <td>0.91</td> </tr> <tr> <td>Tensile Strength</td> <td>75 ksi (517 MPa)</td> </tr> <tr> <td>UV Resistance</td> <td>Excellent</td> </tr> <tr> <td>Absorption</td> <td>Nil</td> </tr> <tr> <td>Acid &amp; Alkali Resistance</td> <td>Excellent</td> </tr> <tr> <td>Color and Type</td> <td>Gray and Embossed</td> </tr> <tr> <td>Dispersity Rate</td> <td>Excellent</td> </tr> <tr> <td>Aspect Ratio</td> <td>60</td> </tr> <tr> <td>Fiber Length (mm)</td> <td>50 mm</td> </tr> <tr> <td>Melting Point</td> <td>320° F (160°C)</td> </tr> <tr> <td>Ignition Point</td> <td>1094° F (590°C)</td> </tr> </table>	Material	100% Virgin Polypropylene	Specific Gravity (g/m <sup>3</sup> )	0.91	Tensile Strength	75 ksi (517 MPa)	UV Resistance	Excellent	Absorption	Nil	Acid & Alkali Resistance	Excellent	Color and Type	Gray and Embossed	Dispersity Rate	Excellent	Aspect Ratio	60	Fiber Length (mm)	50 mm	Melting Point	320° F (160°C)	Ignition Point	1094° F (590°C)
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**Innovative  
Concrete  
Fiber**

## General Specifications

**M-Macro** fibers should be added per engineer's instructions or per standard specification with the dosage rate established by testing from a certified testing lab or as dictated by a standard specification. M-Macro fibers are pre-packaged in pre-measured degradable bags that can be added directly to the mix.

### Placing and Finishing

Standard placing and finishing techniques are recommended for **M-Macro**. For best results when finishing a slab, use a laser or vibrating screed. The use of a soft cut saw is recommended



**Guidelines for use:** The recommended dosage for **M-Macro** fiber is 3 lbs. per cubic yard. **M-Macro** can be used at a dosage rate of up to 10 lbs. per cubic yard. For composite metal deck applications, minimum dosage rate is 4 lbs. per cubic yard as recommended by the Steel Deck Institute.

<u>Packaging</u>	<u>Storage and Handling</u>	<u>Mixing</u>	<u>Additional Info</u>
<p><b>M-Macro can be packaged</b></p> <p><b>In 3lb., 4lb. or 5 lb. bags.</b></p> <p><b>The bags are pre-measured</b></p> <p><b>and degradable so they can be added directly to the mix.</b></p>	<p><b>M-Macro fibers should be stored at temperatures below 140 degrees F.</b></p>	<p><b>M-Macro fibers are packaged in ready to use bags which are designed to be introduced at any time during the batch process.</b></p> <p><b>Follow ASTM C 94</b></p> <p><b>Allow 5 minutes mix time at full mixing speed</b></p>	<p><b>For additional information about M-Macro fibers, contact your local sales Representative.</b></p>

### **Conclusion:**

Based on the test results, M-Macro fiber can be used at a specified dosage rates to replace welded wire mats and rebar in specified concrete placements.

All information, recommendations and advice provided by ICF Concrete Additives LLC regarding M-Macro and their use and application is based on ICF Concrete's experience with such products when properly stored, handled and applied under normal conditions.

ICF Concrete reserves the right to change the properties of M-Macro products without prior notice.

No offer or solicitation of sale or purchase is made under or with this information sheet.

