MasterPolyheed® 1720
Mid-Range Water-Reducing Admixture

Description
MasterPolyheed 1720 mid-range water-reducing admixture, based on the next generation of polycarboxylate technology, utilizes state-of-the-art molecular engineering to provide enhanced concrete performance and value for concrete producers and contractors.

MasterPolyheed 1720 admixture meets ASTM C 494/C 494M compliance requirements for Type A, water reducing, and Type F, high-range water-reducing, admixtures.

Applications
Recommended for use in:
- All concrete applications where superior workability, pumpability and finishability qualities are desired, in particular, flatwork, pumped concrete and pervious concrete
- Concrete containing manufactured sand and harsh concrete mixtures

Features
- Reduced water content for a given level of workability
- Excellent performance across a wide concrete slump range, especially the difficult slump range of 5-8 in. (125-200 mm)
- Superior concrete workability, pumpability and finishability qualities even in concrete mixtures containing manufactured sand and low amounts of cementitious materials
- Faster time of setting at mid to higher dosage rates

Benefits
- Significantly reduced costs for concrete placement and finishing
- Lower in-place concrete costs
- Higher strength at all ages
- Enhanced concrete durability
- Increased service life of concrete structures

Performance Characteristics

Time of Setting: Concrete produced with MasterPolyheed 1720 admixture will typically set faster relative to concrete produced with a conventional normal or mid-range water-reducing admixture.

Mixture Data: 470 lb/yd³ (279 kg/m³) of Type I cement; slump 7 to 8 in. (180 to 205 mm); non-air-entrained concrete.

<table>
<thead>
<tr>
<th>Mixture</th>
<th>Dosage, fl oz/cwt (mL/100 kg)</th>
<th>Initial Set (h:min)</th>
<th>Difference (h:min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional MRWR**</td>
<td>3 (195)</td>
<td>5:05</td>
<td>—</td>
</tr>
<tr>
<td>MasterPolyheed 1720 admixture</td>
<td>3 (195)</td>
<td>4:45</td>
<td>-0:20</td>
</tr>
<tr>
<td>Conventional MRWR</td>
<td>6 (390)</td>
<td>5:25</td>
<td>—</td>
</tr>
<tr>
<td>MasterPolyheed 1720 admixture</td>
<td>6 (390)</td>
<td>4:40</td>
<td>-0:45</td>
</tr>
<tr>
<td>Conventional MRWR</td>
<td>12 (780)</td>
<td>7:25</td>
<td>—</td>
</tr>
<tr>
<td>MasterPolyheed 1720 admixture</td>
<td>12 (780)</td>
<td>5:10</td>
<td>-2:15</td>
</tr>
</tbody>
</table>

**Mid-range water reducer
MasterPolyheed 1720

Mixture Data: 440 lb/yd³ (261 kg/m³) of Type I cement; 77 lb/yd³ (46 kg/m³) Class F fly ash; slump 6 to 6.25 in. (150 to 160 mm); non-air-entrained concrete.

<table>
<thead>
<tr>
<th>Mixture</th>
<th>Dosage, fl oz/cwt (mL/100 kg)</th>
<th>Initial Set (h:min)</th>
<th>Difference (h:min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional MRWR</td>
<td>8 (520)</td>
<td>6:50</td>
<td>—</td>
</tr>
<tr>
<td>MasterPolyheed 1720 admixture</td>
<td>8 (520)</td>
<td>5:14</td>
<td>-1:36</td>
</tr>
</tbody>
</table>

Compressive Strength: Concrete produced with MasterPolyheed 1720 admixture will typically have higher early compressive strength compared to concrete produced with a conventional normal or mid-range water-reducing admixture.

<table>
<thead>
<tr>
<th>Mixture</th>
<th>Dosage, fl oz/cwt (mL/100 kg)</th>
<th>1-Day psi (MPa)</th>
<th>7-Day psi (MPa)</th>
<th>28-Day psi (MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional MRWR</td>
<td>8 (520)</td>
<td>1770 (12.2)</td>
<td>3910 (26.9)</td>
<td>5330 (36.7)</td>
</tr>
<tr>
<td>MasterPolyheed 1720 admixture</td>
<td>8 (520)</td>
<td>1900 (13.1)</td>
<td>3820 (26.3)</td>
<td>5460 (37.6)</td>
</tr>
</tbody>
</table>

Guidelines for Use

Dosage: MasterPolyheed 1720 admixture has a recommended dosage range of 3 to 12 fl oz/cwt (195 to 780 mL/100 kg) of cementitious materials for most concrete mixtures. As the dosage rate of MasterPolyheed 1720 admixture increases up to 12 fl oz/cwt (780 mL/100 kg) of cementitious materials, faster concrete set characteristics are maintained and higher early compressive strength performance is achieved. Because of variations in concrete materials, job site conditions and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local sales representative.

Mixing: MasterPolyheed 1720 admixture can be added with the initial batch water or as a delayed addition. However, optimum water reduction is generally obtained with a delayed addition.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: MasterPolyheed 1720 admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressing steel or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of MasterPolyheed 1720 admixture.

Compatibility: MasterPolyheed 1720 admixture is compatible with most admixtures and can be used in combination with other BASF admixtures, unless stated otherwise. When used in conjunction with other admixtures, each admixture must be dispensed separately into the concrete mixture. Do not use MasterPolyheed 1720 admixture in combination with admixtures containing beta-naphthalene sulfonate. Erratic behaviors in slump, workability retention and pumpability may be experienced.

MasterPolyheed 1720 admixture can be used in combination with all BASF air-entraining admixtures when the production of air-entrained concrete is desired. MasterPolyheed 1720 admixture is formulated for optimum performance with MasterAir® AE 90 and MasterAir VR 10 air-entraining admixtures.

Storage and Handling

Storage Temperature: MasterPolyheed 1720 admixture must be stored at temperatures above 40 °F (5 °C). If MasterPolyheed 1720 admixture freezes, thaw and reconstitute by mechanical agitation. Do not use pressurized air for agitation.

Shelf Life: MasterPolyheed 1720 admixture has a minimum shelf life of 6 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your local sales representative regarding suitability for use and dosage recommendations if the shelf life of MasterPolyheed 1720 admixture has been exceeded.

Packaging

MasterPolyheed 1720 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Safety Data Sheets: MasterPolyheed 1720 admixture
**Additional Information**

For additional information on MasterPolyheed 1720 admixture or on its use in developing concrete mixtures with special performance characteristics, contact your local sales representative.

*The Admixture Systems business of BASF’s Construction Chemicals division is the leading provider of solutions that improve placement, pumping, finishing, appearance and performance characteristics of specialty concrete used in the ready-mixed, precast, manufactured concrete products, underground construction and paving markets. For over 100 years we have offered reliable products and innovative technologies, and through the Master Builders Solutions brand, we are connected globally with experts from many fields to provide sustainable solutions for the construction industry.*

**Limited Warranty Notice**

BASF warrants this product to be free from manufacturing defects and to meet the technical properties on the current Technical Data Guide, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. BASF MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. The sole and exclusive remedy of Purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is shipment to purchaser of product equal to the amount of product that fails to meet this warranty or refund of the original purchase price of product that fails to meet this warranty, at the sole option of BASF. Any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by Purchaser. BASF WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.

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