Hydrocon ST
Cement hydration controlling admixture

Description
Hydrocon ST is a liquid admixture formulated from selected polymers specially designed to retard the setting time by controlling the hydration process of Portland cement and other cementitious materials for long time. This effect can be used to keep concrete workable for long time starting from 3 hours till three days.

Technical Properties @ 25°C:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Yellowish liquid</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.1 ± 0.03</td>
</tr>
<tr>
<td>Chloride content</td>
<td>BS 5075 Nil</td>
</tr>
</tbody>
</table>

Applications
- For wet type shotcrete.
- For long distance concrete delivery.
- High performance concrete.
- Concrete washwater stabilization.
- To avoid setting of concrete in transit mixers in case of accident.

Advantages
- Reduce concrete waste in case of changing concrete casting schedule.
- Excellent retardation for long time up to 3 days.
- Excellent slump retention for very long concrete deliveries.
- Saving transit mixers drums in case of accident.
- Reduce the needed amount of water to clean transit mixer.
- Chloride free.

Compatibility
Hydrocon ST can be used with all types of Portland cement and cement replacement materials. Hydrocon ST is compatible with other DCP admixtures used in the same concrete mix.

If more than one type of admixture is to be used in the concrete mix, they must be dispensed to the concrete separately.

Standards
Hydrocon ST complies with ASTM C494, Type B.

Method of Use
Hydrocon ST should be added to the concrete with the mixing water to achieve optimum performance. Also it can be added directly to the drum of concrete mixers when unplanned changes in concrete casting schedule.

Dosage
The guidance dosage of Hydrocon ST is 0.1 - 3.0 litre/100 kg of cementitious materials in the mix, including GGBFS, PFA or microsilica.

Representative trials should be conducted to determine the optimum dosage of Hydrocon ST to meet the performance requirements by using the materials and conditions in actual use.

Effects of Over Dosage
Over dosing of Hydrocon ST will cause the following:
- Significant increase in retardation.
- Increase in workability.

Cleaning
Hydrocon ST can be washed with fresh cold water.

Packaging
Hydrocon ST is available in 25 litre pails, 210 litre drums and 1000 litre bulks supply.

Storage
Hydrocon ST has a shelf life of 12 months from date of manufacture if stored at temperatures between 2°C and 50°C.

If these conditions are exceeded, DCP Technical Department should be contacted for advice.
Hydrocon ST

Cautions

Health and Safety

Hydrocon ST is not classified as hazardous material. Hydrocon ST should not come into contact with skin and eyes.

In case of contact with eyes wash immediately with plenty of water and seek medical advice promptly.

For further information refer to the Material Safety Data Sheet.

Fire

Hydrocon ST is nonflammable.

Testing Data

▲ Mix Design

<table>
<thead>
<tr>
<th></th>
<th>W</th>
<th>C</th>
<th>F.A</th>
<th>C.A</th>
<th>Admixture Dosage</th>
<th>Hydrocon ST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>180</td>
<td>310</td>
<td>765</td>
<td>975</td>
<td>0.5%</td>
<td>Zero</td>
</tr>
<tr>
<td>Hydrocon ST</td>
<td>180</td>
<td>310</td>
<td>765</td>
<td>975</td>
<td>0.5%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

▲ Result

<table>
<thead>
<tr>
<th></th>
<th>Slump</th>
<th>Air (%)</th>
<th>Setting Time (Hr : Min)</th>
<th>Compressive Strength MPa</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Initial</td>
<td>Final</td>
</tr>
<tr>
<td>Control</td>
<td>14</td>
<td>2.4</td>
<td>5 : 30</td>
<td>7 : 35</td>
</tr>
<tr>
<td>Hydrocon ST</td>
<td>15</td>
<td>2.8</td>
<td>40 : 18</td>
<td>43 : 25</td>
</tr>
</tbody>
</table>

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▲ Tile adhesives and grouts.
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▲ Structural strengthening.

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