**CFR-3™ and CFR-3L™ Dispersant**

Halliburton’s CFR-3™ and CFR-3L™ dispersants help reduce the apparent viscosity and improve the rheological properties of a cement slurry. As a result, turbulent flow can be achieved at lower pumping rates, which results in reduced friction pressure during pumping.

When a slurry’s apparent viscosity is reduced, the slurry can be mixed at a higher density by reductions in the amount of mix water added. Although the slurry is denser, it remains easy to pump and will require less, possibly no, weighted material.

CFR-3 and CFR-3L friction reducers also help improve fluid-loss control and can provide slight slurry retardation.

CFR-3 dispersant is available as a dry powder intended for bulk blending with cement and admixtures. CFR-3L dispersant is a liquid version of the additive available for locations without blending facilities.

**Applications**

CFR-3 and CFR-3L dispersants are intended for use in a wide range of cement slurries prepared with API cements and with Pozmix® cement in any situation requiring a dispersant. These additives can be useful in a number of special cement formulations such as PermaFrost® cement blends or slurries that include Spherelite® additive.

Additionally, these additives deliver superior performance in salt cement slurries. Either of these dispersants can be applied in wells above 60°F (16°C) in all API cement classes.

**Benefits**

Most of the benefits that can be gained by the addition of CFR-3 or CFR-3L dispersant are derived from the thinning effect on cement slurry consistency and rheology.

- Easier slurry mixing
- Lower friction pressure during pumping / hydraulic horsepower requirements are reduced
- Turbulent flow at lower pump rates
- Ability to mix densified cement slurries
- Available in both bulk material and liquid

<table>
<thead>
<tr>
<th><strong>Function</strong></th>
<th>CFR-3™ Dispersant</th>
<th>CFR-3L™ Dispersant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form</strong></td>
<td>Dispersant</td>
<td>Dispersant</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Dark Red</td>
<td>Blood Red</td>
</tr>
<tr>
<td><strong>Activity</strong></td>
<td>100%</td>
<td>33%</td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>1.28</td>
<td>1.17</td>
</tr>
<tr>
<td><strong>Bulk Density</strong></td>
<td>38 lb/ft³</td>
<td>9.75 lb/gal</td>
</tr>
</tbody>
</table>

**For more information about CFR-3 and CFR-3L Dispersant, please contact your local Halliburton representative or email cementing@halliburton.com.**

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