Drillpac® Polymer is a Polyanionic cellulose polymer that is available in both ultra high viscosity (HV) grade as well as a medium-viscosity (LV) grade in all of our locations throughout the world.

Advantages

- Works well at any salinity
- Control fluid loss
- Promotes fragile gels
- Inhibits hydrateable, swelling shales
- Increases resistance of clay muds to contamination
- Retards drilled solids build-up by inhibiting cutting disintegration
- Produces thin, slick, tough filter cake
- Non-fermenting, no preservative needed
- Environmentally compatible
- Reduces friction and frequency of differential sticking
- Increases carrying capacity
- Good thermal stability to $\geq 300^\circ F$

<table>
<thead>
<tr>
<th>Drillpac® HV and Drillpac® LV Polymers</th>
<th>Material Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid-loss control</td>
<td>0.1 to 3.0 ppb (0.3 to 9.0 kg/m$^3$)</td>
</tr>
<tr>
<td>Inhibition/encapsulation</td>
<td>0.75 to 3.0 ppb (2 to 9.0 kg/m$^3$)</td>
</tr>
<tr>
<td>Improved filter cake</td>
<td>0.5 ppb (1.5 to kg/m$^3$)</td>
</tr>
<tr>
<td>Improved and Stabilized Rheology</td>
<td>0.5 to 1.0 ppb (2.0 to 3 kg/m$^3$)</td>
</tr>
<tr>
<td>Reduce stuck pipe frequency</td>
<td>0.5 to 0.75 ppb (1.5 to 2.0 kg/m$^3$)</td>
</tr>
<tr>
<td>Improved hole cleaning</td>
<td>0.5 to 3.0 ppb (1.5 to 9.0 kg/m$^3$)</td>
</tr>
<tr>
<td>Semi-non-dispersed muds</td>
<td>0.5 to 2.0 ppb (1.5 to 6.0 kg/m$^3$)</td>
</tr>
<tr>
<td>Work over / completion fluids</td>
<td>0.75 to 2.0 ppb (2 to 6.0 kg/m$^3$)</td>
</tr>
</tbody>
</table>

Cost

The purity and assured high quality of these products are strong contributors to lower overall mud costs and total well costs.

Mud Types:

Water-based drilling and drill-in fluids, work over fluids and completion fluids of any salinity. More efficient performance with calcium below 500 ppm. Slightly more polymer needed at higher calcium levels.

Mixing Requirements

Drillpac® HV Polymer and Drillpac® LV Polymer: Mix slowly through conventional jet hopper.

Handling

For specific instruction on handling refer to the MSDS.

Packaging

Drillpac® Polymers: 50-pound, multiwall paper sacks