d-Solve Dissolvable Balls

Our d-Solve™ dissolvable ball products use proprietary metallic and non-metallic dissolvable materials to allow for interventionless operations across a wide range of applications. The dissolvable materials used in d-Solve balls have been qualified through extensive internal testing including dissolving rates and differential pressure capabilities in a wide variety of downhole environments.

Ideal for use with our i-Frac sliding sleeve system, our d-Solve balls can be used in both open hole or cemented applications, allowing operators to achieve optimal zonal isolation and interventionless packer setting. d-Solve dissolvable balls are custom designed to retain structural integrity under high temperatures and differential pressures for a specific range of time, depending on the fluid types in the wellbore. The d-Solve balls will then dissolve in the well fluids, eliminating the need to mill or retrieve the balls by flowing back the well.

Features
- Custom manufactured to specific size requirements
- Predictable response when exposed to various well fluids
- Maintains sealing capability in a wide range of temperatures

Benefits
- Eliminates need for setting and retrieving plugs to set packers
- Eliminates requirement to flow back or mill balls in multi-stage stimulation applications
- Degrades predictably over time while in contact with fluid and temperature
- Requires no mill out/drill out after fracturing operations
- Requires no chemicals or acids
- High compressive strength capabilities
- Strict tolerances held on ball diameter (OD)
- In-house testing of specific well fluids and conditions

Applications
- Activation of frac sleeves in multi-stage stimulation
- Interventionless setting of packers
- Temporary isolation during workovers
- Casing pressure testing
- Internal isolation of zones during fracturing or acidizing

Technical Data

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<tr>
<th>Sizes</th>
<th>Specific gravity</th>
<th>Minimum BHST for dissolution</th>
<th>Minimum salinity requirements</th>
<th>Typical dissolution rates</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.4 - 114.3 mm (1 - 4.5 in.)</td>
<td>2.7 - 2.9</td>
<td>150°F (65°C)</td>
<td>0.5%</td>
<td>0.083* g/min</td>
<td>NOV proprietary alloy</td>
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</tbody>
</table>

* Dissolution rate based on 57.2mm (2.25 in) ball, in 1% KCl at 90 deg C (194 F). Additional application testing can be performed as required.

completiontools@nov.com  nov.com/completiontools