D264 Nanosealant
High-injectivity, self-diverting leak repair fluid

APPLICATIONS
- Remediation of sustained casing pressure
- Repair of pinhole leaks in cemented casings
- Sealing of microannuli or leak paths behind old casing prior to plug and abandonment operations

BENEFITS
- Repairs leaks as small as 20 um with injectivity comparable with that of water
- Minimizes operation time and number of squeezes by self diverting to plug multiple gaps or cracks of different widths
- Simplifies operations as a single-component fluid requiring no mixing at surface
- Reduces cleanup time

FEATURES
- Self activation in contact with cement
- Coiled tubing, drillpipe, or surgical placement options
- Ability to withstand high pressure differentials (>1,000 psi/ft [>22.6 MPa/m]) when placed in microleaks
- High drillability

D264 nanosealant is a single-component, self-diverting technology used to repair small cracks and microannuli in a cemented annulus. It is ideal for repairs for which injectivity is too low to pass Portland cement–based systems or microcement systems such as SqueezeCRETE* remedial cementing solution.

Plug more leaks in a single squeeze
The D264 nanosealant begins to set only after contact with set cement and hardens in a matter of hours. This property extends the possible squeeze time and combines with the self-diverting property to enable penetration into more leakage paths—as each leak is sealed, the fluid flows into the next gap.

Another advantage of this setting mechanism is that it can be implemented rapidly without laboratory testing of thickening time or curing time, which are required for well cement or other sealants. It also improves postsqueeze cleanup because of the low risk of setting inside tubulars or surface equipment.

Prepare for and improve abandonment
D264 nanosealant can be used to repair small cracks and microannuli in an old cemented annulus prior to abandonment or to repair prior abandonment cement plugs that show signs of leakage.

D264 Nanosealant Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Placement temperature</td>
<td>Up to 250 degF [120 degC]</td>
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<tr>
<td>Maximum exposure temperature</td>
<td>300 degF [150 degC]</td>
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This nanosealant is a single-component system; thus, no mixing or blending is required at surface. Because of its low rheology and nanosized particles, injectivity is similar to that of water and has been demonstrated to penetrate leaks as small as 20 um.

Choose the best placement for each well
The nanosealant can be placed through conventional tubing, coiled tubing, or with a CHDT* cased hole dynamics tester. The CHDT tester is a wireline tool that creates a hole in the casing, injects the sealant, and then plugs the hole with a mechanical metal-to-metal seal that can withstand pressure differentials as high as 10,000 psi [69 MPa].

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