Copperhead Slim
High-expansion drillable frac plug

Rated up to 10,000 psi
[69 MPa]
Rated up to 250 degF
[121 degC]

APPLICATIONS
- Vertical, deviated, and horizontal wells with casing restrictions or damaged casing
- Zone isolation during multistage stimulation

BENEFITS
- Eliminates presetting and withstands multiple pressure reversals to reduce rig time and costs
- Expedites millout with hybrid construction

FEATURES
- Composite plug with aluminum core
- Unique activation system to provide a superior seal even under multiple pressure and temperature cycles
- Proprietary slip design to keep wickers from chipping or cracking in hard steel casing and slipping in softer steel casing
- Element backup system to keep rubber element locked in place with no extrusion
- Rotational lock mechanism to prevent slipping or spinning during removal
- Positive engagement clutch to prevent spinning of bottom sub on top of the next plug in multiple-plug drillout

Copperhead Slim* high-expansion drillable frac plugs isolate zones during multistage stimulation. Their small OD enables the plugs to pass through casing restrictions and damaged casing; once in position, they expand to the standard casing ID. They are set using wireline, CT, or threaded pipe.

A one-way internal check valve is closed with a ball while the zone above the plug is fractured. The plug can be run with the ball in place, the ball can be dropped from surface when the plug is in position, or a caged-ball configuration can be used. The check valve allows free flow of fluids from below the plug after the stimulation operation.

Fast millout
The hybrid construction consists of a composite material with an aluminum core for greater strength. The plug can be quickly drilled out with the Copperhead* plug mill into small, consistently sized cuttings that are easily circulated out of the well. A rotational lock mechanism prevents spinning of the plug during millout, reducing millout time.

Copperhead Slim frac plugs have a smaller OD than conventional frac plugs, enabling them to pass through damaged casing or casing restrictions.

Copperhead Slim Plug Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>Casing size</td>
<td>4.5 in [114.3 mm]</td>
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<tr>
<td>Casing weight</td>
<td>13.5–18.8 lbm/ft [20.1–28 kg/m]</td>
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<tr>
<td>Maximum OD</td>
<td>3.19 in [81 mm]</td>
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<tr>
<td>Length</td>
<td>26 in [66 cm]</td>
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