

# Copperhead Extreme



## HPHT drillable bridge and frac plug

Minimize risks of presetting and plug movement, facilitate millout

### Applications

- HPHT reservoirs
- Vertical, deviated, and horizontal wells
- Zone isolation during multistage stimulation
- Enhanced geothermal system (EGS) wells



### Features

The plug is made of nondegradable aluminum material. When it is configured as a frac plug, the central bore 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. One benefit of using a ball is to enable flowback from below the plug if required (e.g., to mitigate a screenout). The bridge plug configuration has a solid core that enables the plug to hold pressure from both directions.

A proprietary slip design keeps wickers from chipping or cracking in hard steel casing and slipping in softer steel casing, while an element backup system keeps the rubber element locked in place with no extrusion.

### How Copperhead Extreme plugs improve performance

Use the Copperhead Extreme™ HPHT drillable bridge and frac plug to isolate zones during multistage plug-and-perf fracture stimulation even in high-pressure and high-temperature reservoirs that are likely to have high fracturing pressures. Alternatively, the plug can be configured as a bridge plug. Engineered antipreset features reduce your risks and costs while running using wireline, coiled tubing, or threaded pipe.

The plug withstands multiple pressure and temperature cycles to reduce rig time and costs.

The rotational lock mechanism prevents slipping or spinning during millout. Plug components can be drilled out into small, consistently sized cuttings, which are easily circulated out of the well; a specialty mill expedites drillout. A positive engagement clutch prevents spinning of the bottom sub on top of the next plug in multiple-plug drillout.

### Copperhead Extreme Specifications

Specifications	4 1/2-in Casing (Light)	4 1/2-in Casing (Heavy)	5-in Casing (Light)
Casing size	4.5 in [114.3 mm]	4.5 in [114.3 mm]	5 in [127 mm]
Casing weight	15.1 lbm/ft [22.47 kg/m]	16.6–18.9 lbm/ft [24.7–27.1 kg/m]	18–21.4 lbm/ft [26.78–31.84 kg/m]
Max. OD	3.44 in [87.34 mm]	3.44 in [87.34 mm]	3.875 in [98.43 mm]
Pressure rating	13000 psi [90 MPa]	15000 psi [103 MPa]	15000 psi [103 MPa]
Temperature rating	400 degF [204 degC]	400 degF [204 degC]	400 degF [204 degC]

### Copperhead Extreme Specifications

Specifications	5-in Casing (Heavy)	5 1/2-in Casing	7-in Casing EGS
Casing size	5 in [127 mm]	5.5 in [139.7 mm]	7 in [177.8 mm]
Casing weight	23.2–24.2 lbm/ft [34.52–36.01 kg/m]	26 lbm/ft [38.69 kg/m]	26–35 lbm/ft [38.69–52.09 kg/m]
Max. OD	3.77 in [95.76 mm]	4.25 in [108 mm]	5.755 in [146.18 mm]
Pressure rating	15000 psi [103 MPa]	15000 psi [103 MPa]	6000 psi [41 MPa]
Temperature rating	400 degF [204 degC]	400 degF [204 degC]	450 degF [232 degC]

All specifications are subject to change without notice.