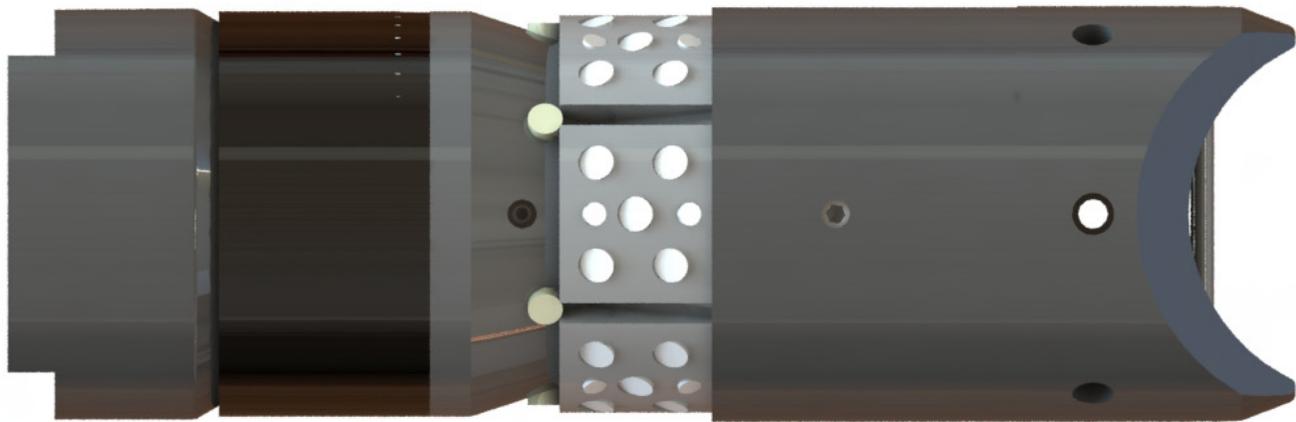


ProDrill® Velocity™ Fast-Drillout Composite Plug



The Forum Energy Technologies ProDrill® Velocity™ ultra-compact, fast-drillout composite frac plug is a critical component when completing plug-and-perf operations. This solution optimizes well completions efficiency by reducing drillout times, debris size and the amount of material that needs to be circulated out of the hole. The ProDrill Velocity composite plug mitigates risk during drillout, while decreasing time on location and costs to complete unconventional wells.

The set-from-bottom, compression-set plug design eliminates run risk by transmitting impacts through the wireline adapter kit (WLAK) tension mandrel, which also reduces stresses on critical elements of the plug. The plug design allows for a high velocity of fluid bypass during pump down operations that gives operators a plug with no speed limit on run in. The faster speeds decrease water usage and time to completion. ProDrill Velocity Frac plugs have successfully been pumped up to 770 FPM in 5.5-in 20# casing.

The design is unique in that the components do not slide on a stationary mandrel like typical composite plugs. This allows the reduced-length, fully optimized composite plug to shorten when set and mitigate spinning components during drillout. The short one-slip plug reduces the amount and size of material that is circulated out of the hole, reducing both risk and time. The plug is available in a top-ball configuration for 5.5-in 17-23# and 4.5-in 9.5-13.5# casing in 10,000 psi 300°F applications. The unique design can incorporate a ball in place when used with our RockIt Deployment System™.

With an easily drillable low-specific gravity (LSG) of 1.6, the magnesium alloy slip, with ceramic buttons, further improves efficiency of the plug. Since the slip's material is lighter than composite, it provides a clean well post-drillout, even in low bottomhole pressure wellbores.

ProDrill® Velocity™ Composite Plug

Applications

- Unconventional wells
- Multizone completions
- Plug-and-perf completions

Benefits

- Lowers costs and time to complete, up to a 65% reduction in drillout times over traditional composite plug designs
- Minimizes risk and drillout time, with a 50% reduction in length and a 50% reduction in weight of material to be drilled and circulated out of the hole
- Decreases time and water consumption since the symmetrical lightweight design allows more efficient horizontal pumpdown operations with no speed limit on run-in
- Mitigates risk with a simple one-slip, set-from-bottom, compression-set design, which withstands debris impacts

Features

- Optimized one-slip, lightweight design reduces particle size and material to circulate out of hole
- Compression-set design eliminates critical components from being put in tension during the setting sequence and keeps the plug in the locked position during and after fracturing
- Bottom-set, anti-preset configuration mitigates impacts during pumpdown operations
- Recessed ball seat keeps ball from spinning during drillout
- Unique plug configuration that shortens in the set position, reduces amount of material to drill and circulate out of the well

5.5" Specifications

Slip Version	Casing (in.)	Weight (lb/ft)	OD (in.)	ID (in.)	Length (in.)			Pressure (psi)	Temperature (°F)
					Run in	Set in 23#	Set in 17#		
Magnesium Alloy with Ceramic Buttons	5.5	17-23	4.43	1.5	13.75	12.50	11.75	10,000	300

4.5" Specifications

Slip Version	Casing (in.)	Weight (lb/ft)	OD (in.)	ID (in.)	Length (in.)			Pressure (psi)	Temperature (°F)
					Run in	Set in 13.5#	Set in 9.5#		
Magnesium Alloy with Ceramic Buttons	4.5	9.5-15.10	3.609	1.125	11.55	10.30	9.50	10,000	300