

# ProDrill® Express Series Composite Plugs



## Multiconfiguration Composite-Body Bridge / Frac Plugs

Forum Energy Technologies' ProDrill® Express Series bridge and frac plugs offer a dependable, durable and cost-effective method to temporarily isolate zones during hydraulic fracturing operations in both vertical and horizontal wells. The plugs uniquely combine composites with cast-iron slips, helping to reduce drillout times (consistent times of 13 to 20 minutes or less), while remaining reliable.

The ProDrill Express plugs are manufactured with proprietary material, which allows the multiconfiguration adapters to be threaded in the inner diameter (ID) mandrel, making it a fully internal composite tool. No brass or aluminum conversion accessories are required, improving drillout times and reducing risks. Cast-iron slips are hardened to wicker depth only, and can be set in up to P110 casing.

The multiconfiguration plug allows the user to easily convert it from a ball-drop solution to a caged-ball flowback or solid bridge plug using two simple kits (bridging pin and caged-ball assembly). The plugs can be run with any wireline-setting tool or tubing-run hydraulic setting tool. Plugs are currently available for the following casing sizes: 3 ½, 4 ½, 5 ½, and 7 in.

### Ball-Drop Frac Plug Configuration

After the ProDrill Express ball-drop frac plug is set, the ID remains open, allowing work to continue above. A ball is then dropped from the surface and pumped down until it seats on the tool. Once the ball is seated, the operator can pressure up against the frac plug. The ball can also be run in place, between the shear sleeve adapter and mandrel, allowing it to be used as a flowback plug without having to drop the ball from surface.

### Caged-Ball Frac Plug Configuration

The caged-ball frac plug utilizes a simple ball/cage adapter that houses a ¾-in. composite ball in the upper ID of the plug. When zonal pressure is greater from below the plug, the ball cage allows the lower and upper zones to communicate. When zonal pressure is greater from above, the ball seats; thus, isolating the zones.

### Bridge Plug Configuration

The Express Series bridge plug is converted using a simple composite bridging pin that is threaded into the mandrel, while sealing in the ID. This plugged ID is drilled out before the top slip; thus, allowing the upper and lower zones to equalize during drillout. The operating range listed in the specification table refers to the differential pressure rating from above. The differential pressure rating from below is 6,000 psi.

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### Benefits

- Increases operational efficiency since drillout times are consistently less than 20 minutes
- Helps ensure pressure integrity during fracturing operations due to the reliable, field-proven design
- Mitigates risk with efficient drillouts of premium composite material
- Decreases amount of inventory needed on hand with multiconfiguration capabilities
- Reduces cost of completion with competitive low-cost plug option

### Features

- Available in 3 ½, 4 ½, 5 ½, and 7 in. casing sizes
- Utilizes unique lug design on the top and muleshoe bottom, helping ensure that the plugs do not spin during drillout
- Can be drilled using conventional tubing or coiled tubing
- Materials used in construction are conducive to a wide range of environments
- Hollowed slip design only hardened to wicker depth for ease of drillout
- Pump-down wiper available upon request

### Specifications

Casing (in.)	Weight (lb/ft)	OD (in.)	Length (in.)	ID (in.)	Pressure (psi)	Temperature (°F)
3.5	9.2-10.2	2.725	18.73	0.625	10,000	300
4.5	9.5-13.5	3.609	25.33	0.75	10,000	300/350
5.5	15.5-23	4.425	24.50	1.00	10,000	300/350
7	23-32	5.630	34.10	1.50	10,000	300