Schlumberger

Infinity

Dissolvable plug-and-perf system

Rated up to 10,000 psi [69 MPa]

Rated to 176.7 degC [350 degF]

APPLICATIONS

- Multistage stimulation operations in shale, sandstone, dolomite, and other lithologies
- All well types: openhole, cased-hole, vertical, deviated, and horizontal
- Extended-reach wells and under-pressured reservoirs

BENEFITS

- Simple design reduces risks and enhances efficiency
- Elimination of milling out
  - lowers costs
  - streamlines operations
  - eliminates risks and costs of stuck plugs
  - decreases time to production
- Components dissolve completely and predictably, leaving no restrictions to impede future operations

FEATURES

- Made of high-strength, impact-resistant ELEMENTAL* degradable technology for fracturing at higher pressures and longer intervals
- Simpler than conventional plugs
- Record of performance at 75 degF [24 degC]
- Deployed as part of standard wireline perforating operations, with ball conveyed at the beginning of stimulation activity via pumpdown operations

The Infinity* dissolvable plug-and-perf system is a fullbore interventionless multistage stimulation system that uses degradable seats instead of plugs to isolate zones. After all stages are stimulated, the seat assemblies remove themselves, dissolving completely and predictably after contact with common completion fluids. The well is left with fullbore access, and immediate production is possible.

Infinity dissolvable plug-and-perf system.

Well types

The system can be used in any type of well and is especially suitable for extended-reach wells and wells in under-pressured reservoirs, where mechanical interventions can be challenging.

Simple design and operation

The Infinity system is simpler than conventional plugs. It works in any well design and is deployed as part of a standard wireline perforating operation. The components are nonhazardous and degrade on contact with common completion fluids. No special additives are required, and no mechanical intervention is required.

Fully degradable alloy

The patented aluminum-based ELEMENTAL technology's alloy ball and lower seat degrade completely and predictably, leaving fullbore access. Having no restrictions in the wellbore maximizes flow potential and simplifies any future operations in the well.

Interventionless operations

With no plugs to mill out or to become stuck, this interventionless system is more cost-effective than conventional plug-and-perf operations, and the risks associated with mechanical interventions are eliminated.

The Infinity system can be run with the KickStart* rupture disc valve. Adding this starter valve eliminates the need for CT deployment during the first stage of a plug-and-perf operation, which makes operations possible in remote locations and saves time and costs.

Faster time to market

Eliminating milling reduces the time between drilling and production. On multiwell pads, by the time drilling on the pad is complete, the first wells are ready to flow back and be placed on production, providing faster time to market.

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Increased reservoir contact

In conventional plug-and-perf operations, the length of a lateral can be restricted by the capabilities and costs associated with milling. Eliminating mechanical interventions removes the limits on length, enabling longer laterals and maximizing reservoir contact and estimated ultimate recovery (EUR).

Increased reliability

The high-strength, impact-resistant alloy is stronger than conventional alloys. It withstands differential pressures up to 8,000 psi [55 MPa] and temperatures up to 350 degF [177 degC]. It also has a proven record of performance at temperatures as low as 75 degF [24 degC].

Specifications		
Casing compatibility, in; lbm/ft	5.5; 17–20, 23, 26–26.8	4.5; 11.6, 13.5, 15.1
Max. tool OD, in [mm]	4.39 [111.51], 4.29 [108.67], 4.12 [104.65]	3.62 [91.95], 3.54 [89.92], 3.44 [87.38]
Casing joint profile ID, in [mm]	4.55 [115.57], 4.44 [112.78], 4.26 [108.20]	3.78 [96.01], 3.70 [93.98], 3.60 [91.44]
Casing joint profile OD†, in [mm]	6.13 [155.7]	5.0 [127]
Casing joint profile total length, in [mm]	17 [431.8]	15.75 [400.05]
Casing joint profile makeup length, in [mm]	14 [355.6]	11.50 [292.21]
Casing joint thread ends	Box × pin, threads on demand‡	Box × pin, threads on demand‡
Casing joint specifications (strength, burst, collapse, and dogleg)	Same as or greater than P-110 20-lbm/ft casing	Same as or greater than P-110 20-lbm/ft casing
Number of casing joints per seat	Unlimited	Unlimited
Max. differential pressure across ball and seat, psi [MPa]	8,000 [55.16]	10,000 [68.95]
Max. temperature for degradables, degF [degC]	350 [176.7]	350 [176.7]
Fluid type§ (affects degradation rate)	Any water-base fluid	Any water-base fluid
Ball diameter, in [mm]	3.9 [99.06]	3.0 [76.2]
Seat OD (once formed), in [mm]	4.7 [119.38], 4.6 [116.84], 4.42 [112.27]	3.94 [100.80], 3.86 [98.04], 3.76 [95.50]
Seat landing ball ID (once formed), in [mm]	3.3 [83.82]	2.59 [65.79]
Seat length (once formed), in [mm]	4.6 [116.84]	3.9 [99.06]
Seat flow area (once formed), in^2 [mm^2]	3.5 [2,258]	2.2 [1,419.35]

†OD is determined in part by threads chosen. The value provided is for API but may be larger if required by the thread.
‡Infinity system is not compatible with all premium threads, please consult the Infinity system data gathering sheet for more info.
§Freshwater required for conveyance.

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