



ACP™ Annulus Casing Packer

Discontinuous-Rib

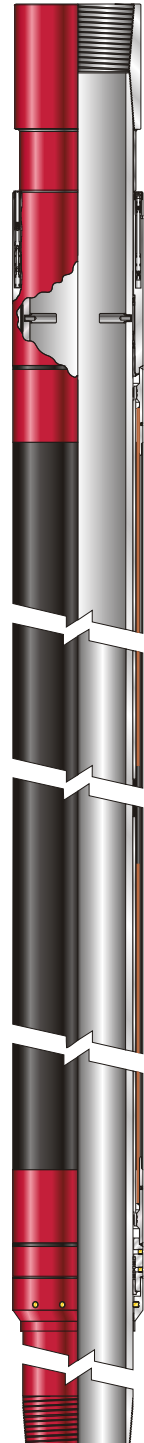
The discontinuous-rib *ACP* annulus casing packer is Weatherford's premium inflatable packer assembly for providing an annular seal between the casing (or liner) and the open hole or a previously set string of pipe. The packer is made up and run in a casing string or liner and inflated in cased or open hole. Multiple *ACP* assemblies can be installed on a single casing string or liner.

The discontinuous-rib *ACP* assembly consists of a valve system with hydraulic lock, full seal redundancy, and a 360° flow path with a 0.070-in. (1.78-mm) restriction that acts as a screen to prevent large particles from clogging or blocking the inflation ports and is compatible with fluid and cement inflation. Cement inflation provides a high-pressure, permanent annular barrier.

The inflatable elements are available in lengths up to 40 ft (12.2 m). These elements are made from proprietary rubber compounds for standard service (275°F, 135°C) and severe, high-temperature service (375° F, 190°C). Differential pressure ratings vary by packer size, relative to hole size, and are available on request.

Applications

- Prevention of gas migration
- Reduction of gas/oil ratio
- Reduction or prevention of water production
- Isolation of production or injection zones
- Prevention of squeeze cementing
- Replacement of cement to avoid cement invasion (for example, in horizontal completions)
- Isolation of the shoe
- Isolation of lower zones during stage cementing
- Shut-off of open-hole sections with one-trip plug-and-abandonment kit or retainer





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Features, Advantages and Benefits

- Top-mounted, locking valve system with redundant seals senses true hydrostatic pressure above the packer for reliable inflation of the element.
- The absence of moving seals or sleeves during element inflation reduces the potential for leak paths that can cause run-in failure should an obstruction shear the sleeve prematurely and pack off the element.
- Single-piece, threaded mandrel secures the element as it is run in the hole.
- Elastomers, metallurgy, and threads are designed for standard and severe service, thereby making the continuous-rib packer suitable for a wide variety of applications.
- Shear pins in the valve system are easily accessible for field dressing.
- Discontinuous-rib element design is ideal for applications in highly deviated wells.
- Discontinuous-rib design and capability of the ACP system to expand to 3-1/2 times its run-in OD provide isolation in almost all open holes. The discontinuous-rib element conforms to the shape of the formation to accommodate washouts and out-of-round holes.
- Larger inflation volumes provide an increased pressure drop when the packer opens for better surface indication, assisting in installation evaluation.

Specifications

Standard-service ACP systems are based on standard API tubing or casing sizes from 2-3/8 in. (60.33 mm) to 20 in. (508.00 mm) and standard API casing grades. Standard threads are API 8rd or buttress box × pin.

Casing Size		Tool OD*		Slimline Tool OD*	
(in.)	(mm)	(in.)	(mm)	(in.)	(mm)
2-3/8	60.33	3.625	92.08	3.390	86.11
2-7/8	73.03	4.250	107.95	3.650	92.71
3-1/2	88.90	4.750	120.65	4.300	109.22
4-1/2	114.30	5.750	146.05	5.500	139.70
5	127.00	6.250	158.75	5.950	151.13
5-1/2	139.70	7.000	177.80	6.500	165.10
6-5/8	168.28	7.940	201.68	7.625	193.68
7	177.80	8.250	209.55	8.000	203.20
7-5/8	193.68	9.000	228.60	8.750	222.25
8-5/8	219.08	10.250	260.35	10.000	254.00
9-5/8	244.48	11.250	285.75		N/A
10-3/4	273.05	12.750	323.85		N/A
11-3/4	298.45	13.380	339.85		N/A
13-3/8	339.73	15.750	400.05	15.500	393.70
16	406.40	18.250	463.55	18.000	457.20
18-5/8	473.08	22.000	558.80	20.500	520.70
20	508.00	23.000	584.20	22.000	558.80

Model	Approximate Lengths					
	Element		Tool ¹		Tool ²	
	(ft)	(m)	(ft)	(m)	(ft)	(m)
400	4	1.22	10.2	3.10	14.2	4.32
1000	10	3.00	16.8	5.13	24.8	7.54
2000	20	6.10	26.8	8.20	34.8	10.58
4000	40	12.20	46.8	14.30	56.8	17.26

¹Bottom threads off without pup joint.

²Bottom threads off with standard pup joint.

*Most tools offer a choice of two ODs. Proper OD selection is based on application, run-in clearance, expected differential pressure requirements, and, in some cases, dogleg severity of the wellbore. For quotes and orders, the product OD must be expressed numerically.