

Bridge Plug & Cement Retainer



**PetroForge
Technology**



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Introduction – Bridge Plugs

A downhole tool that is located and set to isolate the lower part of the wellbore. Bridge plugs may be permanent or retrievable, enabling the lower wellbore to be permanently sealed from production or temporarily isolated from a treatment conducted on an upper zone.

PFT-TSWB Wireline Set Bridge Plugs

The PFT-TSWB Tough Set Wireline Bridge Plug is designed to have excellent running characteristics and secure sets. This plug can be set on different types of Wireline Pressure Setting Tools as well as with Hydraulic Setting Tool. This plug is designed for rapid drill-out while maintaining sufficient strength during the set. It is designed for high differential pressures and temperatures. Different elastomers are available per temperature range.

The short, compact, interlocked construction assures the PFT-TSWB Bridge Plug will provide faster, safer run-in, dependable set and pack-off, and hold pressure that is safe for the casing weight and grade. The interlock construction and compact size requires minimal material removal during drill out.



Features, Advantages, and Benefits

- Electric, wireline, or hydraulic set
- Drillable, cast-iron construction
- One piece break apart slips.
- Rubber extrusion resisting backups on element.
- Sets with common setting sleeves.
- Locking mechanism for ease in drilling multiple plugs

Specifications

Casing		Plug O.D.	Setting Range		Setting Tool	
O.D.	Wt. (Lbs/Ft)		Min.	Max.	Baker	Go
2 3/8	3.3 - 5.9	1.71	1.867	2.107	05	
2 3/8	3.3-5.9	1.71	1.867	2.107		1 11/16
2 7/8	6.4 - 6.5	2.10	2.280	2.563	05	
2 7/8	6.4 - 6.5	2.10	2.280	2.563		1 11/16
2 7/8	6.4 - 6.5	2.10	2.280	2.563		2 1/8
3 1/2	5.7 - 10.2	2.75	2.867	3.258	05	
3 1/2	5.7 - 10.2	2.75	2.867	3.258	10	
3 1/2	5.7 - 10.2	2.75	2.867	3.258		1 11/16
3 1/2	5.7 - 10.2	2.75	2.867	3.258		2 1/8
3 1/2	12.7	5.00	2.625	2.750	05	
3 1/2	12.7	2.500	2.625	2.750		1 11/16
4	5.6 - 14	3.12	3.340	3.732	10	2 1/8
4 1/2	9.5 - 16.6	3.50	3.826	4.090	10	3 1/2
4 1/2	9.5 - 13.5	3.71	3.920	4.560	10	3 1/2
5	11.5 - 21	3.71	3.920	4.560	10	3 1/2
5 1/2	13 - 25	4.24	4.580	5.047	20	3 1/2
5 3/4	22.5 - 25.2	4.24	4.580	5.047	20	3 1/2
6	14 - 26	4.75	5.140	5.595	20	3 1/2
6 5/8	34	4.75	5.140	5.595	20	3 1/2
6	10.5 - 12	5.34	5.595	6.366	20	3 1/2
6 5/8	17 - 34	5.34	5.595	6.366	20	3 1/2
7	23 - 40	5.34	5.595	6.366	20	3 1/2
6 5/8	17 - 22	5.61	5.989	6.655	20	3 1/2
7	17 - 35	5.61	5.989	6.655	20	3 1/2
7 5/8	20 - 39	6.09	6.625	7.263	20	3 1/2
8 5/8	24 - 49	6.96	7.511	8.248	20	3 1/2
9 5/8	29.3 - 53.5	7.71	8.435	9.063	20	3 1/2
10 3/4	54 - 81	8.71	9.250	9.784	20	3 1/2
10 3/4	32.7 - 51	9.50	9.850	11.150	20	3 1/2
11 3/4	38 - 60	9.50	9.850	11.150	20	3 1/2
13 3/8	77 - 102	11.56	11.633	12.464	20	3 1/2
13 3/8	48 - 72	12.00	12.347	12.715	20	3 1/2
16	65 - 109	14.25	14.688	15.250	20	3 1/2
18 5/8	76 - 96.5	17.25	17.655	18.730	20	3 1/2
20	133 - 169	17.25	17.655	18.730	20	3 1/2

PFT-ERWB Wireline Set Bridge Plugs

The Extra Range Bridge Plug is a specialty plug for running through restrictions and then setting securely in larger diameters below. These restrictions such as seating nipples often force tubing to be pulled before well service can take place. The Extra Range Bridge Plug eliminates this in many cases.

Should the plug need to be removed? It is recommended to use a mill. A plug of such a broad setting range requires it to be made of mild steels and a milling process would be more acceptable.

Features, Advantages, and Benefits

- Electric wireline set.
- Millable
- Sets in any grade casing including P-110
- For temporary or permanent service
- Ratcheting lock ring holds setting force
- Runs through restrictions to set in larger diameters.

Specifications

Plug O.D.	Setting Range		Setting Tool GO
	Min.	Max.	
1.406	1.610	1.995	1 1/2 Shorty
1.750	1.905	2.441	1 11/16 Multi-Stage
1.906	2.156	2.765	1 11/16 Multi-Stage
2.187	2.375	3.000	1 11/16 or 2 1/8 Multi-Stage
2.281	2.441	3.343	1 11/16 or 2 1/8 Multi-Stage
2.500	2.875	3.500	2 1/8 Multi-Stage
2.750	3.187	3.920	2 1/8 Multi-stage



Introduction – Cement Retainer

An isolation tool set in the casing or liner that enables treatments to be applied to a lower interval while providing isolation from the annulus above. Cement retainers are typically used in cement squeeze or similar remedial treatments. A specially profiled probe, known as a stinger, is attached to the bottom of the tubing string to engage in the retainer during operation. When the stinger is removed, the valve assembly isolates the wellbore below the cement retainer.

PFT-PMCR Mechanical set Cement Retainer

Cement Retainer is a high-quality tool for squeeze cementing. The sleeve valve is controlled from the surface by simply picking up to close and setting down to open. This Retainer is set on the tubing string or drill pipe using a mechanical setting tool.

The tubing may be tested before squeeze takes place. The valve is automatically closed when releasing retainer. Conversion to wireline set is easy and requires minimal parts. The retainer sustains high pressure and temperature.

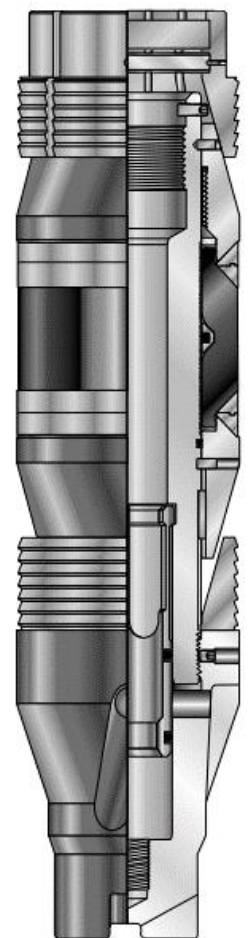
The PFT-PMCR Cement Retainer also converts to a PFT-PMBP Bridge Plug by replacing the sleeve valve with a solid plug.

Applications

- For temporary or permanent zonal Isolation.
- Well Abandonment.

Features, Advantages, and Benefits

- Electric wireline set.
- Tubing set
- Drillable
- Cast iron construction
- One-piece slips - hardened to depth of wicker only
- Sets in any grade casing including P-110
- Form-fitting metal back-ups prevent rubber extrusion
- For temporary or permanent service
- Ratcheting lock ring holds setting force



Specifications

Casing		Plug O.D.	Setting Range	
O.D.	Wt. (lbs/ft)		Min.	Max.
4 1/2	9.5 - 16.6	3.593	3.826	4.090
5	11.5 - 18	3.937	4.154	4.560
5 1/2	13 - 23	4.312	4.580	5.044
6	10.5 - 12	5.375	5.595	6.135
6 5/8	17 - 34	5.375	5.595	6.135
7	32 - 38	5.375	5.595	6.135
7	17 - 35	5.687	6.004	6.538
7 5/8	20 - 39	6.312	6.625	7.263
8 5/8	24 - 49	7.125	7.511	8.248
9 5/8	29.3 - 53.5	8.125	8.435	9.063
10 3/4	54 - 81	9.000	9.250	9.660
10 3/4	32.7 - 51	9.437	9.660	10.192
13 3/8	77 - 102	11.562	11.633	12.464
13 3/8	48 - 72	12.000	12.175	12.715

PFT-PMBP Mechanical Set Bridge Plugs

PFT-PMBP Tough Set Mechanical Bridge Plug Bridge Plug is a premium plug providing an economical means of a temporary zone isolation for treatments. This plug may be set on mechanical setting tools using the tubing string. Conversion to wireline set is possible with minimal parts change. It will sustain high pressures and temperatures.

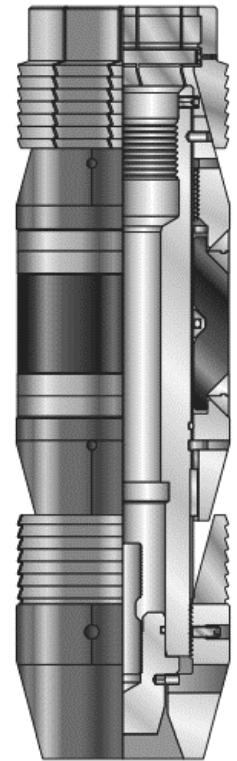
The PFT-PMBP Bridge Plug also converts to a PFT-PMCR Cement Retainer by replacing solid plug with Sleeve valve.

Applications

- For temporary or permanent zonal Isolation.
- Well Abandonment.

Features, Advantages, and Benefits

- Tubing set
- Drillable
- Cast iron construction
- One piece bottom slip - hardened to depth of wicker only
- Sets in any grade casing including P-110
- Form-fitting metal back-ups prevent rubber extrusion
- For temporary or permanent service
- Ratcheting lock ring holds setting force.



Specifications

Casing		Plug	Setting Range	
O.D.	Wt. (lbs/ft)	O.D.	Min.	Max.
4 1/2	9.5 - 16.6	3.593	3.826	4.090
5	11.5 - 18	3.937	4.154	4.560
5 1/2	13 - 23	4.312	4.580	5.044
6	10.5 - 12	5.375	5.595	6.135
6 5/8	17 - 34	5.375	5.595	6.135
7	32 - 38	5.375	5.595	6.135
7	17 - 35	5.687	6.004	6.538
7 5/8	20 - 39	6.312	6.625	7.263
8 5/8	24 - 49	7.125	7.511	8.248
9 5/8	29.3 - 53.5	8.125	8.435	9.063
10 3/4	54 - 81	9.000	9.250	9.660
10 3/4	32.7 - 51	9.437	9.660	10.192
10 3/4	32.7	9.937	10.192	10.772
11 3/4	60-70	9.937	10.192	10.772
13 3/8	77 - 102	11.562	11.633	12.464
13 3/8	48 - 72	12.000	12.175	12.715

PFT-PWCR Wireline set Cement Retainer

PFT-WCR Cement Retainer is a high-quality tool for squeeze cementing. The sleeve valve is controlled from the surface by simply picking up to close and setting down to open.

This Retainer is set on wireline pressure setting tools. This is followed with a tubing seal nipple and the tubing string can be tested before the squeeze takes place. The valve is automatically closed when nipple is removed.

Conversion to tubing set is easy and requires minimal parts. The retainer sustains high pressure and temperatures.

The PFT-PWCR Cement Retainer also converts to a PFT-PWBP Bridge Plug by replacing the sleeve valve with a solid plug.

Applications

- For temporary or permanent zonal Isolation.
- Well Abandonment.

Features, Advantages, and Benefits

- Electric wireline set.
- Drillable
- Cast iron construction
- One-piece slips – hardened to depth of wicker only
- Sets in any grade casing including P-110
- Form-fitting metal back-ups prevent rubber extrusion
- For temporary or permanent service
- Ratcheting lock ring holds setting force

Specifications

Casing		Plug	Setting Range	
O.D.	Wt. (lbs/ft)	O.D.	Min.	Max.
2 3/8	4.6-5.95	1.750	1.867	1.995
2 7/8	6.4-6.5	2.187	2.341	2.441
3 1/2	12.7	2.500	2.625	2.750
3 1/2	9.2-9.3	2.750	2.875	2.992
4	9.5-11	3.125	3.476	3.548
4 1/2	9.5 - 16.6	3.593	3.826	4.090
5	11.5 - 18	3.937	4.154	4.560
5 1/2	13 - 23	4.312	4.580	5.044
6	10.5 - 12	5.375	5.595	6.135
6 5/8	17 - 34	5.375	5.595	6.135
7	32 - 38	5.375	5.595	6.135
7	17 - 35	5.687	6.004	6.538
7 5/8	20 - 39	6.312	6.625	7.263
8 5/8	24 - 49	7.125	7.511	8.248
9 5/8	29.3 - 53.5	8.125	8.435	9.063
10 3/4	54 - 81	9.000	9.250	9.660
10 3/4	32.7 - 51	9.437	9.660	10.192
10 3/4	32.7	9.937	10.192	10.772
11 3/4	60-70	9.937	10.192	10.772
13 3/8	77-102	11.562	11.633	12.464
13 3/8	48 - 72	12.000	12.175	12.715

PFT-PWBP Wireline Set Bridge Plugs

PFT-PWBP Bridge Plug is a premium plug providing an economical means of a temporary zone isolation for treatments. This plug may be set on wireline pressure setting tools. Conversion to tubing set is possible with minimal parts change. It will sustain high pressures and temperatures. The PFT-PWBP Bridge plug also converts to a PFT-PWCR Cement Retainer by replacing solid plug with Sleeve valve

Applications

- For temporary or permanent zonal Isolation.
- Well Abandonment.

Features, Advantages, and Benefits

- Electric wireline set.
- Drillable
- Cast iron construction
- One-piece slips - hardened to depth of wicker only
- Sets in any grade casing including P-110
- Form-fitting metal back-ups prevent rubber extrusion
- For temporary or permanent service
- Ratcheting lock ring holds setting force
- Small O.D.'s for speed and safety when running

Specifications

		Plug	Setting Range		Setting Tool
O.D.	Wt. (lbs/ft)	O.D.	Min.	Max.	Baker
4 1/2	9.5 - 16.6	3.593	3.826	4.090	10
5	11.5 - 18	3.937	4.154	4.560	20
5 1/2	13 - 23	4.312	4.580	5.044	20
6	10.5 - 12	5.375	5.595	6.135	20
6 5/8	17 - 34	5.375	5.595	6.135	20
7	32 - 38	5.375	5.595	6.135	20
7	17 - 35	5.687	6.004	6.538	20
7 5/8	20 - 39	6.312	6.625	7.263	20
8 5/8	24 - 49	7.125	7.511	8.248	20
9 5/8	29.3 - 53.5	8.125	8.435	9.063	20
10 3/4	54 - 81	9.000	9.250	9.660	20
10 3/4	32.7 - 51	9.437	9.660	10.192	20
10 3/4	32.7	9.937	10.192	10.772	20
11 3/4	60-70	9.937	10.192	10.772	20
13 3/8	77 - 102	11.562	11.633	12.464	20
13 3/8	48 - 72	12.000	12.175	12.715	20

PFT-HMBP Hydro-Mechanical Bridge Plug

PFT-HMBP hydro-mechanical bridge plug is a drillable, high-pressure plug run on tubing or drillpipe to isolate the lower part of a wellbore. Hydraulic pressure and tubing tension set the plug.

A built-in hydraulic setting tool in the top of the plug sets the top slips. Tubing tension combined with the pressure is applied to complete the setting. Then the tool automatically shears off for retrieval from the well. Alternatively, right rotation can release the tubing.

Applications

- Deviated and horizontal wells
- Temporary and permanent plugging

Features, Advantages, and Benefits

- The compact design enables use in deviated wells.
- The full-circle slips provide a large contact area to minimize casing damage.
- The shear or rotational release provides options for releasing the plug after deployment.
- Construction with drillable materials enables the plug to be milled or drilled out to save the time and expense of retrieval.

Specifications

OD (in./mm)	Casing			Plug Maximum OD (in./mm)
	Weight (lb/ft, kg/m)	ID (in./mm)		
		Minimum	Maximum	
4-1/2 114.3	9.5 to 15.1 14.1 to 22.5	3.826 97.18	4.090 103.89	3.593 91.26
5-1/2 139.7	13.0 to 23.0 19.3 to 34.2	4.670 118.62	5.044 128.12	4.312 109.52
7 177.8	17.0 to 38.0 25.3 to 56.6	5.920 150.37	6.538 166.07	5.688 144.49
7-5/8 193.7	20.0 to 39.0 29.8 to 58.0	6.625 168.28	7.125 180.98	6.312 160.32
9-5/8 244.5	29.3 to 61.1 43.6 to 90.9	8.375 212.73	9.063 230.20	8.125 206.38
10-3/4 273.1	32.8 to 60.7 48.8 to 90.3	9.660 245.36	10.192 258.88	9.437 239.70
13-3/8 339.7	48.0 to 72.0 71.4 to 107.1	12.347 313.61	12.715 322.96	12.000 304.80
20 508.0	94.0 to 175.0 139.9 to 260.4	18.314 465.18	19.124 485.75	18.000 457.20

