

Well Construction

Downhole Service Tools

IRON-GATE™ Cast Iron Cement Retainer & Bridge Plug

The Expro IRON-GATE™ Cast Iron Cement Retainer & Bridge Plug uses a revolutionary adaptation of cast iron material designed to eliminate the difficulties commonly associated with remedial cementing and qualified short to long-term barrier systems including long drill out times.

The IRON-GATE™ is API 11D1/ISO 14310 V3 qualified and provides reliable downhole integrity, facilitates efficient remedial cement placement, and eliminates the need for additional equipment by utilizing our MULTI-Setting Tool and MULTI-Wireline Adaptor Kit (M-WLAK).

Features and benefits

- Innovative slip retention device eliminates the risk of partial setting and losing slips downhole to provide a more debris tolerant product that eliminates additional trips in the wellbore and costly drill-out operations
- MULTI-Setting Tool and M-WLAK are field convertible and compatible with the IRON-GATE™ and BIG EASY® Composite Cement Retainer for a cost-effective inventory and space management solution
- Large bore tool design provides more efficient pump times by increasing the flow area by over 60%
- Reliable sliding valve design increases seal integrity by reducing the risk of valve erosion
- Enhanced elastomer element design prevents costly and time-consuming remedial operations by increasing pressure capabilities up to 6,000 psi
- Field convertible to a top-venting bridge plug that can be conveyed via wireline, drill pipe, tubing, or coiled tubing with mechanical and hydraulic options available
- Body-lock ring eliminates timely complex operations of closing the blow out preventer or hydril by locking the mandrel in position when opening the sliding valve without requiring annulus pressure
- Top ring rotational lock design allows for faster drill out by preventing the top ring from spinning freely
- Convertible to a hydro-mechanical bridge plug for single-trip negative testing, single-trip permanent and temporary abandonment, and cementing operations



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Cast Iron Cement Retainer & Bridge Plug

Specifications						
Casing size (in.)	Weight (lbs/ft)	Casing I.D. range	O.D. (in.)	Max. temperature (°F)	Max. pressure (psi)	Setting tool options
4-1/2	9.5 - 16.6	3.826 - 4.090	3.500 / 3.593	325	10,000	
5	11.5 - 18	4.154 - 4.560	3.710 / 3.937	325	10,000	
5-1/2"	13 - 23	4.580 - 5.047	4.240 / 4.312	325	10,000	
6	14 - 26	5.140 - 5.595	4.750	325	10,000	
6-5/8	14	5.140 - 5.595	4.750	325	10,000	
6	10.5 - 12	5.595 - 6.366	5.340 - 5.375	325	10,000	
6-5/8	17 - 34	5.595 - 6.366	5.340 - 5.375	325	10,000	
7	32 - 38	5.595 - 6.366	5.340 - 5.375	325	10,000	
7	17 - 35	5.989 - 6.655	5.610 / 5.687	325	10,000	WL Setting Tool Standard and Heavy Wall
7-5/8	20 - 39	6.560 - 7.263	6.090 / 6.312	325	10,000	
8-5/8	24 - 49	7.511 - 8.248	6.960 / 7.125	300	8,000	Hydraulic Setting Tool Hydro-Mechanical, Fury 5-20, and Full Hydraulic Options
9-5/8	Multi-weights	7.875 - 8.968	7.680	250	8,500	
9-5/8	29.3 - 53.5	8.435 - 9.063	7.710 / 8.125	300	8,000	
10-3/4	85.3	8.979 - 9.342	8.690	300	8,000	
10-3/4	54 - 81	9.250 - 9.784	8.710 / 9.000	300	5,000	Mechanical Setting Tool Drag Spring and Drag Block Styles
10-3/4	32.75 - 60.7	9.660 - 10.192	9.437	300	5,000	
11-3/4	38 - 60	9.850 - 11.150	9.500	300	5,000	
11-3/4	60 - 70	10.192 - 10.772	9.937	300	5,000	
13-3/8	77 - 102	11.633 - 12.464	11.562	300	5,000	
13-3/8	48 - 72	12.175 - 12.715	12.000	300	5,000	
16	65 - 118	14.438 - 15.250	14.250	200	2,000	
18-5/8	76 - 96.5	17.655 - 18.750	17.250	200	2,000	
20	133 - 169	17.655 - 18.750	17.250	200	2,000	
20	94 - 133	18.730 - 19.124	18.250 / 18.375	200	2,000	

Operational temperature range can be adjusted based on elastomeric material compound.

Poppet Valve and Ball Check Cement Retainers

Specifications						
Casing size (in.)	Weight (lbs/ft)	Casing I.D. range	O.D. (in.)	Max. temperature (°F)	Max. pressure (psi)	Setting tool options
2-3/8	4.0 - 5.8	1.780 - 2.074	1.750	300	7,500	Baker #5 & 1-11/16 - 1.75 L/S
2-7/8	6.4 - 6.5	2.340 - 2.525	2.220	300	7,500	Baker #5 & 1-11/16 - 1.75 L/S
3-1/2	5.75 - 10.3	2.867 - 3.258	2.750	300	7,500	Baker #10 & 2-1/8 Multi-Stage
4	5-6 - 14.0	3.340 - 3.732	3.140	300	7,500	Baker #10 & 2-1/8 Multi-Stage

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IRON-GATE™ Cast Iron Cement Retainer & Bridge Plug

Large-Bore Hydro-Mechanical Cast Iron Bridge Plug

Specifications						
Casing size (in.)	Weight (lbs/ft)	Casing I.D. range	O.D. (in.)	Max. temperature (°F)	Max. pressure (psi)	Setting tool options
4-1/2	9.5 - 16.6	3.826 - 4.090	3.500	325	10,000	
4-1/2	9.5 - 16.6	3.826 - 4.090	3.593	325	10,000	
4-1/2	9.5 - 13.5	3.920 - 4.560	3.710	325	10,000	
5	11.5 - 21	3.920 - 4.560	3.710	325	10,000	
5	11.5 - 21	4.154 - 4.560	3.937	325	10,000	
5-1/2	13 - 25	4.580 - 5.047	4.240	325	10,000	
5-1/2	13 - 25	4.580 - 5.047	4.312	325	10,000	
6	14 - 26	5.140 - 5.595	4.750	325	10,000	
6-5/8	14	5.140 - 5.595	4.750	325	10,000	
6 - 6-5/8	10.5 - 12	5.595 - 6.366	5.340	325	10,000	
7	32 - 38	5.595 - 6.135	5.375	325	10,000	
7	17 - 35	5.989 - 6.655	5.610	325	10,000	
7	17 - 35	6.004 - 6.560	5.687	325	10,000	
7-5/8	20 - 39	6.560 - 7.263	6.090	325	10,000	
7-5/8	20 - 39	6.560 - 7.263	6.312	325	10,000	
8-5/8	24 - 49	7.511 - 8.248	6.090	300	8,000	No Setting Tool Required Hydraulic Head Included w/ Assembly *Ball-Activated (1.25" - 2.50")*
8-5/8	24 - 49	7.511 - 8.248	6.312	300	8,000	
9-5/8	29.3 - 53.5	8.435 - 9.063	7.710	300	8,000	
9-5/8	29.3 - 53.5	8.435 - 9.063	8.125	300	8,000	
10-3/4	85.3	8.979 - 9.342	8.690	300	8,000	
10-3/4	54 - 81	9.250 - 9.784	8.710	300	5,000	
10-3/4	54 - 81	9.250 - 9.660	9.000	300	5,000	
10-3/4	32.75 - 60.7	6.660 - 10.192	9.437	300	5,000	
11-3/4	38 - 60	9.850 - 11.190	9.500	300	5,000	
11-3/4	38 - 60	9.850 - 11.150	9.500	300	5,000	
11-3/4	60 - 70	10.192 - 10.772	9.937	300	5,000	
13-3/8	77 - 102	11.633 - 12.464	11.562	300	5,000	
13-3/8	48 - 72	12.175 - 12.715	12.000	300	5,000	
16	65 - 118	14.438 - 15.250	14.250	200	2,000	
18-5/8	76 - 96.5	17.655 - 18.750	17.250	200	2,000	
20	133 - 169	17.655 - 18.750	17.250	200	2,000	
20 - 22	Multi-weights	18.750 - 20.250	18.000	150	1,500	

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IRON-GATE™ Cast Iron Cement Retainer & Bridge Plug

Standard Case Iron Bridge Plug

Specifications							
Casing size (in.)	Weight (lbs/ft)	Casing I.D. range	O.D. (in.)	Max. temperature (°F)	Max. pressure (psi)	Setting tool options	
2-3/8	3.3 - 5.9	1.867 - 2.107	1.710	325	10,000	Baker 5	GO: 1 11/16 - 1.75 L/S
2-7/8	6.4 - 7.9	2.280 - 2.563	2.100	325	10,000	Baker 5	GO: 1 11/16 - 1.75 L/S
3-1/2	12.7 - 12.95	2.625 - 2.750	2.500	325	10,000	Baker 5	GO: 1 11/16 - 1.75 L/S
3-1/2	5.7 - 10.2	2.867 - 3.258	2.750	325	10,000	Baker 5 / 10	GO: 1 11/16 - 1.75 L/S or 2-1/8 Multi-Stage
4	5.6 - 14	3.340 - 3.732	3.120	325	10,000	Baker 10	GO: 2 1/8 Multi-Stage
4-1/2	9.5 - 16.6	3.826 - 4.090	3.500	325	10,000	Baker 10	GO: 3-1/2
4-1/2	9.5 - 13.5	3.920 - 4.560	3.710	325	10,000	Baker 10	GO: 3-1/2
5	11.5 - 21	3.920 - 4.560	3.710	325	10,000	Baker 10	GO: 3-1/2
5-1/2	13 - 25	4.580 - 5.047	4.240	325	10,000	Baker 20	GO: 3-1/2
5-3/4	22.5 - 25.2	4.580 - 5.047	4.240	325	10,000	Baker 20	GO: 3-1/2
6	14 - 26	5.140 - 5.595	4.750	325	10,000	Baker 20	GO: 3-1/2
6-5/8	34	5.140 - 5.595	4.750	325	10,000	Baker 20	GO: 3-1/2
6	10.5 - 12	5.595 - 6.366	5.340	325	10,000	Baker 20	GO: 3-1/2
6-5/8	17 - 34	5.595 - 6.366	5.340	325	10,000	Baker 20	GO: 3-1/2
7	23 - 40	5.595 - 6.366	5.340	325	10,000	Baker 20	GO: 3-1/2
6-5/8	17 - 22	5.989 - 6.655	5.340	325	8,000	Baker 20	GO: 3-1/2
7	17 - 35	5.989 - 6.655	5.340	325	8,000	Baker 20	GO: 3-1/2
7-5/8	20 - 39	6.625 - 7.263	6.090	325	8,000	Baker 20	GO: 3-1/2
8-5/8	24 - 49	7.511 - 8.248	6.960	325	8,000	Baker 20	GO: 3-1/2
9-5/8	29.3 - 53.5	8.435 - 9.063	7.710	300	8,000	Baker 20	GO: 3-1/2
10-3/4	54 - 81	9.250 - 9.784	8.710	300	5,000	Baker 20	GO: 3-1/2
10-3/4	32.7 - 51	9.850 - 11.150	9.500	300	5,000	Baker 20	GO: 3-1/2
11-3/4	38 - 60	9.850 - 11.150	9.500	300	5,000	Baker 20	GO: 3-1/2
13-3/8	77 - 102	11.633 - 12.454	11.560	300	5,000	Baker 20	GO: 3-1/2
13-3/8	48 - 72	12.347 - 12.715	12.000	300	5,000	Baker 20	GO: 3-1/2
16	65 - 109	14.688 - 15.250	14.250	300	5,000	Baker 20	GO: 3-1/2
18-5/8	76 - 96.5	17.655 - 18.750	17.250	200	5,000	Baker 20	GO: 3-1/2
20	133 - 169	17.655 - 18.750	17.250	200	5,000	Baker 20	GO: 3-1/2

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IRON-GATE™ Cast Iron Cement Retainer & Bridge Plug

Full-Hydraulic Cement Retainer & Bridge Plug

Specifications						
Casing size (in.)	Weight (lbs/ft)	Casing I.D. range	O.D. (in.)	Max. temperature (°F)	Max. pressure (psi)	Setting tool options
2-3/8	4.6 - 4.7	1.937 - 2.041	1.75	325	3,500	
2-7/8	6.4 - 6.5	2.375 - 2.500	2.187	325	5,000	
3-1/2	9.2 - 9.3	2.992 - 3.068	2.75	325	5,000	
7	17 - 35	6.004 - 6.538	5.687	325	10,000	
7-5/8	20 - 39	6.625 - 7.263	6.312	325	10,000	Full-Hydraulic Setting tool
9-5/8	29.3 - 53.5	8.435 - 9.063	8.125	300	8,000	
10-3/4	32.7 - 51	9.850 - 11.150	9.50	300	5,000	
11-3/4	38 - 60	9.850 - 11.150	9.50	300	5,000	
13-3/8	48 - 72	12.347 - 12.715	12.00	300	3,000	
16	65 - 109	14.688 -15.250	14.25	300	2,000	

Operational temperature range can be adjusted based on elastomeric material compound.