

Polon® PTFE Piston Rings for Demanding Sealing Applications

Polon® PTFE Piston Ring Features:

- Lubrication not required
- Stick/slip breakaway problems eliminated
- Piston design simplified
- Easy installation and removal
- Bi-directional sealing
- Prevents cylinder wall scoring
- Damage from cast iron or phenolic piston ring particles is eliminated
- Temperature range: -30°F to +250°F with standard nitrile expanders (PTFE is serviceable to 500°F)
- Pressures to 3000 psi
- Interference fit assures positive sealing
- Conforms to out-of-round bore condition
- Can be cut in field for easier installation
- 45° bevel cut preferred
- Butt, bevel or step-cut joints available (at additional cost)

Material Selection

Standard Parker Piston Ring materials are:

- 15% Fiberglass filled virgin Polon® PTFE
- 60% Bronze filled virgin Polon® PTFE.

Several other Polon® PTFE materials are available. Consult Valley Seal Applications Engineers for more information and for tooling availability and pricing data.

Expander Materials Available

The Standard material for Valley Seal Piston Ring expanders (whether Lathe-Cut type for Series R5100 or O-Ring type for Series S5000) is **70 durometer Nitrile, N674-70**. Other Parker elastomer compounds are available to meet varying chemical compatibility, compression set or operating temperature requirements. Contact Valley Seal Application Engineers for information on compound selection and availability.

Optional split piston rings available as shown:

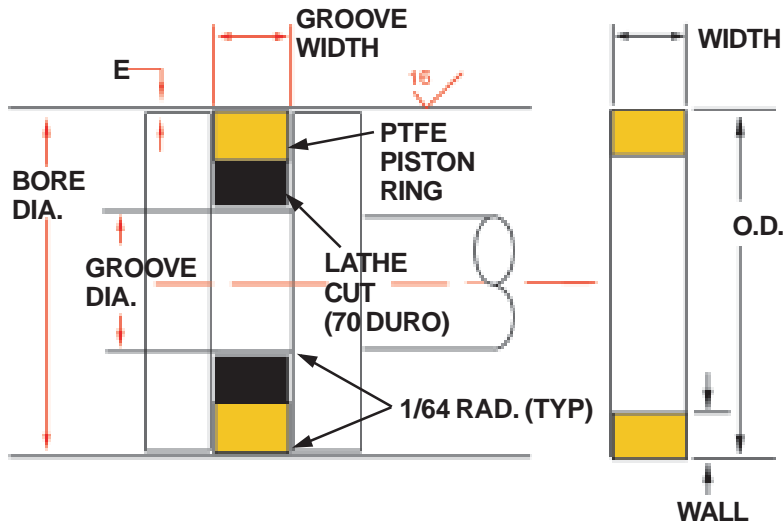


Standard Polon® PTFE Piston Ring Materials

Parker Compound Number	P701	P808	ASTM Test Method
Filler Content (Color)	60% Bronze (brown)	15% Fiberglass (gold)	N/A
Tensile Strength (psi)	1800	2200	D1708
Elongation (%)	90	225	D1708
Specific Gravity	3.85	2.19	D792
Hardness (Shore D)	63	55	D785

Tolerance Information

Parker piston rings shown in this bulletin are molded to the dimensions shown on the reverse side of this bulletin. If closer width tolerances are required, molded piston rings can be machined to $\pm .005$ " width tolerance at extra cost.



Bore Tolerance	
1.000" - 2.750"	+ .002 - .000
3.000" - 5.000"	+ .004 - .000
5.250" - and up	+ .006 - .000
E = Radial Clearance	
To 1500 psi	3500 psi
.008/ .012	.005/ .008
	5000 psi
	.004/ .005

Groove Details					Ring Dimensions				
Parker P/N	Bore Dia	Groove Dimensions			Ring Dimensions			Expander Lathe-Cut	
		Width	Tol	Dia	Tol	O.D.	Wall		Width
R-5100-16	1.000	.129	± .002	.691	± .002	1.030/ 1.036	.067/ .073	.105/ .121	-115
R-5100-20	1.250	.129	± .002	.941	± .002	1.280/ 1.287	.067/ .073	.105/ .121	-119
R-5100-24	1.500	.129	± .002	1.191	± .002	1.530/ 1.539	.067/ .073	.105/ .121	-123
R-5100-28	1.750	.129	± .002	1.441	± .002	1.780/ 1.790	.067/ .073	.105/ .121	-127
R-5100-32	2.000	.129	± .002	1.691	± .002	2.030/ 2.042	.067/ .073	.105/ .121	-131
R-5100-36	2.250	.129	± .002	1.941	± .002	2.280/ 2.293	.067/ .073	.105/ .121	-135
R-5100-40	2.500	.129	± .002	2.191	± .002	2.530/ 2.545	.067/ .073	.105/ .121	-139
R-5100-44	2.750	.129	± .002	2.441	± .002	2.780/ 2.796	.067/ .073	.105/ .121	-143
R-5100-48	3.000	.283	± .003	2.462	± .003	3.030/ 3.048	.087/ .093	.250/ .274	-333
R-5100-52	3.250	.283	± .003	1.712	± .003	3.280/ 3.299	.087/ .093	.250/ .274	-335
R-5100-56	3.500	.283	± .003	2.962	± .003	3.530/ 3.551	.087/ .093	.250/ .274	-337
R-5100-60	3.750	.283	± .003	3.212	± .003	3.780/ 3.802	.087/ .093	.250/ .274	-339
R-5100-64	4.000	.283	± .003	3.462	± .003	4.030/ 4.054	.087/ .093	.250/ .274	-341
R-5100-68	4.250	.283	± .003	3.712	± .003	4.280/ 4.305	.087/ .093	.250/ .274	-343
R-5100-72	4.500	.283	± .003	3.962	± .003	4.530/ 4.557	.087/ .093	.250/ .274	-345
R-5100-76	4.750	.283	± .003	4.212	± .003	4.780/ 4.809	.087/ .093	.250/ .274	-347
R-5100-80	5.000	.283	± .003	4.462	± .003	5.030/ 5.060	.087/ .093	.250/ .274	-349
R-5100-84	5.250	.378	± .004	4.504	± .004	5.280/ 5.311	.136/ .147	.337/ .367	-425
R-5100-88	5.500	.378	± .004	4.754	± .004	5.530/ 5.563	.136/ .147	.337/ .367	-427
R-5100-92	5.750	.378	± .004	5.004	± .004	5.780/ 5.814	.136/ .147	.337/ .367	-429
R-5100-96	6.000	.378	± .004	5.254	± .004	6.030/ 6.066	.136/ .147	.337/ .367	-431
R-5100-104	6.500	.378	± .004	5.754	± .004	6.530/ 6.569	.136/ .147	.337/ .367	-435
R-5100-112	7.000	.378	± .004	6.254	± .004	7.030/ 7.073	.136/ .147	.337/ .367	-438
R-5100-120	7.500	.378	± .004	6.754	± .004	7.530/ 7.575	.136/ .147	.337/ .367	-440
R-5100-128	8.000	.378	± .004	7.254	± .004	8.030/ 8.078	.136/ .147	.337/ .367	-442
R-5100-136	8.500	.378	± .004	7.754	± .004	8.530/ 8.581	.136/ .147	.337/ .367	-444
R-5100-144	9.000	.378	± .004	8.137	± .004	9.030/ 9.084	.195/ .210	.337/ .367	-445
R-5100-152	9.500	.378	± .004	8.637	± .004	9.530/ 9.587	.195/ .210	.337/ .367	-446
R-5100-160	10.000	.378	± .004	9.137	± .004	10.030/ 10.090	.195/ .210	.337/ .367	-447