

Resilon™ High-Performance O-Rings

No. 5204B1-USA

Parker's state-of-the-art Resilon™ family of high-performance polyurethanes is now available in an O-ring profile

Dynamic Applications

In any dynamic O-ring seal application where pressure and seal life are important factors, Resilon™ high-performance urethanes are recommended. Resilon formulations are engineered for specific use in heavy-duty hydraulic and pneumatic cylinders. Resilon should be considered where elevated service temperature capability, superior resistance to extrusion under high pressure, wear and abrasion resistance, low compression set and extend seal life are required. Resilon is available in high temperature, hydrolysis resistant, lower durometer, higher modulus, and improved friction formulations.

Static Applications

Resilon O-rings are recommended for use in any environment where the need for a high-temperature, extrusion and wear-resistant, low compression set static seal is required and where polyurethane is compatible with the sealed media and service environment.

Features

- Service temperature of -65° F to 275° F
- 8000 psi tensile strength
- Abrasion resistant
- Bayshore resilience of 60%
- Low compression set

Reduced Compression Set Benefits

Not only does Resilon have the strength and abrasion resistance typical of all polyurethane elastomers, it also has the high resilience and low compression set characteristics of a nitrile polymer (See table). In certain situations, the presence of high pressure on an elastomer O-ring can jeopardize its ability to seal. Low pressure can be a problem as well. If the system pressure is below 100 psi, it is classified as low pressure. If system pressure is not great enough to "activate" the seal, the design must rely solely on the resilience of the elastomer to return to its original, pre-compressed state (while still under compression). Over time, however, typical o-ring elastomers lose their ability to rebound from compression forces — resulting in possible seal failure. Resilon's low compression set feature means less likelihood of seal failure.



Temperature Considerations

When choosing a seal material it is important to consider both system temperature and the temperature range in the immediate O-ring environment (seal interface). You must also consider the duration of exposure to any high temperature, whether it involves short bursts or long, sustained exposure. In this area Resilon™ HT (4300) performs exceptionally well. With a temperature range of -65° F to 275° F, Resilon™ formulations are suitable for some of the most demanding O-ring applications.

Chemical Compatibility

A major factor in O-ring material selection is the material's ability to resist degradation when exposed to certain chemicals. Therefore, an important step in material selection is to match your application's anticipated media with the material that provides the greatest resistance. Resilon™ HT (4300) is compatible with most petroleum base fluids, acetic and alkaline solutions under 10% concentration, salts, aliphatic alcohol, hydrocarbons and mixtures containing less than 80% aromatics, oxygen, and ozone. Resilon™ WR (4301) is hydrolysis resistant.

Resilon™ HT (4300)

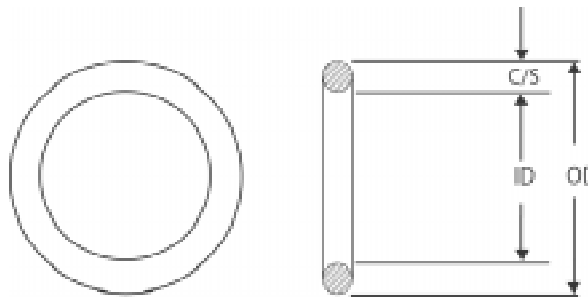
Typical Physical Properties	
Specific Gravity	1.20
Hardness	93
Bayshore Resilience	62%
Ultimate Tensile Strength	8000 psi
100% Modulus (psi)	1800
300% Modulus (psi)	2700
Elongation @ Break	600%
Compression set	
70 hrs @ 158° F	18%
70 hrs @ 212° F	32%
Operating Temp. Range	-65° F to 275° F

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## Available Sizes\*

Sizes designated with an asterisk (\*) are tooled for Resilon™ HT (4300) compound and may be compatible for use with Resilon™ WR (4301) and Resilon™ RE (4311). Consult factory for details.

Additional sizes may be available. Contact the division at (801) 972-3000 for the most recent availability list.



Avail	Part Number	ID	OD	C/S	Avail	Part Number	ID	OD	C/S
*	43005682-006	1/8	1/4	1/16	*	43005682-124	1 1/4	1 7/16	3/32
*	43005682-007	5/32	9/32	1/16	*	43005682-125	1 5/16	1 1/2	3/32
*	43005682-008	3/16	5/16	1/16	*	43005682-126	1 3/8	1 9/16	3/32
*	43005682-009	7/32	11/32	1/16	*	43005682-127	1 7/16	1 5/8	3/32
*	43005682-010	1/4	3/8	1/16	*	43005682-128	1 1/2	1 11/16	3/32
*	43005682-011	5/16	7/16	1/16	*	43005682-129	1 9/16	1 3/4	3/32
*	43005682-012	3/8	1/2	1/16	*	43005682-130	1 5/8	1 13/16	3/32
*	43005682-013	7/16	9/16	1/16	*	43005682-131	1 11/16	1 7/8	3/32
*	43005682-014	1/2	5/8	1/16	*	43005682-132	1 3/4	1 15/16	3/32
*	43005682-015	9/16	11/16	1/16	*	43005682-133	1 13/16	2	3/32
*	43005682-016	5/8	3/4	1/16	*	43005682-134	1 7/8	2 1/16	3/32
*	43005682-017	11/16	13/16	1/16	*	43005682-135	1 15/16	2 1/8	3/32
*	43005682-018	3/4	7/8	1/16	*	43005682-136	2	2 3/16	3/32
*	43005682-019	13/16	15/16	1/16	*	43005682-210	3/4	1	1/8
*	43005682-020	7/8	1	1/16	*	43005682-211	13/16	1 1/16	1/8
*	43005682-021	15/16	1 1/16	1/16	*	43005682-212	7/8	1 1/8	1/8
*	43005682-022	1	1/8	1/16	*	43005682-213	15/16	1 3/16	1/8
*	43005682-023	1 1/16	1 3/16	1/16	*	43005682-214	1	1 1/4	1/8
*	43005682-024	1 1/8	1 1/4	1/16	*	43005682-215	1 1/16	1 5/16	1/8
*	43005682-025	1 3/16	1 5/16	1/16	*	43005682-216	1 1/8	1 3/8	1/8
*	43005682-026	1 1/4	1 3/8	1/16	*	43005682-217	1 3/16	1 7/16	1/8
*	43005682-027	1 5/16	1 7/16	1/16	*	43005682-218	1 1/4	1 1/2	1/8
*	43005682-028	1 3/8	1 1/2	1/16	*	43005682-219	1 5/16	1 9/16	1/8
*	43005682-029	1 1/2	1 5/8	1/16	*	43005682-220	1 3/8	1 5/8	1/8
*	43005682-030	1 5/8	1 3/4	1/16	*	43005682-221	1 7/16	1 11/16	1/8
*	43005682-109	5/16	1/2	3/32	*	43005682-222	1 1/2	1 3/4	1/8
*	43005682-110	3/8	9/16	3/32	*	43005682-223	1 5/8	1 7/8	1/8
*	43005682-111	7/16	5/8	3/32	*	43005682-224	1 3/4	2	1/8
*	43005682-112	1/2	11/16	3/32	*	43005682-225	1 7/8	2 1/8	1/8
*	43005682-113	9/16	3/4	3/32	*	43005682-226	2	2 1/4	1/8
*	43005682-114	5/8	13/16	3/32	*	43005682-227	2 1/16	2 3/8	1/8
*	43005682-115	11/16	7/8	3/32	*	43005682-228	2 1/4	2 1/2	1/8
*	43005682-116	3/4	15/16	3/32	*	43005682-229	2 3/8	2 5/8	1/8
*	43005682-117	13/16	1	3/32	*	43005682-230	2 1/2	2 3/4	1/8
*	43005682-118	7/8	1 1/16	3/32	*	43005682-231	2 5/8	2 7/8	1/8
*	43005682-119	15/16	1 1/8	3/32	*	43005682-232	2 3/4	3	1/8
*	43005682-120	1	1 3/16	3/32	*	43005682-233	2 7/8	3 1/8	1/8
*	43005682-121	1 1/16	1 1/4	3/32	*	43005682-234	3	3 1/4	1/8
*	43005682-122	1 1/8	1 5/16	3/32	*	43005682-235	3 1/8	3 3/8	1/8
*	43005682-123	1 3/16	1 3/8	3/32	*	43005682-236	3 1/4	3 1/2	1/8

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