

# Drop-in-place seals

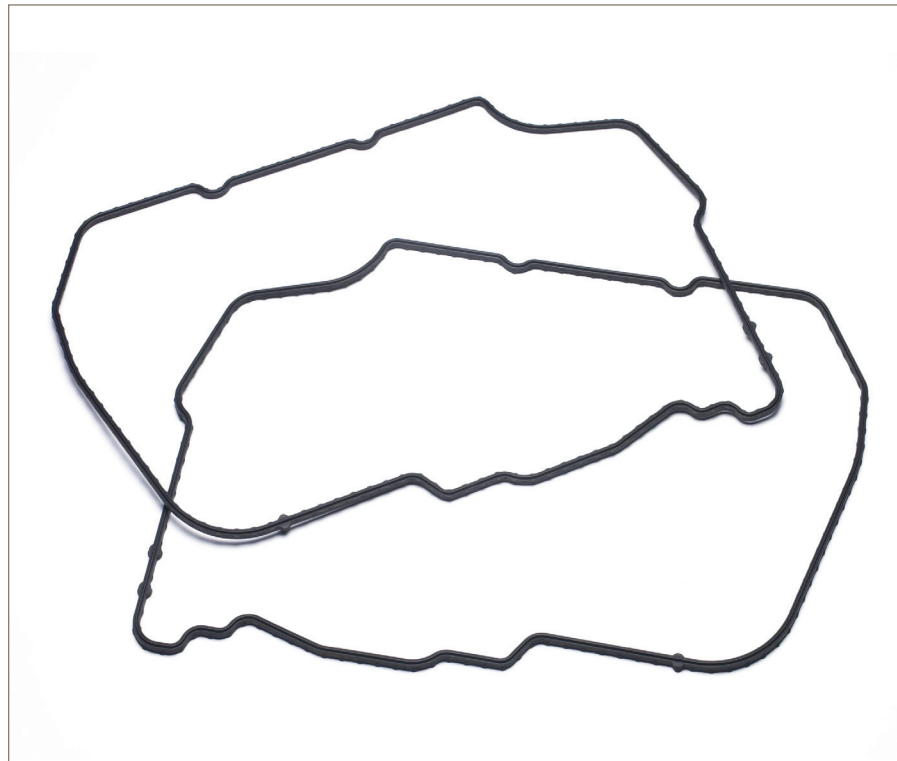
Easy installation and time saving assembly



## Seal retention in straight-wall or dove-tail grooves

Each drop-in-place seal is designed with the application in mind, taking into consideration the material and manufacturing process of the mating surfaces to determine the most efficient design.

The drop-in-place design utilizes a rubber encapsulated plastic or metal backbone, lined with retention and stabilizer ribs. This design holds simple or complex seal shapes, easing installation and providing automation possibilities. Small contact points require less flange loading, providing maximum sealing under minimal pressure for non-ideal surfaces.



## Contact Information:

Parker Hannifin Corporation  
**Integrated Sealing Systems Division**  
3700 Mayflower Drive  
Lynchburg, VA 24501

phone 434 846 6541  
fax 434 847 2725

[www.parkerseals.com](http://www.parkerseals.com)



## Product Features:

- Injection molded controlled compression elastomer seal
- Custom shapes, sizes and cross sections to meet application requirements
- Plastic spines to assist with assembly
- Integrated metal deflectors, screens or wire connections available

## Benefits:

- Cost effective
- Easy installation
- Can be shipped as part of an assembly
- Long life in aggressive environments

ENGINEERING YOUR SUCCESS.

## Drop-in-Place Seal Materials

Polymer Material Selection and Compatibility Chart					
	Polyacrylate (ACM)	Ethylene Acrylic (AEM)	Hydrogenated Nitrile (HNBR)	Silicone (VMQ)	Fluorocarbon (FKM)
<b>Compatible Fluids</b>	ATF Petroleum Oils	ATF Petroleum Oils	Petroleum Fluids Water/Steam to 300°F Ethylene Glycol	High Temperature Dry Heat Low Temperature High Aniline Point Oils	Petroleum Fluids Aromatic Hydrocarbons Fuel
<b>Non-Compatible Fluids</b>	Steam Brake Fluids Acids	Fuels Brake Fluids	Phosphate Esters Brake Fluids Strong Acids MeOH/EtOH Blends	Water/Steam > 250°F Acids and Alkalis Hydrocarbon Duels Aromatic Hydrocarbons	Brake Fluids Low Molecular Weight Acids, Amines Steam

Physical Properties of Drop-in-Place Elastomers						
Material		AA451-70	AE163-75 (0708)	KB161-70 (21377)	SW475-70	VW452-70 (6731)
Polymer Type		ACM	AEM	HNBR	VMQ	FKM
Temperature Range		-40 to 160°C	-40 to 150°C	-40 to 150°C	-60 to 200°C	-30 to 200°C
Original Properties	Method					
Specific Gravity, g/cc	D297	1.29	1.28	1.19	1.57	1.98
Hardness, Shore "A" pts.	D2240	67	73	72	66	72
Tensile, MPa	D412	8.9	13.5	24.8	7.8	10.7
Elongation, %	D412	209	222	196	175	192
100% Modulus, MPa	D412	3.1	7.6	8.5	4.2	6.2
Tear Strength (Die C), kN/m	D624	26.0	45.1	33.8	13.0	31.7
Compression Set - 70 hrs @ 150°C (Plied Disc)						
% Deflection	D395 Method B	21.3	24.0	15.1	22.0	14.4
ASTM #1 Oil - 70 hrs @150°C						
Hardness Change, pts.	D471	+5	-1	+1	-3	-1
Tensile Change, %	D471	-4.4	+8.9	-8.6	-15.7	+15.0
Elongation Change, %	D471	-3.2	-5.2	-11.2	-16.4	+13.4
Volume Change, %	D471	-3.5	-1.6	-1.4	+2.8	+1.2
IRM - 903 Oil - 70 hrs @ 150°C						
Hardness Change, pts.	D471	-14	-15	-4	-14	0
Tensile Change, %	D471	-13.1	-27.9	-23.4	-25.9	-4.8
Elongation Change, %	D471	-4.2	-11.3	-8.2	-15.3	-1.6
Volume Change, %	D471	+23.6	+39.0	+12.0	+33.1	+2.8
Low Temperature Transition						
TR-10, °C	D1329	-30.5	-28.4	-21.1	-53.0	-15.2

Additional elastomer types are available to custom fit your application

