

## 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