

Drop-in-Place Seal Materials

Polymer Material Selection and Compatibility Chart						
	Polyacrylate (ACM)	Ethylene Acrylic (AEM)	Hydrogenated Nitrile (HNBR)	Silicone (VMQ)	Fluorocarbon (FKM)	
Compatible Fluids	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	
Non-Compatible Fluids	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