

Parker O-Ring Compound Numbering Systems

Note: There are two types of nomenclature used to reference Parker O-Ring products. See tables below for description of these types.

TYPE I		
N	0674	-70
Polymer Code (Single Letter)	Sequence Number (four digits)	Durometer Indicator (two digits)

TYPE II			
A	A	150	-70
Polymer Code (Single Letter)	Special Property Description (Single Letter)	Sequence Number (three digits)	Durometer Indicator (two digits)

Polymer Codes

A	Polyacrylate	L	Fluorosilicone
B	Butyl	N	Nitrile (Buna N) and HNBR
C	Chloroprene (Neoprene®)	P	Polyurethane
E	Ethylene Propylene	S	Silicone
F	Parofluor ULTRA™	V	Fluorocarbon, AFLAS®, Hifluor™, Parofluor™
H	Hifluor™	Z	Exotic Polymers
K	HNBR		

Special Property Descriptions

A	General Purpose
B	Low Compression Set
E	Ethylene Acrylate or (Vamac®)
F	Fuel Resistant or Fully Fluorinated
G	Higher Fluorine Content
J	NSF / FDA / WRAS Approvals
L	Internally Lubed
M	Mil/ AMS Specifications
P	Low Temperature Flexible or (AFLAS)
W	Non-Black Compound
X	Carboxylated

Durometer Indicators (Hardness)

-40	40 ±5	Shore A Durometer
-45	45 ±5	Shore A Durometer
-50	50 ±5	Shore A Durometer
-55	55 ±5	Shore A Durometer
-60	60 ±5	Shore A Durometer
-65	65 ±5	Shore A Durometer
-70	70 ±5	Shore A Durometer
-75	75 ±5	Shore A Durometer
-80	80 ±5	Shore A Durometer
-85	85 ±5	Shore A Durometer
-90	90 ±5	Shore A Durometer
-95	95 ±5	Shore A Durometer

AFLAS® is a registered trademark of Asahi Glass Co., Ltd.

Vamac® is a registered trademark of E.I. du Pont de Nemours & Co.

Neoprene® is a registered trademark of DuPont Performance Elastomers



COMPOUND NO.	RECOMMENDED FOR	TEMP. RANGE (Degrees° F)	COLOR
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POLYACRYLATE (ACM)

ACM (acrylic rubber) has good resistance to mineral oil, oxygen and ozone. The water compatibility and cold flexibility of ACM are considerably worse than with NBR.

AA150-70	Engines & Transmission Seals	-5 to 350	Black
AA154-75	Engines & Transmission Seals	-5 to 350	Black

ETHYLENE ACRYLATE (AEM)

Ethylene acrylate is a mixed polymer of ethylene, methyl acrylate and a small amount of carboxylated cure-site monomer. Developed as a lower-temperature version of Polyacrylate, but swells slightly more. Polymer is sold under the tradename VAMAC®.

AE152-70	Transmission Applications	-40 to 325	Black
AE153-75	Transmission Applications, Internally Lubed	-40 to 325	Black

BUTYL RUBBER (IIR)

Butyl rubber (isobutylene-isoprene rubber or IIR) has a very low permeability rate and good electrical properties, but poor short-term rebound.

B0318-70	General Purpose	-75 to 250	Black
B0612-70	Vacuum, Low Compression Set	-75 to 250	Black

POLYCHLOROPRENE RUBBER (CR)

Also known by the tradename Neoprene®, polychloroprene was the first synthetic rubber and exhibits generally good ozone, aging, and chemical resistance. It has good mechanical properties over a wide temperature range.

C0267-50	MIL-G-1149 Ty I CII, AMS 3208, Low Temperature	-60 to 250	Black
C0557-70	Drive Belt Applications, General Purpose	-35 to 250	Black
C0873-70	Refrigerant Gases, Low Extractibles, Low Compression Set	-35 to 225	Black
C0944-70	General Purpose	-35 to 250	Red

COMPOUND NO.	RECOMMENDED FOR	TEMP. RANGE (Degrees° F)	COLOR
C1124-70	AMS 3209, Low Temperature	-60 to 250	Black
C1276-70	Super Neoprene, Low Compression Set	-35 to 250	Black
CL172-70	Internally Lubed	-35 to 225	Black
C1278-80	Super Neoprene, Low Compression Set	-35 to 250	Black

EPICHLOROHYDRIN (ECO)

Epichlorohydrin is a special-purpose seal material with good resistance to both refrigerant gases and gasoline, as well as inherent resistance to atmospheric ozone.

YB146-75	Refrigerant Gases, Gasoline, O-zone Resistant	-31 to 250	Black
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ETHYLENE PROPYLENE RUBBER (EPM, EPR, EPDM)

EPM (EPR) is a copolymer of ethylene and propylene. EPDM is a terpolymer of ethylene, propylene, and a diene third monomer used for cross-linking.

E1100-50	General Purpose	-70 to 250	Black
EA454-50 (3575)	UL Listed	-70 to 250	Black
E1157-60	General Purpose	-70 to 250	Black
E1561-60	NSF 61, KTW, WRAS	-70 to 250	Black
E0751-65	Drive Belt Applications	-70 to 250	Black
E0603-70	General Purpose	-70 to 250	Black
E0667-70	Auto Disc Brakes	-70 to 250	Black
E0803-70	General Purpose	-70 to 250	Black
E1022-70	Internally Lubed, Brakes	-70 to 250	Black
E1028-70	FDA	-70 to 250	Black
E1244-70	NSF 61, Internally Lubed	-70 to 250	Black
E1549-70	NSF 61, WRAS, KTW, FDA	-70 to 250	Black
E1583-70	NSF 51, NSF 61, Internally Lubed	-70 to 250	Black
E3609-70	NSF 51, NSF 61, WRAS, KTW, FDA, USP Class VI	-70 to 250	Black
EB152-70 (3407)	General Purpose	-70 to 250	Black
EJ273-70	Chloramine Resistant	-70 to 250	Black
EJ274-70	Internally lubed, NSF 61 Chloramine Resistant	-70 to 250	Black
E3609-70	NSF 51 & 61, WRAS, FDA, USP Class VI, ISO 10993 USP <87>	-70 to 250	Black
E0740-75	Nuclear Applications	-70 to 250	Black

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E0515-80	NAS 1613 Rev 2	-70 to 250	Black
E0540-80	General Purpose	-70 to 250	Black
E0893-80	General Purpose	-70 to 250	Purple
E1267-80	NAS 1613 Rev 5	-70 to 250	Black
E0652-90	General Purpose, Back-Up Rings	-60 to 250	Black
E0962-90	Excellent Steam to 500° F, ED Resistant	-60 to 250	Black

FLUROSILICONE (FVMQ)

Fluorosilicone is a silicone polymer chains with fluorinated side-chains for improved oil and fuel resistance. The mechanical and physical properties are very similar to those of silicone.

LM151-50 (11645)	General Purpose	-100 to 350	Blue
LM158-60	AMS-R-25988, TY 1, CL 1, GR 60, AMS 3325	-100 to 350	Blue
LA163-70	General Purpose	-100 to 350	Greene
LM100-70	MIL-DTL-25988, TY1, CL 1 Gr 70, UL Listed	-100 to 350	Blue
LM159-70	MIL-DTL-25988, TY 1, CL 1, GR 70	-100 to 350	Blue
L1120-70	MIL-DTL-25988, TY I, CL I, GR 70, UL listed	-100 to 350	Blue
L1077-75	MIL-DTL-25988, TY I, CL III, GR 75	-90 to 350	Blue
40713-75	Automotive Fuel Quick Disconnects	-90 to 350	Yellow
LM160-80	MIL-DTL-25988, TY 1, CL 1, GR 80	-90 to 350	Blue
L1186-80	PTFE Loaded	-85 to 350	Rust

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ACRYLONITRILE-BUTADIENE (NBR)

Nitrile rubber (NBR) is the general term for acrylonitrile-butadiene terpolymer. The acrylonitrile content of nitrile sealing compounds varies considerably (18 to 50%.) Polymers with higher ACN content exhibit less swell in gasoline and aromatic solvents, while lower ACN polymers exhibit better compression set and low temperature flexibility. Polymer is also called Buna-N.

GENERAL PURPOSE

N0545-40	AMS 3201	-45 to 225	Black
NA192-50	General Purpose, Non-Blooming	-45 to 250	Black
N0525-60	AMS 3212, AMS 3220	-25 to 250	Black
N1219-60	NSF 51, FDA	-30 to 225	Black
N0287-70	Synthetic Lubricant Resistant, AMS 7272	-35 to 250	Black
N0674-70	General Purpose MIL-G-21569, Cl I, UL listed	-30 to 250	Black
N0757-70	NSF 61, UL Listed	-30 to 225	Black
N1069-70	FDA	-30 to 180	Black
N1220-70	NSF 51, FDA	-30 to 225	Black
N1470-70	General Purpose, X-rings	-40 to 225	Black
N1471-70	General Purpose	-40 to 250	Black
N1499-70	General Purpose, UL	-30 to 250	Black
N1510-70	NSF 61	-30 to 225	Black
N1517-70	NSF 61	-30 to 225	Black
N1527-70	UL Listed	-30 to 225	Black
N0508-75	FDA, USDA	-30 to 180	Black
NA155-80 (7538)	Abrasion Resistant	-25 to 250	Black
N0300-90	Back Up Rings	-40 to 180	Black
N0552-90	General Purpose	-30 to 250	Black
N1444-90	Parbaks only	-30 to 250	Black
N1490-90	General Purpose	-30 to 250	Black

LOW SET

N0299-50	UL listed	-55 to 225	Black
NL151-50	Internally Lubed	-55 to 225	Black
N0406-60	Low Temperature	-55 to 225	Black
NM506-65	AMS 7271	-70 to 180	Black
N0103-70	Low Temperature	-55 to 225	Black
N0602-70	AMS-P-5315, Low Temperature	-70 to 180	Black
NM072-70	AMS-R-7362	-60 to 180	Black



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NM304-75	MIL-DTL-25732	-66 to 225/250	Black
N0756-75	AMS-P-83461, Low Comp. Set, CNG Applications	-65 to 250/275	Black
N0507-90	AMS-P-5510 Low Temperature, CNG Applications	-65 to 180	Black

High ACN/Low Swell

N0497-70	Low Swell, SAE 1120R1 CL2, UL Listed	-35 to 212	Black
N1500-75	Low Swell, Fuel Applications UL Listed	-35 to 212	Black

Improved Dynamic Properties

NL151-50	Internally Lubed	-55 to 225	Black
NW163-70	Internally Lubed	-30 to 225	Rust
N0818-70	Internally Lubed	-30 to 250	Black
N0750-80	Carboxylated (good wear resistance)	-25 to 250	Black
N1090-85	Carboxylated (good wear resistance), Internally Lubed	-25 to 225	Black

HYDROGENATED NITRILE (HNBR, HSN)

Hydrogenated nitrile was developed as an air-resistant variant of nitrile rubber. In HNBR, the carbon-carbon double bonds in the main polymer chain are saturated with hydrogen atoms in a process called “hydrogenation” that improves the material’s thermal stability and oxidation resistance.

KB190-50 (21705)	Automotive Applications	-25 to 300/325	Black
N1173-70	General Purpose	-25 to 300/325	Black
N1239-70	Refrigerants	-25 to 300/325	Red
KA157-70 (21407)	General Purpose	-30 to 300/325	Black
KA158-70	Low Temperature	-40 to 300/325	Black
KA174-75 (21107)	75 Duro, General Purpose	-25 to 300/325	Black
N1231-80	RGD Resistant, Automotive Refrigerants	-25 to 300/325	Black
KA453-80 (21508)	Low Swell, ED Resistant	-25 to 300/325	Black
KB162-80 (21378)	High Temp. Hydraulics	-25 to 300/325	Black
KA183-85	Low Temp.	-55 to 300/320	Black
KB163-90 (21379)	High Temp. Hydraulics ED Resistant	-25 to 300/325	Black
N4007-95	Extrusion Resistant, ED Resistant	-25 to 300/325	Black



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POLYURETHANE (AU, EU)

Polyurethane elastomers have excellent wear resistance, high tensile strength and high elasticity in comparison with any other elastomers. Permeability is good and comparable with butyl. Millable urethanes should not be confused with thermoplastic urethanes, which are generally harder, less flexible, and have slightly better wear resistance.

P0642-70	Drive Belt Applications, Millable	-40 to 180	Black
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SILICONE RUBBER (VMQ, PVMQ)

Silicones possess good insulating properties and tends to be physiologically neutral. However, silicone elastomers have relatively low tensile strength, poor tear and wear resistance.

S0469-40	AMS 3301	-75 to 400	Rust
S0802-40	FDA	-60 to 400	White
S0595-50	AMS 3302	-70 to 400	Rust
S0899-50	ZZ-R-765 Cl 1a, 1b, 2a, 2b GR 50	-103 to 400	Rust
SA150-50	Low Organic Extractibles	-65 to 400	Trans
S0317-60	FDA, USDA, USP CL VI	-103 to 450	Rust
S0613-60	ZZ-R-765 Cl 2b, Gr 60, AMS 3303	-60 to 450	Rust
S0383-70	ZZ-R-765 Cl 1a, 1b, Gr 70, AMS 3337	-175 to 400	Rust
S0455-70	High Temp.	-65 to 450/500	Rust
S0604-70	ZZ-R-765 Cl 2a, 2b, Gr 70 AMS 3304, AMS 3357 MIL-G-21569	-65 to 450	Rust
S1138-70	FDA	-60 to 400	Rust
S1224-70	ZZ-R-765 Cl 2a, 2b, Gr 70 AMS 3304, AMS 3357 MIL-G-21569	-65 to 450	Rust
SM355-75	AMS 7267, FDA, USDA	-60 to 450	Rust
S0614-80	ZZ-R-765 Cl 2a, 2b Gr 80, AMS 3305	-65 to 450	Rust

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		(Degrees° F)	

FLUOROCARBON (FKM, FPM)

Fluorocarbon (FKM) has excellent resistance to high temperature and a broad range of chemicals. Permeability and compression set are excellent.

General Purpose

V0986-50	General Purpose	-15 to 400	Brown
V0763-60	General Purpose	-15 to 400	Brown
V0769-60	General Purpose	-15 to 400	Black
VA150-65 (19356)	General Purpose	-15 to 400	Black
V0680-70	FDA, USDA, NSF 51	-15 to 400	Red
V0747-75	AMS-R-83248, TY I, CL I, UL listed	-15 to 400	Black
V0848-75	PTFE Loaded	-15 to 400	Black
V0884-75	General Purpose, UL listed	-15 to 400	Brown
V1164-75	Low Set, AMS 7276, AMS-R-83248, TY I, CL I	-15 to 400	Black
V1226-75	Low Set, AMS 7276, UL listed, AMS-R-83248, TY I, CL I	-15 to 400	Brown
V1436-75	General Purpose, UL Listed	-15 to 400	Black
V1475-75	General Purpose	-15 to 400	Black
V1476-75	General Purpose	-15 to 400	Brown
VA151-75 (19357)	General Purpose, UL Listed	-15 to 400	Black
VA203-75 (16737)	Extrusion Resistant, Diesel Fuel Injectors	-15 to 400	Black
VM100-75	Low Compression Set, AMS 7276	-15 to 400	Black
VW153-75 (16207)	General Purpose	-15 to 400	Brown
VW173-75 (19457)	Automotive Applications	-15 to 400	Green
VA163-80 (19318)	Internally Lubed	-15 to 400	Black
V0709-90	AMS-R-83248, TY I, Cl II AMS 7259	-15 to 400	Black
V0894-90	General Purpose	-15 to 400	Brown
V1411-90	General Purpose	-15 to 400	Black
V1412-90	General Purpose	-15 to 400	Brown
VA153-90 (19359)	General Purpose	-15 to 400	Black
VW155-90 (16129)	General Purpose	-15 to 400	Green
V1238-95	Extrusion Resistant, Explosive Decompression Resistant	-15 to 400	Black

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<i>Improved Chemical Resistance</i>			
V1262-65	Low Swell-Flex Fuel Blends UL listed	-15 to 400	Black
VW252-65	Low Swell	-15 to 400	Green
VB185-70	Acid Resistant, Steam	-15 to 400	Black
16327-75	Automotive Fuel, Good Permeation Resistance	-15 to 400	Green
V1163-75	"GFLT" Type, UL Listed	-35 to 400	Black
V1260-75	Very Chemically Resistant	-15 to 400	Black
V1263-75	Low Swell, Flex Fuel Blends, UL Listed	-15 to 400	Black
V1289-75	AMS 7379, Extreme Low Temp (-40 TR-10)	-55 to 400	Black
VB153-75	Good Compression Set, Fuels	-15 to 400	Black
VG162-75	Good Fuel Resistance, "GF" Type	-15 to 400	Black
VW263-75	Biodiesel Reistant	-15 to 400	Brown
V1274-80	USP Class VI, ISO 10993, Low Swell	-15 to 400	Black
VG286-80	Fuel Injectors, Good Methanol & Biodiesel Resistance	-45 to 400	Black
VP104-85	Base Resistant	+10 to 400	Black
<i>Improved Low Temperature</i>			
V1163-75	"GFLT" Type, UL Listed	-35 to 400	Black
VG292-75	Engine Coolant & Biodiesel Resistant	-40 to 400	Black
VM125-75	"GLT" Type, AMS-R-83485 AMS 7287, Low Set	-40 to 400	Black
VM128-75	"GLT" Type, AMS-R-83485	-40 to 400	Black
VM835-75	"GLT Type", AMS-R-83485	-40 to 400	Black
<i>Extreme Low Temperature</i>			
VG286-80	Fuel Injectors, Good Methanol & Biodiesel Resistance	-45 to 400	Black
V1289-75	AMS 7379, Good Methanol Resistance	-55 to 400	Black

COMPOUND NO.	RECOMMENDED FOR	TEMP. RANGE (Degrees° F)	COLOR
VX065-75	Extreme Low Temperature, Low Com. Set	-65 to 400	Black
VG109-90	ISO 23936 RGD & Extrusion Resistant, High Pressure CNG Applications	-45 to 400	Black
VX165-90	Extreme Low Temperature, Low Comp. Set	-55 to 400	Black

TETRAFLUOROETHYLENE - PROPYLENE (AFLAS)

This material is a copolymer of TFE and propylene. Its chemical resistance is excellent across a wide range of aggressive media. Polymer is sold under the tradename Aflas®.

V1006-75	AMS 7255	25 to 450	Black
VP101-80	General Purpose	25 to 450	Black
VP102-80	Low Compression Set	15 to 450	Black
V1041-85	RGD Resistant, General Purpose, NORSOK M710	15 to 450	Black
VP103-90	Extrusion Resistant	25 to 450	Black

HIGH PERFORMANCE FLUOROELASTOMER (HiFluor)

HiFluor is Parker's tradename for high performance fluoroelastomers – materials that “bridge the gap” between traditional fluorocarbon and perfluoroelastomer.

HF355-65	USP Class VI, Extreme Low Extractibles	-15 to 400	Translucent
V3819-75	Chemically Resistant, Low Compression Set	-15 to 400	Black
HF391-75	Extreme Resistance to Plasma Etching	-15 to 375	Blue
HF359-80	Resistant to Plasma Etch, Low Metal Ions	-15 to 400	Tan

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PERFLUOROELASTOMER (ULTRA™)

Perfluoroelastomer is a rubber version of PTFE. Available from Parker under the tradenames Parofluor™ and Parofluor ULTRA™.

FF374-60	Low Particle Generation, Low Metal Ion Content	5 to 608	Purple
FF354-65	Low Closure Force	5 to 608	White
FF102-75	Acid Resistant, General Purpose	5 to 525	Black
FF106-75	General Purpose, Low Cost	5 to 500	Black
FF200-75	Low Comp Set, AMS7257, FDA	5 to 608	Black
FF302-75	Etch Resistant, Low Metal Ions	5 to 608	Brown
FF350-75	Plasma, High purity, FDA, USP Class VI	5 to 608	White
FF352-75	General Purpose, Etch Resistant	5 to 608	White
FF370-75	Low Particle Generation, Low Metal Ion Content	5 to 608	Black
FF400-75	Extreme Low Temperature	-40 to 500	Black
FF500-75	Broad Chemical Resistance, FDA	5 to 550	Black
FF580-75	Steam/Amine/Base Resistant, USP Class VI	5 to 525	Black
V8545-75	FDA, General Purpose	5 to 572	Black
FF376-80	Low Particle Generation, Low Metal Ion Content	5 to 608	Black
FF202-90	Low Compression Set, Extrusion Resistant Pressure	5 to 608	Black
FF582-90	Pressure	5 to 525	Black
V8581-90	Plasma Etch Resistant, Low Stiction	5 to 550	White
V8588-90	Extrusion & RGD Resistant	5 to 572	Black

Numbers in () next to the Parker compound reference old Wynn's Precision numbers. Hifluor™ is a registered trademark of the Parker Hannifin Corporation
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