

PolyPak Material Combinations

PolyPak seals can be configured in numerous o-spring energizer and shell combinations. Table represents “standard” combinations. Care should be taken to insure that both the PolyPak shell and its companion o-spring energizer are compatible with the system temperature, pressure, and fluid requirements.

Table Standard Shell and O-spring Energizer Combinations for PolyPak Seals

PolyPak Shell	O-spring Energizer
Molythane	70A Nitrile
PolyMyte	70A Nitrile, 75A FKM
Nitroxile	70A Nitrile
Ethylene Propylene	80A EPR
Fluorocarbon	75A FKM
All Plastic and Rubber	Metal O-spring

Parker’s “smart” part numbering provides for varying standard and custom PolyPak shell and o-spring energizer material combinations. Please refer to the part number nomenclature tables and Technical Data in the PolyPak profile pages for PolyPak shell material options. See Table for standard and custom o-spring energizer option details.

Positively-Actuated Back-ups Option

PolyPak seals can be designed with positively actuated back-ups by designating that option in the part number.

Table PolyPak O-spring Energizers

Standard O-spring Energizer		
O-spring Energizer Code	Type of PolyPak	Description
- (dash)	Urethane (4615, 4622)	70A NBR o-spring energizer
	Rubber	Indicates that the o-spring material family is to match the rubber Polypak shell material family. Example: XNBR 4263 PolyPak shell: code (“-”) indicates NBR o-ring EPR 4207 PolyPak shell: code (“-”) indicates EPR o-ring FKM 4208 PolyPak shell: code (“-”) indicates FKM o-ring FKM 4266 PolyPak shell: code (“-”) indicates FKM o-ring
	PolyMyte (4651)	must be replaced by a custom o-spring energizer code

Custom O-spring Energizers	
O-spring Energizer Code	Energizer Description
C	Continuous o-ring
E	General EPR o-ring
J	General HNBR o-ring
L	Canted coil, spring-loaded with oval spring cavity
N	General nitrile o-ring
R	Low swell nitrile o-ring
S	Spring energizer with o-ring groove
U	Geothermal EPR o-ring
V	Fluorocarbon o-ring
W	Nuclear grade EPR o-ring
X	Premium grade low-temperature o-ring
Y	Low temperature nitrile o-ring

SPP Profile, Standard PolyPak, Square Cross-Section O-ring Energized Lip Seal



Standard PolyPak Cross-Section

Technical Data

Standard Materials*	Temperature Range	Pressure Range†	Surface Speed
Shell			
P4615A90	-65°F to 200°F (-54°C to 93°C)	5000 psi (345 bar)	< 1.6 ft/s (0.5 m/s)
P4622A90	-65°F to 225°F (-54°C to 107°C)	5000 psi (345 bar)	< 1.6 ft/s (0.5 m/s)
Z4651D60	-65°F to 275°F (-54°C to 135°C)	7000 psi (482 bar)	< 1.6 ft/s (0.5 m/s)
N4263A90	-20°F to 275°F (-29°C to 135°C)	2000 psi (138 bar)	< 1.6 ft/s (0.5 m/s)
E4207A90	-65°F to 300°F (-54°C to 149°C)	2000 psi (138 bar)	< 1.6 ft/s (0.5 m/s)
V4208A90	-5°F to 400°F (-21°C to 204°C)	2250 psi (155 bar)	< 1.6 ft/s (0.5 m/s)
V4266A95	-5°F to 400°F (-21°F to 204°C)	2250 psi (155 bar)	< 1.6 ft/s (0.5 m/s)

Energizer

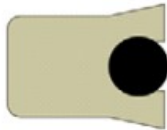
For Seals With...

4615 or 4622 PolyPak shell
4651 PolyPak shell
Rubber PolyPak shell

Standard Energizer Material*

Standard energizer is a nitrile o-ring
O-spring energizer code must be identified
Standard energizer is an o-ring from the same rubber material family as the shell

DPP Profile, Deep PolyPak, O-ring Loaded Lip Seal with Scraper Lip Design



Deep PolyPak Cross-Section

Technical Data

Standard Materials*	Temperature Range	Pressure Range†	Surface Speed
Shell			
P4615A90	-65°F to 200°F (-54°C to 93°C)	5,000 psi (344 bar)	< 1.6 ft/s (0.5 m/s)
P4622A90	-65°F to 225°F (-54°C to 107°C)	5,000 psi (344 bar)	< 1.6 ft/s (0.5 m/s)
Z4651D60	-65°F to 275°F (-54°C to 135°C)	7,000 psi (482 bar)	< 1.6 ft/s (0.5 m/s)
N4263A90	-20°F to 275°F (-29°C to 135°C)	2,000 psi (137 bar)	< 1.6 ft/s (0.5 m/s)
E4207A90	-65°F to 300°F (-54°C to 149°C)	2,000 psi (137 bar)	< 1.6 ft/s (0.5 m/s)
V4208A90	-5°F to 400°F (-21°C to 204°C)	2,250 psi (155 bar)	< 1.6 ft/s (0.5 m/s)
V4266A95	-5°F to 400°F (-21°C to 204°C)	2,250 psi (155 bar)	< 1.6 ft/s (0.5 m/s)

Energizer

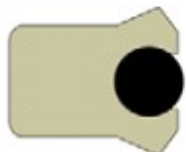
For Seals With...

4615 or 4622 PolyPak shell
4651 PolyPak shell
Rubber PolyPak shell

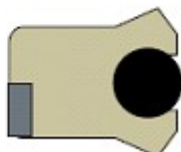
Standard Energizer Material*

Standard energizer is a nitrile o-ring
O-spring energizer code must be identified
Standard energizer is an o-ring from the same rubber material family as the shell

BPP Profile, Type B PolyPak O-ring Energized Lip Seal with Beveled Lip Design



Type B PolyPak Cross-Section



Type B PolyPak with Back-up Cross-Section

Technical Data

Standard Materials*	Temperature Range	Pressure Range†	Surface Speed
Shell			
P4615A90	-65°F to 200°F (-54°C to 93°C)	5,000 psi (344 bar)	< 1.6 ft/s (0.5 m/s)
P4622A90	-65°F to 225°F (-54°C to 107°C)	5,000 psi (344 bar)	< 1.6 ft/s (0.5 m/s)
Z4651D60	-65°F to 275°F (-54°C to 135°C)	7,000 psi (482 bar)	< 1.6 ft/s (0.5 m/s)
N4263A90	-20°F to 275°F (-29°C to 135°C)	7,000 psi (482 bar)	< 1.6 ft/s (0.5 m/s)
E4207A90	-65°F to 300°F (-54°C to 149°C)	2,000 psi (137 bar)	< 1.6 ft/s (0.5 m/s)
V4208A90	-5°F to 400°F (-21°C to 204°C)	2,250 psi (155 bar)	< 1.6 ft/s (0.5 m/s)
V4266A95	-5°F to 400°F (-21°C to 204°C)	2,250 psi (155 bar)	< 1.6 ft/s (0.5 m/s)

Energizer

For Seals With...

4615 or 4622 PolyPak shell
4651 PolyPak shell
Rubber PolyPak shell

Standard Energizer Material*

Standard energizer is a nitrile o-ring
O-spring energizer code must be identified
Standard energizer is an o-ring from the same rubber material family as the shell