

## PARAMOUNT SEALS & PACKINGS

An ISO 9001:2015 certified company

## Profile Profile



#### **ABOUTUS**

With a quest for quality & customer satisfaction "Paramount Seals & Packings" was established in 1972.

Since then we are engaged in conceptualization of design, development and manufacturing of precision rubber parts for varieties of applications ranging from Power generation Industry to Electrical/Electronic appliances to Automotive and Heavy Equipments for Original Equipment Manufacturers across the globe who are pioneers in their own fields.

A well equipped manufacturing set-up supported by highly qualified technicians and skilled production personnel in co-ordination with administrative team plays a vital role in fulfillment of our commitments "To provide accurate and defect free parts on time."

Quality rubber parts plays an important role in the working of machinery and equipment to the extent that the whole equipment may have to be rendered idle for want of small rubber part although it being a very minor spare of the whole machinery in terms of cost as well as size. To avoid such mishappenings we came up with an organization. "PARAMOUNT SEALS & PACKINGS"





#### PARAMOUNT'S COMMITMENT TO QUALITY:

We have achieved a global recognition and a leadership position solely because of our Management's attitude,

"No compromise with quality".

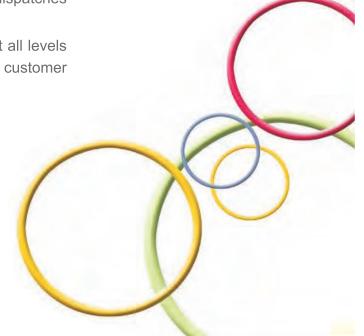
We adhere to stringent quality controls and series of inspections at all levels right from procurement of raw-materials to final dispatches of superior quality rubber products.

Our process monitoring system facilitates traceability at all levels and part remains traceable from compounding stage to customer end.





Certified by DNV, Netherland



## Products

O-Rings

CROSS SECT.

OD. (DD)

CROSS SECT.

The "O" Ring is the most versatile of all Seals, with particular advantage of simplicity, easy to install and inexpensive in terms of cost.

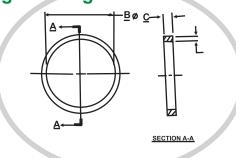
It is suitable for both static and dynamic sealing in almost every field of application.

"O" Rings, seal over an exceptionally wide range of pressures, temperatures and tolerances provided these seals are technically designed and applied.

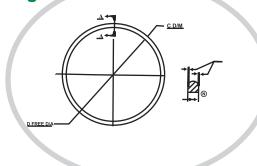
Selection of an elastomer (polymer) largely depends on application and physical properties required for "O" Ring. For available sizes visit www.paraseals.com

A basic alternative to O-ring is the square or rectangular ring, moulded in an elastomeric material or sometimes punched from sheet stock. In most cases however the rectangular ring will offer no advantage over the O-ring.

#### Rectangular Rings

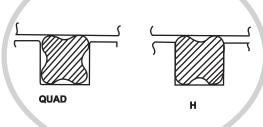


**D-Rings Seals** 



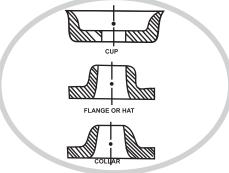
A further variation on the O-ring theme is D-ring. This provides a greater base contact area than an O-ring at low pressure. It is a type of simple seal which may be advantageous for specific applications when a normal O-ring is not fully satisfactory

### Quad and H-Rings



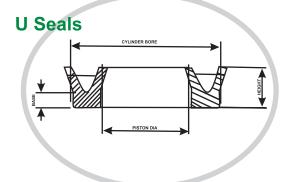
 ${\sf Q}$  & H Rings, normally achieve their best performance as dynamic seals with medium pressure and reciprocating actions having a lower frictional resistance than O-ring.

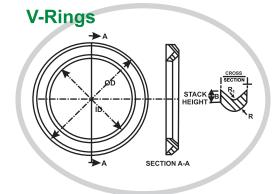
#### CUP Flange & Collar seals



Basic forms of simple flexible seals, includes the cup, flange and the collar. The cup seal has excellent uni-directional sealing properties with low friction but required proper support for proper functioning and stability of the section. It is employed almost exclusively for piston seals. The flange is virtually an internal form of the cup seals and is thus basically a rod seals. It requires proper support. The Collar is simply a variation to the flange, but with the section modified to improve resistance to scuffing and wear. The flange & collar are more used as wiper rings.

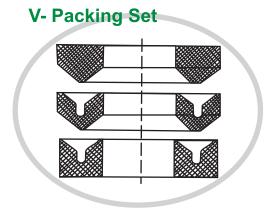
The U-seal is the oldest design of pressure energized hydraulic seal and provides particularly good sealing at low to moderate pressures. U seals can be used single or in sets. Main variations on the U seal are round base & flat base. Also one leg may be shortened and lip reduced to produce either external or internal sealing.

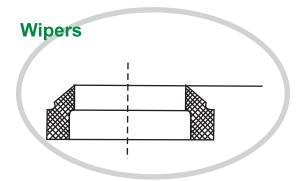




The V-ring offers the advantage of a smaller cross-section for sealing ability. It is seldom used singly, however, but rather in sets with suitable header when it is capable of providing sealing against extremely high pressure with only a light preload. Performance varies with angle of 'Vee'.

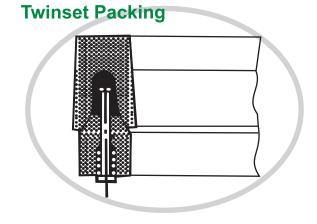
V-packing set also known as Chevron Seals type packing set can stand both axial and radial loading. The pressure rating and low pressure sealing capability can both be increased by using two or more V- Rings with female and male adopters also known as gland ring and Yeader ring. V-Rings could be made of canvas or asbestos impregnated with Nitrile or Viton rubber depending upon the application. These seals can safely seal pressure upto 10,000 psi (700 bar) and can be increased or decreased by adjusting number of V-Rings. To seal under static conditions or low pressure, rubber V-rings can also be interposed between the canvas V-rings. Headers are usually metal or impregnated fabric or hard rubber. V-Ring set may be endless or split at 30 degree to facilitate the assembly.

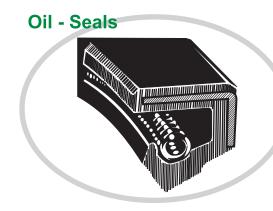




Wiper are special class of seal normally employed for their wiping & scraping action in conjunction with sliding or reciprocating motion rather than as seals and such, although they may provide and effective sealing action. Their normal application is to remove dust, dirt and similar articles from a surface passing under the wiper and thus provide protection for interior surface of a machine.

Combinations of single ring and matching headers are generally known as duplex rings to distinguish them from unit seals (implying integral construction of a combination). The term is applied particularly to combinations of a header with a fork or U-ring section. Other sections allied to separate components (such as O - ring and back - up rings) are more usually referred to as combination seals and dealt with in.





Oil Seals though static but are considered amongst the dynamic type of seals.

An Oil Seal mainly consists of metal case, rubber and garter spring.

**Metal Case:** The metal case plays a vital role in maintaining the retention strength between the seal and the housing bore, thus keeping the seal lip in its intended position.

**Rubber:** The rubber in oil seal should be carefully selected, based on its application, media to seal and the temperature it has to stand.

**Garter Spring :** A garter spring increases and maintains the pressure of the sealing lip on the shaft to provide adequate receive load on the sealing edge.

They are simply stated as a component of machine that seals lubricants by preventing them from leaking as well as prevents the entry of dust and dirt into the machine. The sealing is generally provided between a rotating shaft and a stationary member. In vast cases the internal pressure against which a seal has to work is low thus a single lip seal is adequate. The selection of the seal is based on seven basic points namely, shaft diameter, housing bore, width, shaft speed, working temperature, medium in use and pressure.

# Products

#### **Products Range**

- ❖ O-Rings
- Rectangular Ring
- Quad and H-Rings
- D-Rings Seals
- U Seal
- ❖ V-Rings
- V Packing Set (Reinforced)
- Cup flange and Collar Seals
- Wipers
- Twin Set Packing
- Oil Seals
- Metal to Rubber bonded seals
- Hydraulic & Pneumatic Sets
- Bellows
- Rod & Piston Seal

- Washer
- Bush
- Rubber Block
- ❖ Beeding
- ❖ DI & DE Type Seal
- ❖ TDUH Seal
- ❖ Hat Seal
- Crevice Seal
- Piston Cup/Cup Seal
- Hump Hose
- Gasket
- Door Guide
- Grommet
- Load Wheel
- Plain / Reinforced Diaphragm







#### **Material Range**

- ❖ Natural Rubber (NR)
- Styrene Butadine Rubber (SBR)
- Nitrile Rubber (NBR)
- Chloroprene Rubber (CR)
- ♦ Hypalon (CSM)
- ❖ Butyl Rubber (IIR)
- Polyacrylic Rubber (ACM)
- Ethylene Propylene Diane Monomer (EPDM)
- ❖ Silicone (VMQ)
- Fluoro silicone (FVMQ)
- Fluro Carbon Viton (FKM)
- Polyurethane (AU/EU)
- Polybutadine (PBR)
- ❖ PVC blended NBR
- Carboxylated Nitrile Rubber (XNBR)
- Hydrogenated Nitrile Rubber (HNBR)
- Kalrez
- Teflon (PTFE)



### **Physical/Chemical Properties of Natural and Synthetic Rubbers**

Properties	N.R	SBR	EPDM	NBR	C R	HYPLON CSM	SILICONE VMQ	VITON FKM	HNBR HSN	FLUORO SILICONE FVMQ
Physical Strength	Е	G	G	G	G	G	F	G	G	F
Compression Set	G	G	G	G	F to G	G	G	G	G	V.G
Tear & Abration	Е	G	G	G	G	G	Р	V.G	V.G	Р
Resilience	E	G	V.G	G	V.G	Р	G	F	F	G
Gas Permeability	Р	Р	Р	Р	Р	Р	Р	Р	G	F
Electrical Strength	E	E	G	Р	G	F	E	G	Р	G
Flame Resistance	Р	Р	Р	Р	E	Р	G	E	Р	V.G
Water Resistance	V.G	G	Е	F	G	G	G	G	V.G	V.G
Oxidation	F	F	E	G	V.G	E	E	E	E	E
Ozone Weathering	Р	Р	E	F	V.G	E	V.G	F	E	E
Oil Resistance ASTM Oil No 1 @ 20°C	Р	Р	F	G	Е	G	E	E	Е	G
ASTM Oil No 1 @ 100°C	Р	Р	Р	G	G	G	G	E	E	G
ASTM Oil No 3 @ 20°C	Р	Р	Р	G	G	G	G	E	F	G
ASTM Oil No 3 @ 100°C	Р	Р	Р	G	F	G	F	E	F	G
ASTM Fuel B 40°C	Р	Р	Р	F	Р	F	Р	E	-	G
Max Ext Temp°C	90°C	105°C	150°C	130°C	125°C	160°C	300°C	250°C	180°C	280°C
Max Cont Temp <sup>o</sup> C	75°C	85°C	130°C	100°C	95°C	130°C	205°C	205°C	150°C	200°C
Lowest Temp °C	- 60°C	- 55°C	- 50°C	- 20°C	- 35°C	- 25°C	- 60°C to -80°C	- 20°C	- 28°C	- 60°C

E = Excellent

V.G = Very Good

G =Good

F = Fair

P = Poor









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