SEAL-PAC ENTERPISE SDN BHD

FEATURED PRODUCTS

CATALOG

Oil Seal

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Oil Seal

This article is about Shaft seals or popularly known as Oil Seals. The seals tend to play a major part in all assemblies in both rotary and axially moving shafts.
Oil seals or shaft seals are an integral part in any rotating and moving part assembly. Oil seals find great deal of usage in gearboxes, hydraulic cylinders, etc. The usage of the seals in areas concerned with motion also earns them a name of "Dynamic Oil Seals." The purpose of the oil seals is
barrier retaining the lubricating oil where it is bound to be.

·To prevent the lubricating oil from leaking outside even under high pressure of the oil.

·To act as a barrier and prevent dirt, contamination and other external entities from entering the system containing the lubricating oil.

Constructional Aspects of an Oil Seal:

1. The oil seal consists of a metal ring as the inner skeleton which provides the structural stability to the oil seal.

2. The outer skin is made of nitrile rubber and various other materials which are used based on the requirement.

3. The spring on the lip of the oil seal tends to provide support to the lip and prevents the lubricant from leaking outside and also prevents the entry of contaminants from outside.

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Based on the application of the oil seal, the outer skin layer tends to differ. Here are some types of the materials used for the outer skin of the oil seal.

1. Nitrile - The commonly used material for oil seals.

2. Silicone – Used in specific applications where only light loads are applied.

3. Poly acrylate.

4. Fluroelastomer also popularly known as Viton. – The high temperature resistant material used in places where temperature is more than 120 Degree Celcius.

5. PolytetraFluroEthylene (PTFE).

LIP DESIGN	O.D. DESIGN	B2	B	BR	C	A2
		Economical metal O.D. design for standard applications	Metal O.D. with rubber covering on fluid side for added protection	Metal O.D. design with rubber nose for enhanced O.D. sealing	Rubber covered O.D. design for excellent O.D. sealing	Metal O.D. design with an inner case for greater structural rigidity
S	Non-pressure fluid sealing and severe grease sealing applications	 SB2	 SB	 SBR	 SC	 SA2
T	Non-pressure fluid sealing and severe grease sealing with light duty exclusion of contaminants	 TB2	 TB	 TBR	 TC	 TA2
V	Economical grease or viscous fluid retention	 VB2	 VB	 VBR	 VC	 VA2
K	Economical grease or viscous fluid retention with light duty exclusion of contaminants	 KB2	 KB	 KBR	 KC	 KA2
WP	Dirt wiping or scraping in hydraulic cylinder applications		 WPB		 WPC	

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The oils seals require certain prerequisites to be maintained for their proper working. They are as follows:

a) The shaft on which the oil seal is to be mounted should be ground with the surface finish or surface roughness between 0.2 to 0.8 Microns. It is best for the shaft to be hardened atleast to 40 – 45 HRc in order to prevent groove formation on the shaft due to the pressure exerted by the spring.

b) The area where the oil seal is seated is to be plunge ground in order to prevent wear grooves that normally tend to wear out the lip of the oil seal at a faster rate.

c) The lip of the oil seal needs to be lubricated in order to prevent the direct contact of the oil seal lip to the shaft.

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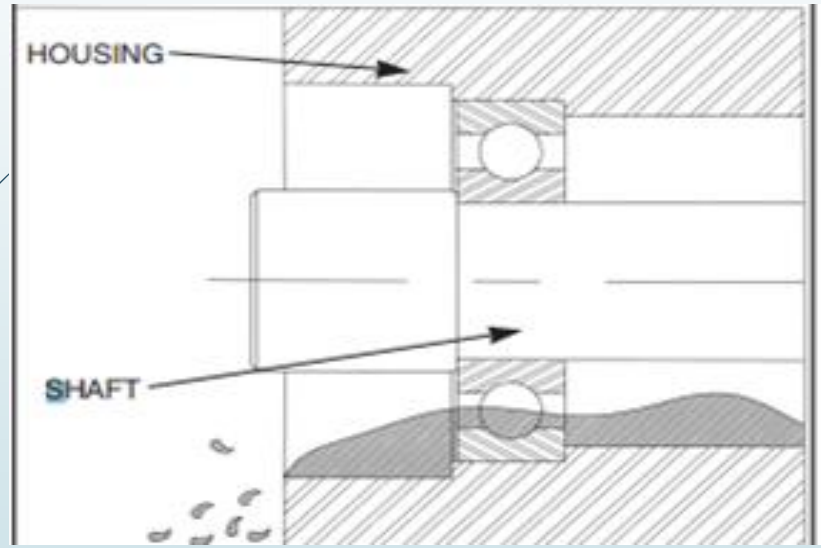
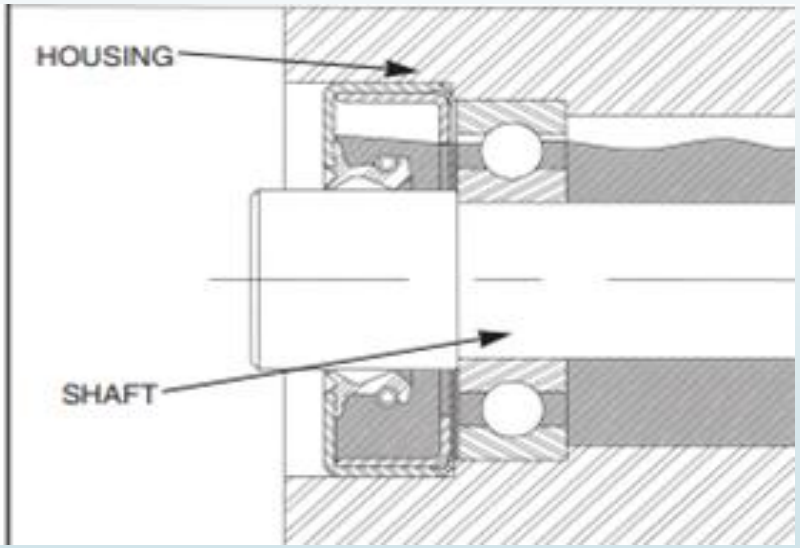
Oil Seal

Oil Seal In Use
In a typical application, the oil seal is installed adjacent to a bearing, sealing in or sealing out, as necessary, the various
liquids, gases or solids encountered by the particular mechanism.



Without an oil seal . . . essential lubricant can escape through the bearing and . . . harmful dirt and foreign matter can enter



With a properly designed and fitted oil seal . . . the space
between the housing and shaft is securely closed or sealed. Lubricant cannot escape . . . harmful dirt and foreign matter cannot enter.

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