



## QUESTION

**What is a sealing element and what are the recommended sealing types for different working conditions?**

## ANSWER

Sealing elements are used to prevent the oil in the gearbox from leaking out of the gearbox during operation and to prevent dust, moisture or pollutants from entering the gearbox from the outside. These elements, which provide sealing between a rotating shaft and the housing, are generally called oil seals. Unless otherwise stated, Viton and Nitrile sealings are used as standard at the gearbox input and output shafts. These seals can be single or double lip and with the help of a circular spring in the sealing, contact is made by pressing the lip of the sealing to the rotating shaft. During operation, a hydrodynamic oil film is formed between the seal and the shaft. This oil film adheres to the sealing with surface tension and prevents the oil leakage from inside the gear unit.

We have special sealing applications suitable for different environmental conditions where too much dust is present or chemical materials are used. The sealings we use in standard and such applications and their properties are listed below.

### Nitrile Sealing (NBR)

Nitrile sealings are suitable for low speed shafts. Their working temperatures are between  $-40\text{ }^{\circ}\text{C}$   $+100\text{ }^{\circ}\text{C}$ . We are using nitrile sealings with dust lip on output shafts of our gear units.



### Cassette Sealing (FKM, NBR)

They are specially designed sealings made from FKM and NBR materials. They are mostly used on corrosive environments to prevent these corrosive materials to enter inside gear unit. We use these sealings on low speed shafts.



### Viton Sealing (FKM)

These sealings are produced from fluorocarbon material and used on high speed shafts. They are suitable for  $-25\text{ }^{\circ}\text{C}$  to the  $+160\text{ }^{\circ}\text{C}$  working temperatures. We use viton sealing on our input shafts



### Labyrinth Seal Application

Different protective techniques applied on sealings working on very dusty environments.



### PTFE Sealing

Sealings made from polytetrafluoroethylene material which has low friction coefficient and are very resistant to chemical environments. They can work between  $-80\text{C}$  and  $+200\text{C}$  temperatures. They are useful for chemical working conditions.



### Taconite Sealing Application

Labyrinth sealing application suitable for very dusty and corrosive working environments. They are usually mounted with extra graser system.

