

ISO 9001 : 2008 Company



RDSO Approved Vendor



Structural Bearings: POT-PTFE Bearings

 **POLY FLUORO LTD**

General Information

In a wide range of applications, PTFE structural bearings are superior to conventional expansion plates, rollers and rocker arm type supports. They support petrochemical plants, heavy machinery, pipelines, buildings and bridge girders; they accommodate expansion, contraction and other reciprocating motions of any structure that moves as a result of thermal, seismic or differential forces.

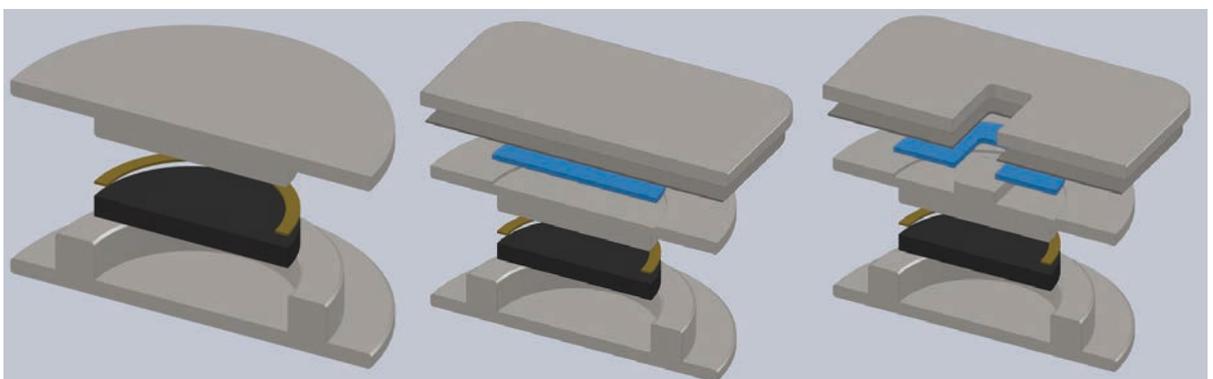
Bearings for such applications must operate at high loads and low speeds, and it is under just these conditions that the self-lubricating properties of PTFE are at a maximum. This factor, together with its no stick-slip and anti-weathering characteristics, is the principle reason why PTFE has proved to be successful as a slide bearing material.

POT Bearings

A POT bearing consists of circular, non-reinforced elastomeric pad, totally enclosed in a steel pot with the load applied to the elastomer via a piston attached to the upper bearing plate. A seal is used to prevent rubber extruding between piston and pot. As the elastomer is fully confined within a metal cylinder, it provides a load-carrying medium while at the same time providing the bearing with a multidirectional rotational capacity. By themselves, POT bearings do not permit translation. In order to permit translational movement in addition to rotation, a plain sliding arrangement is provided over the top plate of the POT bearing. To facilitate the sliding arrangement, PTFE is generally used with stainless steel to design this sliding arrangement.



POT bearings typically come in three varieties as illustrated here:



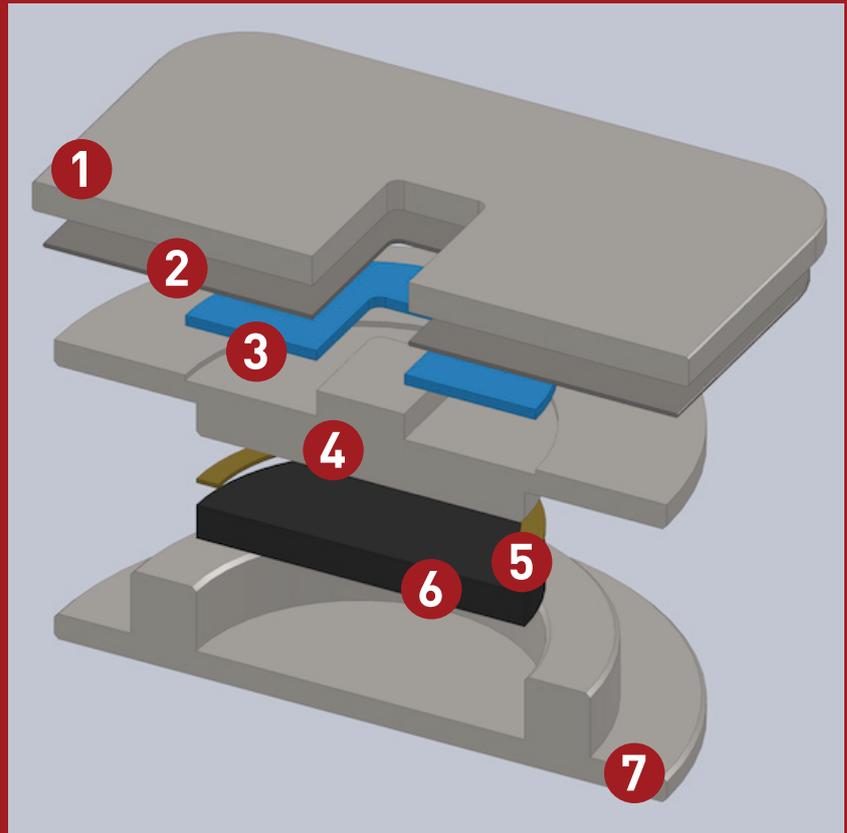
Capabilities	Fixed POT Bearing	Free POT-PTFE Bearing	Guided POT-PTFE Bearing
Load bearing	Yes	Yes	Yes
Rotation	Yes	Yes	Yes
Translation	No	Yes	In one direction only

Advantages of POT-PTFE Bearings

- Recommended when bearing rotation is large and long-term serviceability is required
- Provide longer service life as compared to elastomeric bearings
- Smaller in size compared to elastomeric bearings
- Can sustain many cycles of very small and large rotations
- Economical to repair as only the replacement of the elastomeric disc is required
- Does not get severely effected by external atmospheric correction

Components of a POT PTFE Bearing

- 1 Top Plate
- 2 Sliding Plate
- 3 PTFE Disc
- 4 Piston
- 5 Sealing Ring
- 6 Elastomeric Disc
- 7 POT

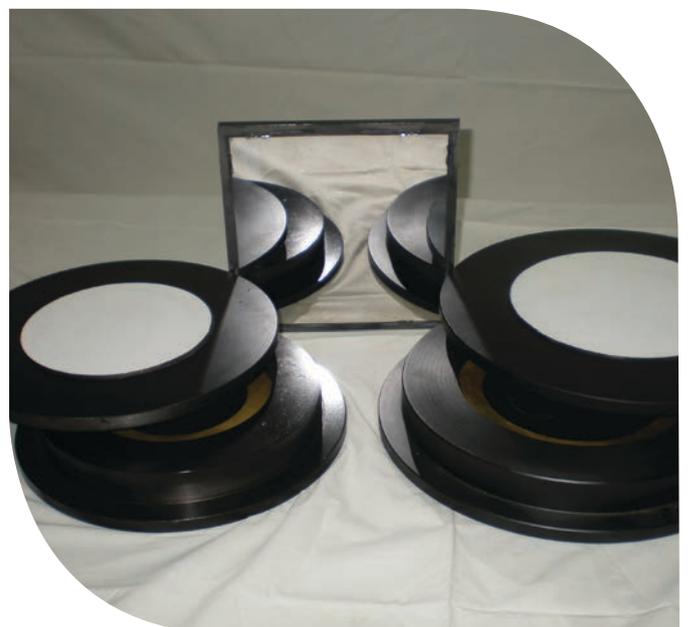


Standards

Poly Fluoro is an RDSO approved manufacturer of POT-PTFE Bearings and prides itself on the use of only the highest grades of materials in its bearings. We can undertake both design and development of the bearings and can provide on-going technical assistance as required by the client.

Standards adhered to are:

- IRC:83 – Design
- IS 2062 – Mild Steel
- IS1030 – Cast Steel
- AISI 304 – Stainless steel
- ASTM D4894 - PTFE



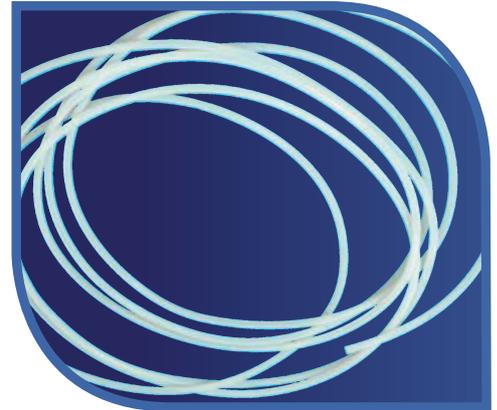
OTHER PTFE PRODUCTS FROM POLYFLURO

FluoroTube™ PTFE Tubing

FluoroTube™ marks the entry of Poly Fluoro into the PTFE tubing segment. The grades and sizes available make FluoroTube™ ideal for applications such as medical, chemical and automotive.

FluoroTube™ comes in sizes ranging from 1mm to 25mm diameters and is unique in many ways when compared to conventional polymer tubing:

- Highly resistant to corrosive chemicals
- Working temperature range of -200°C to +250°C
- Chemically inert - making it ideal for medical applications
- Extremely low coefficient of friction



Lubring

Lubring™ Slideways (a proprietary PTFE formulation) is a superior bearing material developed specially for machine tool ways, gibs and other sliding applications. It is widely used by leading machine tool manufacturers, rebuilders and in-plant personnel to restore existing equipment to like-new precision.

Lubring™ exhibits superior performance when compared to other slideway bearings:

- Excellent vibration dampening – dampens cutting tool vibration from migrating throughout the machine tool
- Chemical resistance – resists aggressive coolants and lubricants
- High wear resistance – ensures long service life
- Low wear in the event of dry operation – protects mechanical components in cases of poor or failed lubrication
- Impervious to moisture



Engineered PTFE components

Engineering components from Poly Fluoro are the combination of design expertise and unusual fabrication techniques. Poly Fluoro has a dedicated team of machining experts who review each product and recommend the design and material most suitable for the application.

Our design team, using cutting edge modelling software Solid Edge® and NX™ CAM Express can be as involved in the development of the component as you require, while our state-of-the-art CNC facilities and long experience in working with PTFE enable us to offer the highest quality service in the industry.

When it comes to fabrication skills Poly Fluoro Ltd. has experience in moulding, machining, thermoforming, grinding, welding and finishing PTFE products. Parts may be cut from stock shapes or they may be custom moulded and machined.

