



www.armadillonv.com

PTFE Slide Bearing

Vibration, Shock & Acoustic Isolation

Introduction & Description

Armadillo Noise & Vibration Ltd. design and manufacture a comprehensive range of PTFE slide bearing assemblies in a wide variety of applications.

Armaload PTFE slide bearings are custom designed to accommodate expansion, contraction and other reciprocating motions of any structure that moves as a result of thermal, seismic or differential forces.

Armaload PTFE bearings operate at high loads and low speeds, and it is under these conditions that the selflubricating properties of PTFE are at optimum.

This, together with its no stick-slip characteristics, is the main reason why PTFE has proved successful as a material for slide bearings.

Applications

- Expansion movement in pipelines and heat exchangers
- Cryogenic, vibration and acoustic affects on pipelines
- Expansion movement of concrete decks and pipes
- Pedestrian walkways
- Pipe bridges
- Sub-sea pumping station
- Loadout of heavy offshore fabrications

Surface preparation of steel, machining, controlled bonding and painting are all processes we can arrange to ensure a quality product.

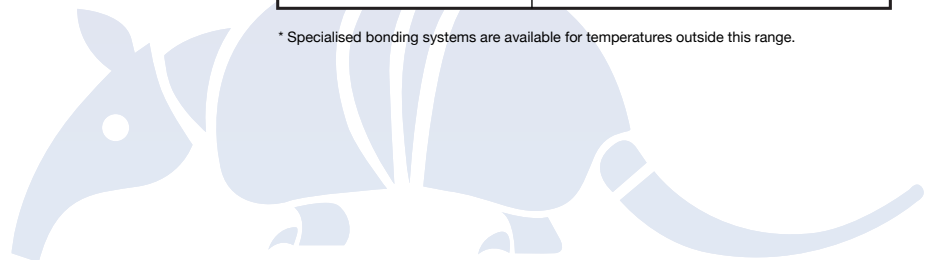


Slide Bearing

Typical Designs:

CONFIGURATION	DESCRIPTION
<p>Thermal SB</p>	<p>Thermal Insulation Bearing</p> <p>Used when the PTFE temperature could exceed +180°C. 2.5mm PTFE top pad bonded to 3mm backing plate. 25mm thermal insulator and 3mm mounting plate for tack welding or bolting. 2.5mm PTFE bottom pad bonded to 3mm backing plate for welding and bolting.</p> <p>Load capacity: up to 140kg/cm² Temperature range: -30°C to +120°C*</p>
<p>TW SB</p>	<p>Tack Weld Bearing</p> <p>2.5mm PTFE pad bonded to 3mm backing plate for tack welding. Welding lip surrounding PTFE.</p> <p>Load capacity: up to 140kg/cm² Temperature range: -30°C to +120°C*</p>
<p>DR SB</p>	<p>Recessed Bearing</p> <p>6.0mm PTFE pad contained in a recessed backing plate, finished for tack welding, full welding or bolting. Counterfaced by a larger, mirror finished stainless steel plate.</p> <p>Load capacity: up to 140kg/cm² Temperature range: -30°C to +120°C*</p>

* Specialised bonding systems are available for temperatures outside this range.



Call **+44 1274 591115** For all enquiries

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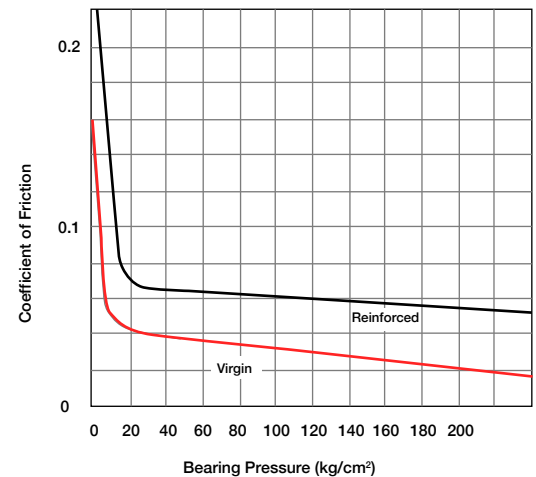
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COEFFICIENT OF FRICTION: Effect of Load

The coefficient of friction of PTFE materials is dependent on many variables, including pressure, sliding velocity and temperature.

A design coefficient of friction of 0.1 for unified PTFE or 0.12 for reinforced PTFE will give a significant margin of safety when all operating conditions cannot accurately be predicted; but the figures in practice will normally be considerably less.



Typical Properties of Armaload PTFE Materials

	Virgin PTFE	Reinforced PTFE
Specific Gravity	2.14 - 2.18	2.19 - 2.27
Tensile Strength MPa	20 - 28	14 - 20
Elongation %	200 - 350	160 - 300
Compressive Modulus MPa	415	770
Hardness Shore D	50 - 60	60 - 65

Technical Advantages of Armaload PTFE Slide Bearings

- PTFE has the lower coefficient of friction than lubricated metal.
- There is no "break out" of static friction, giving more predictable operation.
- Armaload bearings withstand chemicals and weather so offer exceptional life expectancy.
- Moisture absorption is less than 0.01% even under icing conditions or immersion.
- No maintenance is required. Armaload PTFE will never cold weld to itself and therefore requires no lubrication. Armaload PTFE bearings are easily installed, either pre-assembled or on site.
- Armaload PTFE bearings are less bulky than alternative assemblies.
- There is no possibility of fatigue failure.
- Electrical and thermal insulation minimise galvanic corrosion and heat loss.
- Vibrations are dampened.
- Small particles which may become embedded do not cause binding of the surfaces.
- Armaload PTFE slide bearings with our elastomers can accommodate some misalignment in construction which can occur in conventional bearings.

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