



HINDUSTAN NYLONS

ISO 9001:2015 Certified Company



PTFE Bridge Bearing Pads

Hindustan Nylons is manufacturer of PTFE bridge bearing pads with dimples on one side & sodium itching on other side with or without surface plate / Backing plate elements. PTFE Bridge Bearing Pads are used as support pads in petrochemical plants, heavy machinery, pipe lines, buildings & bridge girders.

These accommodate expansion, Construction & other reciprocating motion of any structure that moves as a result of thermal, seismic Or differential forces.

Bearings of 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 maximum. This factor, together with its no stick-slip and anti-weathering characteristics, is the principal reason why PTFE has proved to be so successful as a slide bearing material.

Advantage of PTFE Bridge Bearing Pads:-

- 1) PTFE has the lowest coefficient of friction of any known sold engineering material, including lubricated metal.
- 2) There is no stick-slip action.
- 3) No maintenance is required, PTFE will never cold weld to itself and therefore requires no lubrication.
- 4) There is no possibility of fatigue failure.
- 5) Electrical and thermal insulation minimize galvanic corrosion and heat loss.
- 6) Vibrations are damped.
- 7) Small particles which may become embedded do not cause binding of the surfaces.

Recommended Design Structures of PTFE Bridge bearing pad: F14: SLB: 90

Hindustan Nylons manufactures PTFE Bridge Bearing pads in Virgin as well as Glass Filled PTFE, carbon Filled PTFE, Graphite Filled PTF, Bronze Filled PTFE.

Dimensional Specifications of PTFE Bridge Bearings:-

Maximum dimension of PTFE (Diameter or diagonal) (mm)	Minimum thickness (mm)	Minimum protrusion above recess(mm)
\leq	4.5	2.0
$> 600, \leq 1200$	5.0	2.5
$> 1200, \leq 1500$	6.0	3.0

Load Bearing Relation With Coefficient of Friction (Polished S. S.) of PTFE Bridge Bearings:-

Average pressure on confined PTFE (Mpa)	Maximum coefficient of friction
5	0.08
10	0.06
20	0.04
≥ 30	0.03





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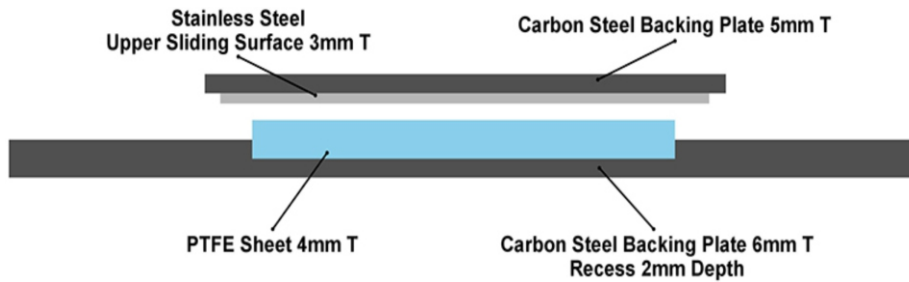


PTFE Bridge Bearing Pads : Technical Information -

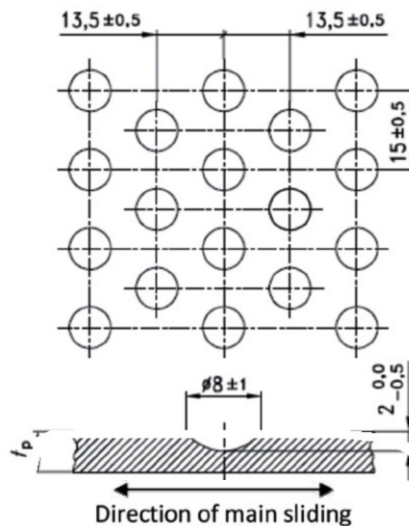
PTFE is pure Polytetrafluoroethylene freely sintered without regenerated material OR Glass Filled PTFE, Carbon Filled PTFE, Graphite Filled PTFE & Bronze Filled PTFE. Mechanical & physical properties of unfilled PTFE are as per Grade A of BS: 3784 or equivalent. The basic element is 4 to 6 mm thick PTFE Sheet, recessed into 6 to 10 mm Steel backing plate for straight forward field installation by welding or bolting. The corresponding 3 mm thick polished Stainless-Steel plate is shop fitted to a 6 mm thick carbon steel plate. Alternative sizes & material can be supplied as per specifications / request from customer. PTFE Sheets provided are provided with lubrication cavities (concave) in the form of dimples. These dimples 8mm Diameter, 2mm deep are formed by hot pressing or in situation moulding & with specific pattern.

PTFE Pads are chemically treated one side by Sodium itching for bonding with adhesive like Araldite: - AW 106/HV 953 U, or Loctite: - EAE- 30HV, or Pidilite Roff: - T29. Adhesive for bonding PTFE to Backup plates are tested to minimum peel strength of 4N/ mm width in accordance with BS: 5350 (Part c9) Suggestive Design Data of PTFE bridge bearing pads. The load bearing capacity of 4 mm thick PTFE bonded into 2mm deep recess of 6mm thick steel plate is around 140 kg F/cm² & filled reinforced PTFE of same dimensions can accommodate around 500 kg F/cm². PTFE Pads are located into recess of a sufficiently rigid metal backing plate by confinement & shall be dimpled large sheets. There are specific dimensional parameter for these confined PTFE.

PTFE Sheet (Recessed) Slide Bearing



Pattern of Dimples in Sliding Material



Suggestive Design Data of PTFE bridge bearing pads:-

The load bearing capacity of 4 mm thick PTFE bonded into 2mm deep recess of 6mm thick steel plate is around 140 kg F/cm² & filled reinforced PTFE of same dimensions can accommodate around 500 kg F/cm². PTFE Pads are located into recess of a sufficiently rigid metal backing plate by confinement & shall be dimpled large sheets. There are specific dimensional parameter for these confined PTFE.

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