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Pot Bearings

Description

Our Pot Bearings are designed to carry combinations of vertical loads, horizontal loads, longitudinal and transversal movements and rotations and they are used in road and railway bridges in steel and concrete.
A completely encased natural rubber pad is positioned in a steel pot. Under high pressure the pad behaves like a liquid. The elasticity of the rubber allows tilting movement (rotation) of the piston in the horizontal axis.
Depending on whether the bearing is fixed, guided sliding or a free sliding, these bearings accommodate vertical loads and corresponding horizontal forces, as well as movements in longitudinal or transversal directions.

Load Combinations

This kind of bearings can carry very high loads, over 50.000 kN.
The bearings are designed for combined maximum vertical and horizontal loads. The standard range of pot bearing is designed to have an horizontal 15% of the maximum vertical load with a maximum rotation of + 0.01 rad (other load and rotation combinations are provided on request).

Quality Of Materials

- **ELASTOMER MATERIAL :**The elastomer material used for the elastomeric pad is natural rubber in accordance with ISO 6446.
- **FERROUS MATERIAL FOR POT AND PISTON:** The pot, the piston and if applicable the sliding plate are manufactured from ferrous material in accordance with EN 10025 standard.
- **AUSTENITIC STEEL SHEET :**The austenitic steel used for sliding surfaces is X5CrNiMo17-12-2 in accordance with EN 10088-2 1.4401 with a minimum thickness of 1.5 mm.
  The roughness is Ry5i ≤ 1 µm
  The hardness ≥ 150 HV1 and ≤ 220 HV1
- **PTFE :**Pot Bearings uses only virgin PTFE without regenerated or filler materials. The minimum thickness of recessed PTFE is 4.5 mm and varies in according with the bearings size.

Specification

- **FRICTION OF THE BEARINGS :**The reaction of the bearing to the movement can be mathematically calculated by considering friction coefficient between stainless steel and PTFE to be 0,03.
- The exact friction coefficient between stainless steel and PTFE is determined in according to EN 1337-2.
- **CORROSION PROTECTION :**Steel components exposed to the elements are protected against corrosion. It adapts the corrosion protection in accordance to the aggressiveness of the environment in which the bearings are to be installed and to each customer's requirements. The standard corrosion protection according EN 1337-9 is as follows:- sandblasting SA2.5 grade – two components high thickness epoxy zinc paint: 250 µm The high resistant corrosion protection (metallization) is as follow: – sandblasting SA 2.5 grade – metal spraying to 85 µm with Zn/Al 85/15 – sealing: Epoxy sealer 20-25 µm – top coat: Polyurethane paint 100 µm