

Customer reference case

Off-road vehicles

Articulation joint

SKF TX spherical plain bearing



Bomag works to reduce cost of ownership

Before a potential customer invests in any new piece of machinery, purchase price is important – but total cost of ownership is equally important and is fast becoming the differentiator from one manufacturer to the next.

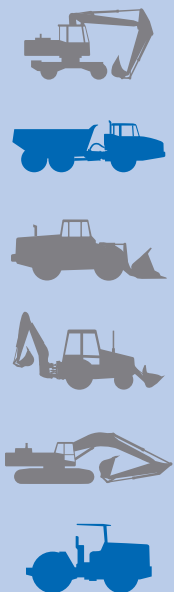
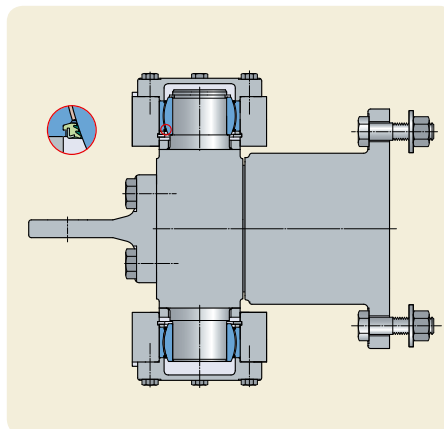
Bomag, a leading manufacturer of road rollers and paving equipment, understands this concept and has been continuously working to decrease maintenance and repair costs for its customers. Their latest improvement is the oscillating articulation joint on their dual drum road rollers.

The articulation joint between the front and rear rollers is what enables a road roller to maneuver. This joint must be able to withstand very heavy radial loads and vibrations. Due to its location, the bearing is also exposed to contaminants like dust, dirt, water and hot tarmac, which promote premature wear and corrosion.

In the past, steel-on-steel spherical plain bearings were used for this application. However, due to their location, if they were not relubricated frequently according to the manufacturer's suggested maintenance schedule, premature bearing failure would result.

To eliminate the need for relubrication, and reduce total cost of ownership, Bomag was looking for a maintenance-free solution that could withstand the harsh operating conditions that the articulation joint would endure. SKF application engineers suggested the TX sealed, maintenance-free spherical plain bearing.

Drawing of articulation joint



About the solution

The TX sealed, maintenance-free spherical plain bearing contains a PTFE sliding liner on the inside surface of the outer ring. The PTFE liner, developed by SKF is what gives the TX bearing its performance characteristics. Both the structure of this self-lubricating fabric and the resin have been improved to make TX bearings stronger than previous designs. The new SKF PTFE liner also provides the following benefits:

- greater stiffness for less deformation under load,
- improved wear resistance for increased life,
- excellent frictional behaviour, enabling a simpler bearing arrangement,
- low affinity to moisture.

Strong seals for added protection

TX spherical plain bearings are equipped with high-performance LS seals so that the bearing can achieve maximum service life even under contaminated conditions.

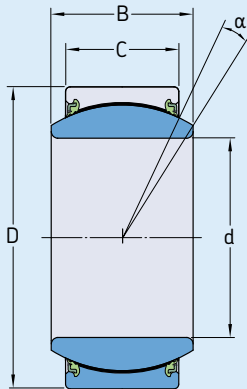
The high-performance LS seal has three sealing lips that exert pressure on the counter face of the inner ring to protect the bearing against contaminants and moisture. To keep the seal firmly in place, it contains a robust sheet steel reinforcement. This sheet steel "backbone" provides mechanical stability as it protects the elastomer against damage from coarse contaminants.

Customer benefits

- ✓ Eliminates lubricant
- ✓ Eliminates grease fittings
- ✓ Increases MTBF
- ✓ Environmentally friendly
- ✓ Reduces warranty claims
- ✓ Drop-in solution



Maintenance-free TX spherical plain bearings



Principal dimensions				Angle	Designation	
d	D	B	C	α		
mm					degrees	–
40	62	28	22	6	GE 40 TXE-2LS	
45	68	32	25	7	GE 45 TXE-2LS	
50	75	35	28	6	GE 50 TXE-2LS	
60	90	44	36	6	GE 60 TXE-2LS	
70	105	49	40	6	GE 70 TXE-2LS	
80	120	55	45	5	GE 80 TXE-2LS	
90	130	60	50	5	GE 90 TXE-2LS	

For more information about TX spherical plain bearings, please refer to the SKF publication 6336.

SKF is a registered trademark of the SKF Group.

© SKF Group 2006
The contents of this publication are the copyright of the publisher and may not be reproduced (even extracts) unless permission is granted. Every care has been taken to ensure the accuracy of the information contained in this publication but no liability can be accepted for any loss or damage whether direct, indirect or consequential arising out of the use of the information contained herein.

Publication 6275 EN

Printed in Sweden.