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AS81820 BEARINGS

High quality spherical bearings designed specifically to meet and exceed the demands of the aerospace industry

Spherical Bearings conforming to AS81820 specification are of stainless steel construction and incorporate a self lubricating liner system specifically for light to heavy alternating loads with intermittent or continuous misalignment. These bearings are designed to offer higher dynamic radial load capacity and operate at higher temperatures* than standard self lubricating spherical bearings in order to meet the high performance demands required in civil and military aerospace applications.

Description: The self lubricating properties of the AS81820 approved liners are derived from either a laminate or weave constructed of Teflon® fibres to provide lubrication, Nomex® fibres to add strength to the liner, and a thermosetting resin to bond the fibres together and for additional strength. The liner is then bonded under temperature and pressure to the surface of the bearing race. The construction enables Teflon® to be rapidly transferred to the mating ball surface during operation, providing a lubricating film that is continuously replaced throughout the life of the liner. The Nomex® not only adds strength, but also adds durability that can help extend the working life of the bearing beyond that of equivalent sized bearings utilising glass fibre reinforced Teflon® liner systems.

Qualification Procedure: The AS81820 qualification requires a maximum permissible liner wear of 0.0045" over 25,000 cycles at room temperature and a pressure of 37,500psi. When tested at elevated temperatures, the maximum allowable wear is 0.006", and when tested at -65 F with load pressures reduced by 25%, the permissible wear is 0.008". In addition, the qualification also requires the bearings to be immersed in fluids for a period of 24 hours at 160°F, removed, and then dynamically tested at 75% of the room temperature tests. AS81820 qualified bearings have been proven to consistently meet and exceed these requirements.

BG stock a selection of high quality AS81820 qualified bearings from Minebea, NHBB and RBC in the following series:

- MS14101 Imperial Narrow Series (V-Groove)
- MS14104 Imperial Narrow Series (Chamfered)
- MS14102 Imperial Wide Series (Chamfered)
- MS14103 Imperial Wide Series (V-Groove)

For further information on the ranges of aerospace bearings available, contact BG Motorsport.

* AS81820 spherical bearings have a normal operating temperature range of -54°C to 163°C, but can withstand higher operating temperatures for short periods at reduced bearing pressures.

Teflon® and Nomex® are registered trademarks of DuPont



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