

Ceramic Hybrid Ball Bearing: A antifriction ball bearing constructed of steel inner and outer rings with ceramic rolling elements in place of steel.

Conventional all steel bearings limit design as technology rolls forward at a fantastic rate.

Machinery speeds increase as production demands maximum efficiency and reliability with the highest output quality. As a result, loads and operational environments become more demanding.

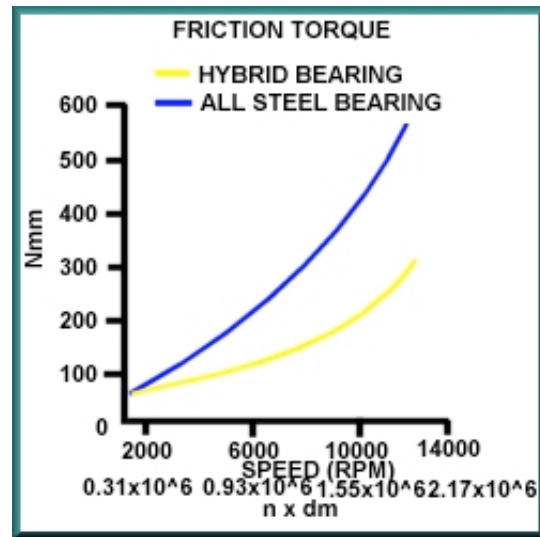
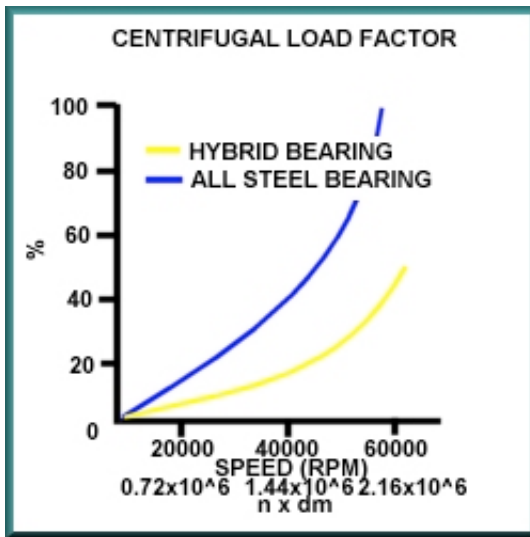
Ceramic Hybrid bearings using Silicon Nitride balls (Si3N4) meet and exceed today's requirements offering a long list of characteristics far superior to that of conventional all-steel bearings.

Bearing Works produces a full line of ceramic hybrid radial ball bearings with the features described below. We specialize in clean vacuum compatible solid film lubricants and lubricating retainers. We know down time means money, we offer the shortest leads times in the industry (5-10 days) and same day emergency service.

Features and Benefits of Ceramic Hybrid Bearings

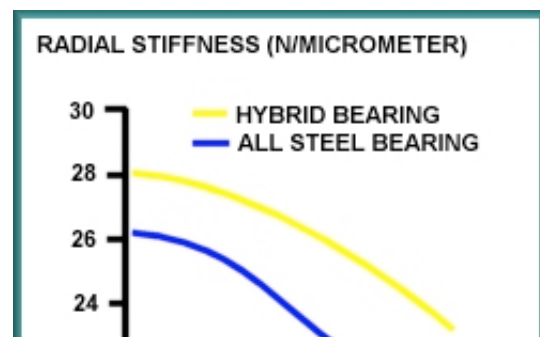
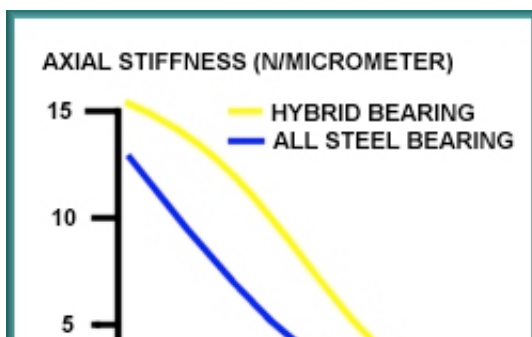
- High Speed and Acceleration

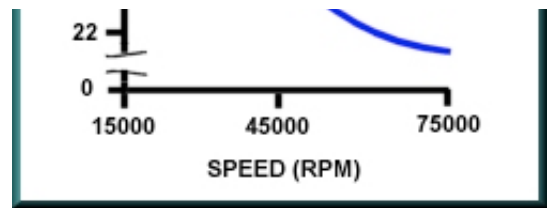
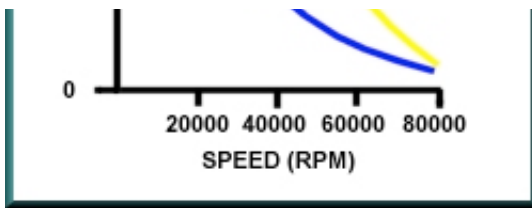
Up to 3 million (dN). 40% as dense as steel, the resulting reduction in weight reduces centrifugal forces imparted on the rings, reducing skidding, allowing 30 to 50% higher running speeds with less lubrication, resulting in increased productivity.



- Increased stiffness

Silicon nitride balls have a 50 % higher modulus of elasticity (resistance to deformation) than steel, which means a 15 to 20% increase in rigidity, improving accuracy. The results of this feature will be realized in greater production quality.



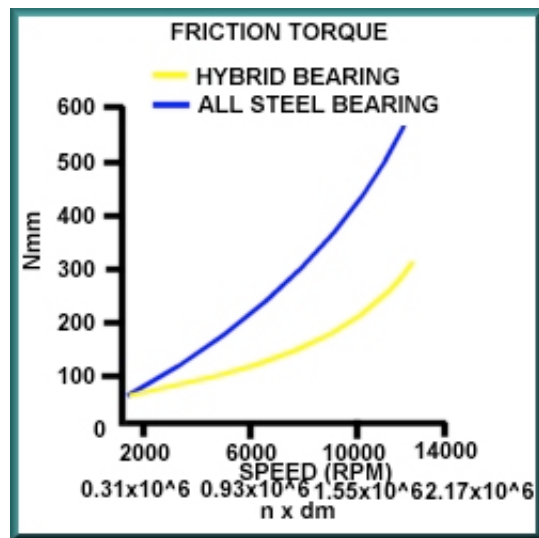
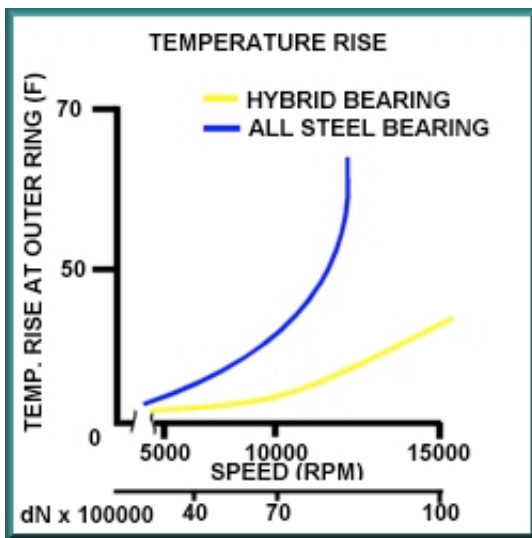


Higher Accuracy

Ceramic balls have a smoother finish than steel, vibration and spindle deflection is reduced allowing higher speeds. Production quality will be improved.

Less Friction, Less Heat

Ceramic Hybrid Ball Bearings truly are “anti-friction”. Lower friction leads to less wear, less lubrication, less energy consumption, reduced sound level and extends life lowering your operating costs and increasing productivity. Lowered operating temperatures improve the work environment.



Reduced Lubrication Requirements

Ceramic Hybrids sport improved kinematic behavior, generate less friction and demand less lubrication. This can lower operating costs by minimizing design, maintenance, and complexity of typical lubrication systems.

Low Thermal Expansion

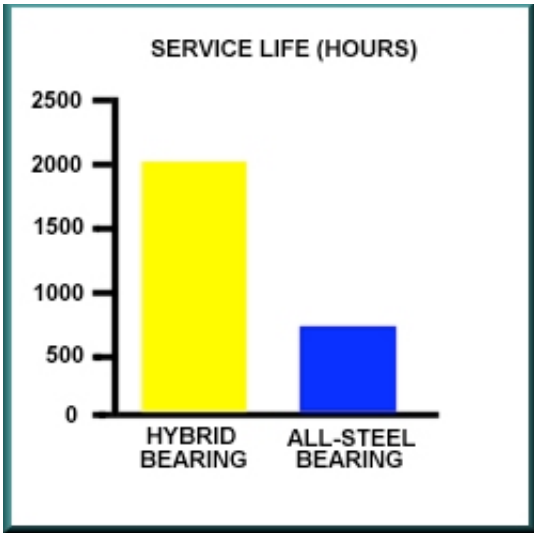
A low thermal expansion coefficient allows HYBRIDS with ceramic balls to undergo smaller changes in contact angle reducing preload variations improving life and maintaining tolerances.

Non-Conductive

Electrical pitting and fluting of the raceway is caused when current passes through the ball to the raceway, typical in electric motor applications, ceramic balls insulate.

Extended Operating Life

With their numerous advantages ceramic hybrid ball bearings typically yield 5 to 10 times longer life than conventional steel-steel ball bearings in most applications.



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