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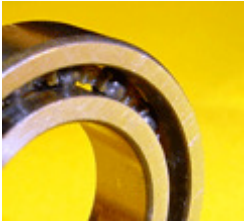


**Ceramic Bearings**

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## Ceramic Bearings and Ceramic Hybrid Bearings

### Ceramic Hybrid Bearings



A Ceramic Hybrid Bearing is a bearing with Steel Races and Ceramic Balls. The balls are usually Si<sub>3</sub>N<sub>4</sub> (Silicon Nitride), and the races can be either SAE52100 Chrome Steel or AISI440C Stainless Steel.

#### Benefits of the Ceramic Hybrid Bearing

- Ceramic balls are harder often resulting in longer life.
- Ceramic balls are usually smoother resulting in less vibration.
- Ceramic balls are non-metallic meaning no magnetic build up and longer life due to no micro-welding between balls and races.
- More tolerant of reduced lubrication.

(Benefits listed are subject to the prevailing conditions and may not apply to all applications)

### Ceramic Bearings



A Ceramic Bearing is a bearing with Ceramic Races and Ceramic Balls. Ceramic Bearings may be either Si<sub>3</sub>N<sub>4</sub> (Silicon Nitride - Grey) or ZrO<sub>2</sub> (Zirconia - White).



#### Benefits of the Ceramic Bearing

- High Temperature. Cages fitted to Ceramic Bearings are often made from PTFE which can withstand temperatures up to 260°C.
- With no cage the Zirconia Bearing can be used in temperatures exceeding 1000°C whereas Silicon Nitride can be used to around 700°C.
- Silicon Nitride Bearings can run at loads and speeds approaching those of steel bearings. Zirconia is reserved for slower loaded applications.
- Inert to water and most chemicals.
- Non magnetic
- Can be used without lubrication
- No heat build up due to friction



(Benefits listed are subject to the prevailing conditions and may not apply to all applications)

