
Ball Rail System

Upgraded by CeramicSpeed



CERAMICSPEED

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Profile rail guides, ball screws and other components within ball rail systems will perform much better after an upgrade with ceramic balls and coating solutions from CeramicSpeed.

Ceramic Balls

Ceramic balls can be found in a variety of materials. The best material available - and the one used for our bearings/linear systems - is silicon nitride (Si_3N_4).

Ceramic balls are superior to steel balls in all physical measurable properties. This ensures many benefits in the bearing/linear systems: The increased hardness of the ball means that the contact area between the ball and the raceway is reduced, leading to lower friction, higher potential speeds, and less energy waste. The hardness and the extreme smooth surface also means, that the balls are far more durable than steel balls.

Ceramic balls have many advantages compared to steel balls:

- Extreme wear resistance
- Non-corrosive
- Low friction
- Electrically insulating
- Robust against any particle
- Higher precision – fewer vibrations
- Stainless
- Higher robustness against contamination
- Low weight

