

Precision Plastics, Inc

An Employee Owned Company

Metal Guide and Idler Bearings vs. Engineered Polymer Bearing

The constant pressure for performance improvement, at the same or less cost creates many opportunities for the Precision Plastic's Team to prove their talent. One example is the development of a polymer bearing to replace the guide bearings in automobile axles. This new polymer bearing runs cooler, requires little or no lubrication and is much quieter than its metal predecessor. This new bearing is now used in both high performance cars and SUVs for several US automobile manufactures.

Here is a summary of how the polymer bearing stacks up against the old metal bearing:

Precision Plastic Polymer Bearing vs. Traditional Metal Bearing		
Cost Savings	50% less cost	High Cost Metal vs. Low Cost Polymer
Operating Temperature	10° Lower	Lower Friction & Polymer's Heat Resistant Properties
Lubrication Requirements	Very little lubrication required, although not recommended the bearing performed well without lubrication	Even with catastrophic loss of lubrication, performance within spec was maintained for an extended period of time.
Sound Reduction	No metal to metal contact, reduced vibration	20% or more sound reduction
Reduced Vibration	Improved fit and the 'self forming' characteristics of polymer provides up to three times lower vibration levels than its metal predecessors	High Tec Polymer readily conforms to the small imperfections in the shaft. Better fit, even after extended use equals less vibration.
Reliability	Excellent	No catastrophic failures reported after millions of miles of both highway and off road use
Improved Fit	Polymer elasticity allows for improved fit and lower rejection rates than the traditional metal bearing	Due to its unique properties and design high tolerances are more easily maintained from manufacture to final assembly



900 Connexion Way
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Long Term Performance:

The first production installation of this polymer bearing was in a limited production performance automobile more than 6 years ago. Upgraded for new designs the same type polymer bearing is now used in the full production editions as well as many SUV's and other vehicles made in the US. After millions of miles of use there have been no reported catastrophic failures of the high-tech bearing. Its durability and performance far exceeds that of its metal predecessors and its use in high performance cars and off road applications continue to grow. The high reliability, fit and low noise characteristics make it a perfect fit for any non-load bearing application.



Can we help you?

The polymer bearing is just one example of the many performance and durability problems our team works on every day. The Precision Plastic team has the experience to assist you in the design and the efficient final assembly of your product. **Along with our engineering talent** Precision Plastics' gives you the high volume production capacity to deliver your component on time and on budget. We excel in the development and production of all types of polymer & engineered plastic components let us see how we may eliminate the performance and assembly inefficiencies of expensive all-metal parts.

Wherever a moving part needs to run quieter, cooler and with less lubrication (at 50% less cost) call the Precision Plastic Team. Our proven track record in finding solutions to a hot, noisy problems is legendary... give us a call today.



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