

# THE GGB ADVANTAGE



## Improved performance and service life

Superior wear resistance and high shock load capacity provide extended bearing service life and improved reliability. Additionally excellent low friction properties reduce power losses for improved equipment performance.

## Maintenance-free

GGB bearings are self-lubricating making them ideal for applications requiring long bearing life without continuous maintenance, as well as operating conditions with inadequate or no lubrication.

## Lower system cost

GGB bearings reduce shaft costs by eliminating the need for hardening and machining grease paths. Their compact, one-piece construction provides space and weight savings and simplifies assembly.

## Environmental

Greaseless, lead-free GGB bearings comply with increasingly stringent environmental regulations such as the EU RoHS directive restricting the use of hazardous materials in electrical and electronic equipment.



## GGB Bearing Technology

GGB Bearing Technology, formerly Glacier Garlock Bearings, is the global leader in high performance bearing solutions. Through our extensive global production and supply network, we provide customers throughout the world with the industry's most comprehensive range of self-lubricating and prelubricated bearings for literally thousands of applications in hundreds of industries.

## EnPro Industries, Inc.

GGB is part of EnPro Industries, Inc. (NYSE: NPO), a leading provider of engineered products for the global processing and general manufacturing industries. Based in Charlotte, North Carolina, USA, the company has 61 manufacturing locations worldwide.

For more information, visit the Technical Reference section at [www.ggbearings.com](http://www.ggbearings.com) or scan the QR code below with your smartphone.

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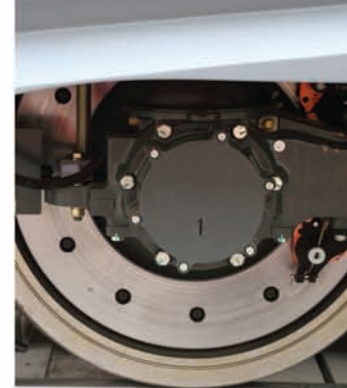
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The Global Leader in High Performance Bearing Solutions



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# HIGH PERFORMANCE BEARINGS FOR RAILROADS AND TRAMWAYS



an EnPro Industries company

# HIGH PERFORMANCE BEARINGS FOR RAILROAD AND TRAMWAY EQUIPMENT



Railroad and tramway equipment manufacturers rely on our metal-polymer and filament wound bearings for grease-free solutions, maintenance-free performance, and extended service life under harsh operating and environmental conditions. Our bearings provide superior performance and lower cost of ownership without the need for complex automated greasing systems.

Our metal-polymer bearings offer exceptionally low friction and high wear resistance under a wide range of loads, speeds and temperatures, with or without external lubrication. They are used in diverse railroad equipment applications, including linkages and cylinders in air brakes; pivot points in wheel assembly stabilizers; roller systems in shunting switches; tramway bogies, dampers and rail-to-road switches; switch blades and actuator connections; and couplers and draft systems to absorb the impact of car movements. They are also used in applications such as track bed tampers; track cutters and renewal systems; overhead electrical contact installations, bell cranks for intermodal ramps, and special jacks.



Featuring low-friction, wear-resistant linings, our composite filament wound bearings accommodate high static and dynamic loads, and their inert nature makes them suitable for corrosive environments. They are used in a number of railroad equipment applications, including torque rods for engine bogies, carriage connections and platform gap fillers. In addition, our injection-molded, solid polymer bearings are used in passenger train sliding platform doors.

## GGB PRODUCTS

The following products are particularly well suited to railroad and tramway equipment applications:



**DP4™** metal-polymer bearings offer excellent high wear resistance and low friction in heavy-duty, oil-lubricated applications, as well as in dry conditions, particularly under intermittent, stop/start operation with reciprocating and oscillating movements.



**DP4-B™** bearings offer all the advantages of DP4 bearings plus the added benefit of an anti-magnetic bronze backing for improved corrosion resistance in hostile environments.



**DS™** bearings are designed for use in mixed film conditions, making them suitable for marginally lubricated and dry operation.



**DX®** marginally lubricated material for grease- or oil-lubricated applications provides optimum performance under relatively high loads and low speeds, and is suitable for linear, oscillating and rotating movements.



**HI-EX®** marginally lubricated material provides good wear and chemical resistance under thin-film conditions. It can be used with low-viscosity fluids and temperatures up to 250°C (480°F).



**EP™** series of injection-molded, solid-polymer bearings provide low friction and excellent wear resistance under both dry and lubricated conditions in a wide range of applications.



**HSG™** High Strength GAR-MAX bearings offer twice the static load capacity of standard GAR-MAX, plus very good friction and wear properties. They also provide excellent resistance to shocks, misalignment, chemicals and contamination.



**GAR-FIL®** tape-based, filament wound bearings have a machinable bearing surface and high rotational speed capability. They also provide very good friction and wear properties, high load capacity and excellent resistance to chemicals and contamination.



**GAR-MAX®** filament wound, composite material provides very good friction and wear properties, as well as high load capacity and excellent resistance to shock, misalignment, chemicals and contamination.