

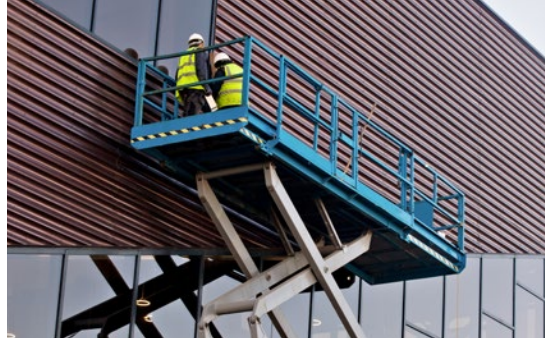
Duralon™



FILAMENT COMPOSITE BEARINGS



RegalRexnord™



DURALON® FILAMENT COMPOSITE BEARINGS

For more than 40 years, Duralon composite bearings minimize frictional loss and support loads while maintaining shaft position in applications such as agricultural machinery, construction equipment, energy processing equipment, food & beverage processing equipment, forest product processing equipment, hydraulic and pneumatic cylinders, lift systems, material handling machinery, mining equipment, recreational vehicle clutches, sailboats, stern drives, and water management valves and actuators. Customers depend on Duralon composite bearings to reduce maintenance costs and downtime, increase productivity, provide customized configurations, and more, no matter the application.

STANDARD TECHNICAL DATA

CONSTRUCTION

- Woven Teflon* and polyester fiber self-lubricating liner supported by a filament-wound continuous fiberglass and epoxy resin matrix

LOAD CAPACITY

- Typical dynamic loading: 4,000 to 30,000 psi (28 to 207 MPa)
- Ultimate strength: 77,000 psi (531 MPa) for 1/8-inch (3.18 millimeters) wall section

PRODUCT AVAILABILITY

- Standard and customized designs available in imperial and metric dimensions

TEMPERATURE

- Continuous: Cryogenic to +325 degrees Fahrenheit (F) (+163 °C)
- Intermittent: to +400 °F (+204 °C)
- A special resin system is available for continuous use up to +400 °F (+204 °C), intermittent use to +450 °F (+232 °C)

COEFFICIENT OF FRICTION

- Static and dynamic coefficients: .16 to .05

SIZE RANGE

- 1/8- to 26-inch (3.18 to 660.40 millimeters) inside diameters

CHOOSE DURALON COMPOSITE BEARINGS FOR:

- **Application and design technical expertise** – trusted engineering expertise to support and guide you in solving application challenges. Product application testing is available at our in-house testing facility, to ensure the performance of the design exceeds your demanding requirements.
- **Industry-leading delivery time** – standard and custom products have a lead time of three weeks, and small quantity orders have a lead time of five business days.
- **Lightweight solutions** – reduce maintenance costs while providing 77 percent less weight than steel bearings and 30 percent less weight than aluminum bearings. Offer easier handling and overall reduced equipment weight with extra-long life in demanding applications, such as in water and other liquid contaminants.
- **Multiple configurations and custom designs** – for your specific needs, our experienced engineers offer multiple configuration options and customized designs with dimensionally tight tolerances to optimize performance and extend bearing life in critical applications. In fact, we currently have 16 active patents and more than 4,200 special designs that our engineering team has developed.
- **Rugged performance** – self-lubricated designs maintain peak performance throughout the product life, minimizing maintenance costs and improving productivity.
- **Unique composition** – the unique, non metallic design combination of Teflon™* fiber, fiberglass and resin offer a corrosion-, moisture-, seizure-, chemical- and fretting-resistant product. Provides reduced downtime and improved productivity.

* Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Toray Fluorofibers (America), Inc.



CONFIGURATIONS FOR YOUR APPLICATION

Duralon® composite bearings are available in seven configurations, including straight sleeve, hex and square bore, annular, linear, flanged, thrust washers, and special designs. Each configuration has unique features ideal for specific applications.

STRAIGHT SLEEVE



- Found in oscillatory (pivoting), linear sliding, slow-speed full rotation applications, including recreational vehicle clutches, construction equipment, water management systems, valves and hydraulic cylinders
- Self-lubricating plain sleeve bearings with a woven Teflon™* fabric liner in the bore that provides lubrication (the liner is also an option on the bearing outer diameter)
- Sizes offered in thin or heavy wall bearing configurations
- Bore sizes range from 1/8- to 26-inch (3.18 to 660.40 millimeters) inside diameters with options of custom designs
- Also referred to as journal, straight sleeve, plain bearings, as well as bushings or bushes

APPLICATIONS



Recreational vehicle clutches



Construction equipment



Water management and valves

HEX AND SQUARE BORE



Hex configurations



Square bore configurations

- Linear applications where you wish to limit rotation around the shaft
- Multiple non-round bore configurations that can replace costlier splines, steel-on-steel, and roller slip assemblies
- Bore sizes range from 1/4- to 1 1/2-inches (6.35 to 38.10 millimeters) across I.D. flats with custom designs available
- Capable of transmitting torque through a drive line while allowing linear motion of the shaft to occur in the bore

APPLICATIONS



Agricultural harvesting equipment



Wood processing equipment

ANNULAR



- Found in food and beverage processing machinery, scissor lift tables, hydraulic cylinder rod ends and marine applications
- Designed to reduce the need for maintenance while allowing multiple degrees of freedom of shaft movement
- Bore sizes range from 1/2- to 6-inch (12.70 to 152.40 millimeters) inside diameters with custom designs available
- Composite and metallic component special hybrid designs
- Wear element is shaped to match the spherical race surface of the ball, providing wear resistant interface and misalignment capability
- Self-lubricating woven fabric technology liner eliminates the need for lubrication
- United States Department of Agriculture-approved for applications where the bearing is not in direct contact with food and resistant to severe washdowns and chemicals

APPLICATIONS



Valves



Man lifts and scissor lifts



Oil rig platform equipment

LINEAR



- Found in food packaging machinery and in factory-automated production lines
- Designed to replace traditional ball bushing linear bearings
- Bore sizes range from 1/4- to 4-inch (6.35 to 101.60 millimeters) inside diameters with custom sizes available
- No lubrication required
- Round bore and open configurations, can be grooved for snap rings
- The use of expensive hardened steel shafting may not be necessary, allowing the use of standard stainless steel shafting in corrosive environments
- Electrical insulating properties stop electrical current that flows through metal bearings, preventing premature bearing failure

APPLICATIONS



Injection molding equipment



Factory-automated production line equipment

FLANGED



- Used as a spacer where there is thrust or separation between two moving axial part members
- Bore sizes range from 1/4- to 2 1/2-inch (6.35 to 63.50 millimeters) inside diameters with custom sizes available
- Simplifies installation and assembly by eliminating two-piece bearing and thrust washer configurations
- Optional features include a Teflon™* fabric liner on the flanged face for axial dynamic loading and an unlined flanged for secure assembly retention

APPLICATIONS



Heavy equipment hydraulic cylinder pivots



Food packaging equipment

THRUST WASHERS



- Found in pivoting, hinge point, and other applications where there are long periods of time between operation, such as valve change systems
- The high-compressive strength and dynamic capacity allow the product to be combined with straight sleeve configuration bearings by supporting axial loads
- Constructed by bonding the woven Teflon™* fiber fabric liner to one or both faces of a washer; washer substrate can be made of stainless steel, low-carbon steel, aluminum or non-metallic composite materials
- Standard washers are made with G-10 substrate material, an electrical insulator that prevents electrolytic or galvanic action between metallic surfaces
- No lubrication required
- Corrosion and fretting-resistant
- Shaft sizes inside bores range from 1/4 to 2 inches (6.35 to 50.80 millimeters) with custom sizes available

APPLICATIONS



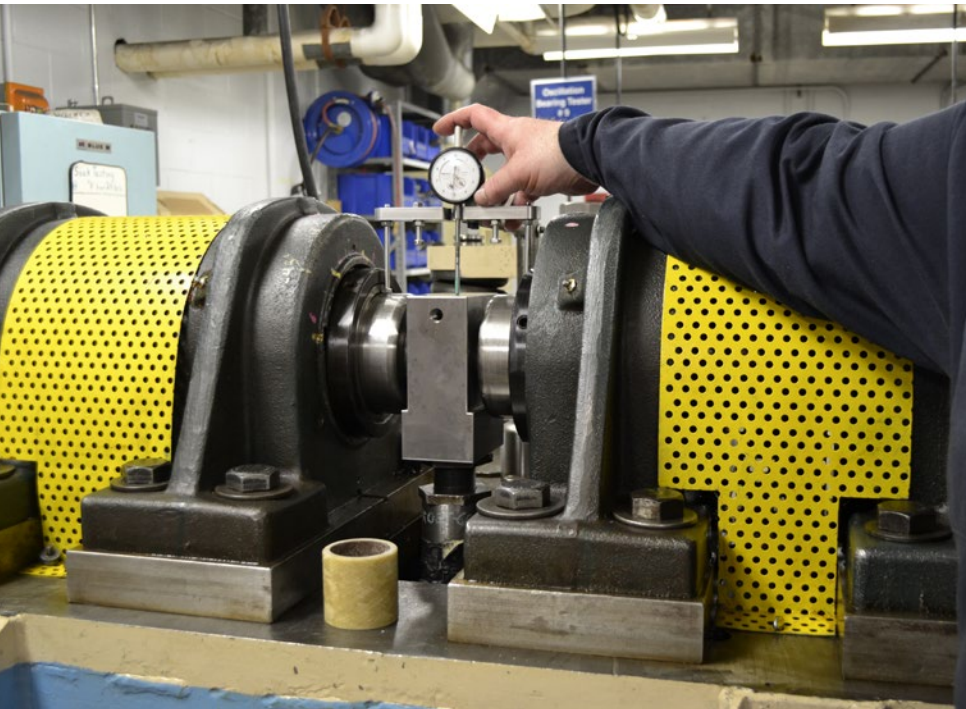
Sailboat hardware and marine steering - engine tilt drives



Water management systems and valves

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BEARING TECHNICAL ASSISTANCE AND DESIGN APPLICATION SUPPORT



Over **40 years** of composite bearing engineering expertise to assist in customer bearing design, proper material selection and sample needs. Our reputation is complimented by 16 patents and more than 4,200 specialty designs. We provide standard products and custom design solutions manufactured to the high quality standards that allow Duralon® bearings to be used in countless demanding applications.

All standard bearing configurations can be easily tailored to fit with existing design hardware to ensure assembly ease and proper function.

Our filament winding process allows us to meet your application need and ultimate successful bearing solution.

Many dynamic - load tests are performed by Regal Rexnord to ensure the ultimate performance and durability of our product meets and exceeds our customer expectations.





CASE STUDY

FOOD PROCESSING APPLICATION — maintenance-free solutions to withstand heat, moisture and wear

A customer needed to replace its roller conveyor bearings that support Rexnord® 5997 MatTop® chain on its conveyor cooler lines where the temperature of products, such as salsa and sauces, are reduced prior to labeling and packaging. Each line is between 90 and 100 feet (27.43 and 30.50 meters) long, usually operating around the clock. The operating environment includes heat and moisture with hot water spray up to 200 F (93 C) as well as a temperature reduction to 100 F (38 C), and a washdown solution that includes chlorine. The original roller conveyor bearings were wood-based resin-impregnated bearings that needed to be kept wet to provide lubrication. This resulted in short bearing life for the customer. The customer went on to try other solutions, such as synthetic bearings, to increase the bearing life with no success — the bearings failed in six months.

The customer turned to Duralon® filament bearings because of the durable material that can withstand heat, moisture washdowns and wear. Additionally, the bearings do not require lubrication, adjustment, alignment or maintenance. The company wanted to test the bearings first, putting them through the hottest and toughest applications. Eight months later, there was no wear at all. At that point, they decided to replace the remaining 1,150 bearings with the Duralon filament bearings. For more information on this case study, download the total cost of ownership document (TCO4-010) at www.rexnord.com/documentation

Duralon™

**Industrial Powertrain Solutions
Regal Rexnord**

Contact us: [regalrexnord.com/contact](https://www.regalrexnord.com/contact)

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