

### Fabroid<sup>®</sup>X High-Temperature Liner System



RBC Aerospace has a full line of plain bearing products which feature the proprietary Fabroid<sup>®</sup>X liner to support Engine Applications such as:

Variable Stator Vane (VSV) Systems • Accessory Gearbox Links & Mounts Bleed Bypass Door Actuation Systems • Engine Mounts • Lever Arms



## Innovation. Commitment. Quality.

# Fabroid<sup>®</sup>X High-Temperature Liner System

for Commercial & Military Gas Turbine Engines and Power Generation

As the World Leader in self-lubricating liner systems<sup>™</sup> the Transport Dynamics Division of RBC Aerospace offers the unique operating characteristics of the Fabroid<sup>®</sup>X liner. This proprietary high-temperature liner system is preferred by all of the major gas turbine engine manufacturers.

The Fabroid®X liner system combines the low friction properties of polytetrafluoroethlyne (PTFE) fibers with the rigidity and thermal stability of high temperature resin and structural fiber. Exposure of the PTFE is moderated by the proprietary liner design to provide consistent low-friction life without needing external lubrication.

#### **Technical Benefits:**

- High-Temperature Operation up to 600°F (316°C)
- Temp Excursions up to 800°F (460°C)
- Low Friction
- High Frequency
- Extended Operational Life

### What is a self-lubricating liner?

#### **Woven Fabric**

- ✓ PTFE fibers a low friction, non-reactive polymer.
- ✓ Support fibers to provide tensile strength and a bond interface.
- **Resins** to provide compressive strength

Adhesive Resin - bonds the fabric to a suitable backing material

- ✓ Steel
- ✓ Titanium
- ✓ Inconel
- ✓ Aluminum





RBC TRANSPORT DYNAMICS

The Fabroid®X liner used in a spherical, link, journal or rod end has proven to be the cost effective solution for most applications with elevated operating temperatures.



There are on-going tests and continual validation of this liner system in our laboratory testing and through customer acceptance. RBC is also investigating the next generation liner systems to provide further performance improvements.









**Rub Pads** 

for Engines





# **Innovation. Commitment. Quality.**

RBC Bearings® has been producing bearings in the USA since 1919. In addition to unique custom bearings, RBC Bearings<sup>®</sup> offers a full line of standard industrial and aerospace bearings, including:



#### **Spherical Bearings**

- MS approved to AS81820 (formerly MIL-B-81820)
- Self-lubricating 
  Metal-to-Metal
- Loader slots High temperature Low coefficient of friction
- Special configurations and materials



#### Thin Section Ball Bearings

- · Standard cross sections to one inch
- · Stainless steel and other materials are available
- Sizes to 40'
- · Seals available on all sizes and standard cross sections
- Super duplex configurations



### Journal Bearings

- MS approved to AS81934 (formerly MIL-B-81934)
- Plain and flanged 
  Self-lubricating
- High temperature High loads Available in inch and metric sizes

#### Airframe Control Ball Bearings

- MS approved to AS7949 (formerly MIL-B-7949)
- Single and double row Radial, self-aligning, and pulley series
- 52100 Cad plated and 440C stainless
- Zinc Nickel plated

#### **Ball Bearing Rod Ends**

- MS approved to AS6039 (formerly MIL-B-6039)
- Various shank configurations
- Low coefficient of friction
- Advanced AeroCres<sup>®</sup> materials available

#### **Rings and Seals**

- Solutions for any pneumatic
- and hydraulic applications
- Seals from .5" to 55" diameter
- Cast Iron to Rene 41
- · Precision machined & wire rings to tight tolerances

#### Specialty Fasteners

- Hollow Bolts, Fuse Pins, Solid Bolts (Standards), **Custom Machined Parts & Nuts**
- Hot Headed, Thread Rolled, HVOF Coated
- Large Diameter over 3/4"

#### Hydraulic Actuators

• 2-Position Fluid Hydraulic

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- Auto or Manual Mechanical Locking
- Lock Sensing/Position Sensing
- Flow/Directional Control Valves: Solenoid/Manual

















#### Machined Components

• Exotic materials • 3, 3.5, 4 and 5 Axis

BR-RBC-0340

- Horizontal and Vertical Milling
- Lathes, Hot Head, Gearing,
- Heat Treat, Special Processes



#### Innovation. Commitment. Quality. www.rbcbearings.com 714.546.3131 X1245 **TDCRFQ@RBCBearings.com**

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BBC 10/24



- MS approved to AS81935 (formerly MIL-B-81935)
- Self-lubricating Metal-to-Metal
- Loader slots High temperature
- · Low coefficient of friction
- Special configurations and materials

#### Track Rollers

- MS approved to AS39901 (formerly MIL-B-3990)
- ATF single row and ATL double row
- Sealed with lube holes and grooves
- · Heavy duty cross sections
- Advanced AeroCres<sup>®</sup> materials available

#### Cam Followers

- MS approved to AS39901 (formerly MIL-B-3990)
- Advanced AeroCres<sup>®</sup> materials available
- Maximum corrosion resistance
- Superior lubricants & seals to reduce maintenance

### Load Slot Bearings

- Spherical and rod end designs
- Superior ball-to-race conformity
- Reduced maintenance cost
- Variety of race materials available

#### **Specials**

- Many specialty bearings, custom-designed and configured for diverse aerospace applications
- Capability for advanced aerospace specialty
- corrosion resistant and high temperature materials

### Control Rods

- Swaging up to 14' length and 4" diameter
- Nadcap and customer special process approvals including NDT
- Surface treatments, CNC Machining,
- Flash Welding, Aluminum Heat Treat
- Design and build to print

### Ducting Solutions

- Solutions for pneumatic ducting
- Patented couplings
- Temperatures 450° to 1,500°F
- Engines, Aircraft, APUs