Engineered Bearing Solutions
Canadian Babbitt Bearings Ltd., is the North American leader in refurbishment, design and manufacture of Babbitt Bearings for the Hydro, Power Generation and Marine markets.

Our skill sets are based on many years of experience providing Engineered Bearing Solutions to our customers that meet or exceed the application demand.
Industries We Serve

- HYDRO ENERGY
- POWER GENERATION
- MOTORS & GENERATORS
- NUCLEAR
- MINING
- OIL & GAS
- MARINE
- STEEL
- PULP & PAPER
Bearings We Make

Journal Bearings and Assemblies

- Hydro Guide Bearings
- Hydrogen Seals
- Axial Grooved
- Preloaded
- Three-lobe
- Pressure Dam
- Mechanical Tilting Pad
- Insulated Motor Bearings
- Dragline Bearings
- Pinion Stand Bearings
- SAG Mill Bearings
- Turbine Bearings
- Trunnion Bearings
- Marine Bearings
CBB manufactures sleeve bearing and bushings in materials other than Babbitt:

- White Metal thin walled sleeves and split bearings
- Bronze, Cast Bronze, Bushings finished to size, or with Liners
- Zinc, Thin Walled Sleeves, Bushings, Bearings and Wear Products
- Lignum-Vitae, Journal Bearings & Wear Products
- PTFE Thrust Pad Bearings
Bearing Materials

Bearing Pressure / Sliding Speed Comparison

Application Ranges

PV: Zincaloy™ vs Bronze

PV: PTFE vs. Lignum Vitae & #2 Babbitt
## Babbitt Materials

<table>
<thead>
<tr>
<th>Babbitt Type</th>
<th>Ultimate Strength in Compression psi (Mpa)</th>
<th>Brinell Hardness</th>
<th>Melting point °F (°C)</th>
<th>Composition %</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>68°F (20°C)</td>
<td>212°F (100°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>68°F (20°C)</td>
<td>212°F (100°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASTM B23 Alloy 2</td>
<td>14 900 (102.7)</td>
<td>8700 (60)</td>
<td>24.5</td>
<td>466 (241)</td>
<td>High speed, High pressure, High temperature, Excellent corrosion resistance, Easy bonding, Less tendency for segregation and welding, Good for steady load conditions in steam and gas turbines, electric motors, blowers, and pumps</td>
</tr>
<tr>
<td></td>
<td>17 600 (121.3)</td>
<td>9900 (68.3)</td>
<td>27</td>
<td>464 (240)</td>
<td>Heavy duty, High Speed, High pressure, High shock</td>
</tr>
<tr>
<td>ASTM B23 Alloy 3</td>
<td>15 650 (107.9)</td>
<td>6150 (42.4)</td>
<td>22.5</td>
<td>464 (240)</td>
<td>Softer than the tin based Babbitt’s, Less tendency to score a shaft, Lower pressure, Lower Speed, Lower thermal conductivity</td>
</tr>
<tr>
<td>ASTM B23 Alloy 15</td>
<td>15 500 (107)</td>
<td>6100 (42)</td>
<td>21</td>
<td>479 (248)</td>
<td>Heavy duty, High Speed, High pressure</td>
</tr>
<tr>
<td>Tegostar ECKA</td>
<td>19 300 (133)</td>
<td>10 300 (71)</td>
<td>26</td>
<td>458 (237)</td>
<td>Same as ASTM B23 Alloy 2, without trace of Lead (meets European REACH requirements), Max static pressure capacity up to high hydrodynamic sliding speeds, Very high fatigue strength, Resistant against high frequency vibration, Minimum strain in creep and then optimum dimensional stability</td>
</tr>
<tr>
<td>Tegostar 738</td>
<td>19 300 (133)</td>
<td>10 300 (71)</td>
<td>26</td>
<td>458 (237)</td>
<td>Max static pressure capacity up to high hydrodynamic sliding speeds, Good dynamic capacity for high frequency vibration, good capacity for impact, minimum strain in creep and then optimum dimensional stability (meets European REACH requirements)</td>
</tr>
<tr>
<td>QQ-T-390A Alloy 10</td>
<td>15 100 (104)</td>
<td>6050 (41)</td>
<td>25</td>
<td>459 (237)</td>
<td>Good for Steady heavy load, High speed especially with low thickness, Low corrosion resistant</td>
</tr>
</tbody>
</table>
Bearing Materials

The correct material for the application

- Babbitt for long life and ability to handle misalignment
- PTFE for high reliability & performance thrust bearings
- Zincaloy™ for low cost “green” sleeve & thin walled bearings
- Lignum-Vitae for water lubricated scenarios
Properly selected bearings are crucial to the performance of rotating equipment. Conversely, the cost and inconvenience of a poorly selected bearing can be catastrophic. **We can help with**

- Life Assessment
- Finite Element Analysis
- Material Selection Services
- Tribological and Wear Analysis
- Field Services from inspection to installation
- Design and Reverse Engineering support
- Manufacturing Services including
  - Babbitt and Re-Babbitt
  - Metal & Polymer Spray
  - Full Machining Service up to 5m diameter
  - Assembly and dis-assembly
  - Castings and Casting Design
  - Fabrications
Design Solutions for Specific Applications

CBB provides comprehensive bearing and specific application design to meet critical operational parameters to maximize life and minimize maintenance costs.

From material selection through geometry and stress analysis, CBB’s Engineered Bearing technology and practical experience provide reliable solutions.
Example Solutions for Specific Applications

Hydro Guide Bearings
Example Solutions for Specific Applications

Pump & Compressor Bearings

Electric Motor & Generator Bearings
CBB provides full refurbishment and repair services from initial assessment through cleaning and repair to final machining and assembly.

In addition, CBB provides On-Site Assessment, Repair and Installation Services for complete solutions.

- Full Inspection
- Remove worn Babbitt
- Clean, & Repair Surfaces

- Re-Babbitt
- Proof of Bond
- Machining
- Assembly
- Inspection
- Installation
Bearing Refurbishment

Examples of Refurbished Bearings & Processes

High Performance Repair
Quality equals Increased Bearing Life
CBB Manufactures and re-manufactures bearings to the highest standard.

CBB’s manufacturing facility, is equipped with state of the art CNC machine tools and Babbitt Process and Insulation Capability, Spin Cast, Static Poured and Spray.
CBB puts Quality First.
Certified to ISO9001-2008, CBB has invested heavily in quality equipment and training of personnel in line with our continuous improvement program.
As part of the Russell Group of Companies, Canadian Babbitt Bearings Ltd., welcomes all bearing projects large and small.

- Refurbishment & Repair
- New Manufacture
- New Design & Manufacture
- Reverse Engineering
- Inspection and Assessment
- Field Inspection, Machining & Installation
- Assembly & Disassembly
- Castings & Casting Design
- Fabrication

Engineered Bearing Solutions

HYDRO ENERGY
POWER GENERATION
MOTORS & GENERATORS
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PULP & PAPER