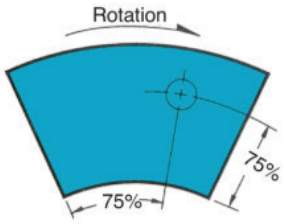

How to Estimate Babbitt Bearing Temperature

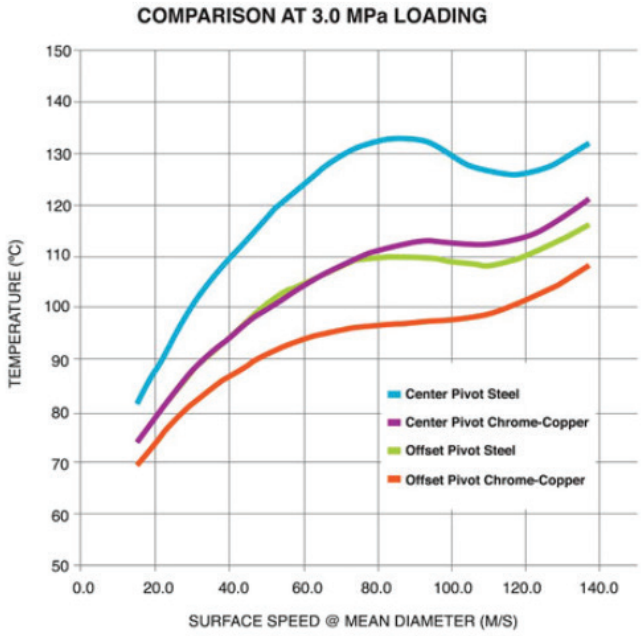

Figure 1

Once you have selected the correct thrust bearing style and size, you may want to estimate the babbitt temperature of the operating bearing. This is a good design practice when:

- **Bearing loading exceeds 400PSI (2.8 Mpa)**
- **Collar surface speed exceeds 15,000 feet per minute (76.2 m/s)**
- **Inlet oil temperature exceeds 120°F (50°C) or**
- **Specifications limit maximum allowable temperature**

To estimate the babbitt temperature at the recommended 75/75 position, the graph on this page (Figure 1) illustrates performance comparisons of different types at 3.0 MPa loading. If the temperature exceeds 265°F (130°C), you may be able to reduce temperatures to a more acceptable level by substituting chrome-copper-backed shoe or offset-pivot steel shoes for plain steel shoes. Consult the graph below to determine if this is the case. For those applications where the babbitt temperature still exceeds 265°F (130°C), contact Kingsbury's Engineering Department for additional suggestions, or for details on different load ratings.

Using the Babbitt Temperature Curves

Our experimental work with a variety of shoe designs and materials indicates that the comparison below can be applied with reasonable accuracy to the J, B, E, and S styles of bearings.

The curves are based upon tests performed in our Research and Development Center using 10.5" diameter, six and eight shoe bearings, operated with light turbine oil [150 SSU @ 100°F; 32cSt @ 40°C] supplied at 115°F (46°C).

Contact Us

For over a century, Kingsbury has delivered high-quality thrust bearing solutions engineered for demanding loads, high reliability, and long service life. Have questions or need support? Our team is here to help.

Visit us on the web - Kingsbury.com
Talk with a Kingsbury Engineer - engineering@kingsbury.com

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