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Static vs Dynamic Load

The tables for bearing properties usually include a static and dynamic load carrying capacity.

When replacing an existing bearing, it is not usually necessary to know these values. The engineer who designed the application should have already worked this out and designed the application with a large enough bearing to handle the loads.

However, when designing a new application or modifying an existing one, it is important that the bearing selected can handle the load.

The dynamic load of an application is not simply the weight of the machine being moved. The dynamic load of an application will increase with centrifugal force as the application spins faster. This is why we always suggest that the actual dynamic load is best worked out by an engineer.

The dynamic load rating is the theoretical load that the bearing can withstand such that 90% of bearings in a sample batch will last for 1,000,000 revolutions under ideal conditions before damage occurs to the races and/or balls.

