

# Rated Load and Service Life of a Linear Motion System

## 1. Rated Load and Service Life

When selecting a specific linear motion (LM) system, you must first consider and determine its load capacity and service life.

To determine the rated load, use the basic static load rating to obtain the static safety factor. To determine the service life, use the basic dynamic load rating to calculate the rated life. And then, judge if these values meet the required conditions.

The service life of an LM system refers to the total distance traveled until flaking occurs (scale-like exfoliation of the metal surface) due to rolling fatigue of the material as a result of repeated stress acting on the raceway or the rolling element.