

Track Load Capacity

The track load capacity means the permissible load at which the outer ring of a bearing and the mating surface are capable of withstanding repeated use over a long period.

The track load capacity provided in the specification table indicates the value when using a steel material with tensile strength of 1.24 kN/mm² as the mating material. Therefore, it is possible to increase the track load capacity by increasing the hardness of the material. Fig.2 shows the hardness of the mating material and the track capacity factor in relation to tensile strength. To obtain the track load capacity of each mating material, multiply the track load capacity shown in the corresponding specification table by the respective track load factor.

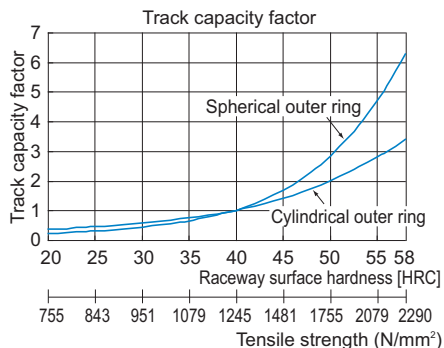


Fig.2 Track Capacity Factor

Note: For the mating material, we recommend using those materials with the raceway hardness of 20 HRC or higher and the tensile strength of 755 N/mm² or higher.

Example of Calculating a Track Load Capacity

Obtain the track load capacity when heat-treating the mating material, which a bearing whose outer ring has a track load capacity of 5.29 kN contacts, to hardness of 50 HRC.

The track capacity factor when the hardness is 50 HRC is 2.84, as indicated in Fig.2. Therefore, the desired track load capacity is calculated as follows.

The track load capacity = $5.29 \text{ kN} \times 2.84 = 15.0 \text{ kN}$