

# 6003-Z Deep groove ball bearing with seals or shields



## Deep groove ball bearing with seals or shields

Single row deep groove ball bearings with seals or shields are particularly versatile, have low friction and are optimized for low noise and low vibration, which enables high rotational speeds. They accommodate radial and axial loads in both directions, are easy to mount, and require less maintenance than many other bearing types. The integral sealing can significantly prolong bearing service life because it keeps lubricant in the bearings and contaminants out.

- Integral sealing prolongs bearing service life
- Simple, versatile and robust design
- Low friction and high-speed capability
- Accommodate radial and axial loads in both directions
- Require little maintenance

## Overview

### Dimensions

Bore diameter	17 mm
Outside diameter	35 mm
Width	10 mm

### Performance

Basic dynamic load rating	6.37 kN
Basic static load rating	3.25 kN
Reference speed	45 000 r/min
Limiting speed	28 000 r/min
SKF performance class	SKF Explorer

### Properties

Filling slots	Without
Number of rows	1
Locating feature, bearing outer ring	None
Bore type	Cylindrical
Cage	Sheet metal
Matched arrangement	No
Radial internal clearance	CN
Tolerance class	Class P6 (P6)
Material, bearing	Bearing steel
Coating	Without
Sealing	Shield on one side
Sealing type	Non-contact

Lubricant	None
Relubrication feature	Without

# Technical Specification

SKF performance class

SKF Explorer



## Dimensions

d	17 mm	Bore diameter
D	35 mm	Outside diameter
B	10 mm	Width
$d_1$	≈ 23 mm	Shoulder diameter
$D_2$	≈ 31.2 mm	Recess diameter
$r_{1,2}$	min. 0.3 mm	Chamfer dimension

## Abutment dimensions

$d_a$	min. 19 mm	Diameter of shaft abutment
$d_a$	max. 22.9 mm	Diameter of shaft abutment
$D_a$	max. 33 mm	Diameter of housing abutment
$r_a$	max. 0.3 mm	Radius of shaft or housing fillet



## Calculation data

Basic dynamic load rating	C	6.37 kN
Basic static load rating	$C_0$	3.25 kN
Fatigue load limit	$P_u$	0.137 kN
Reference speed		45 000 r/min

Limiting speed		28 000 r/min
Minimum load factor	$k_r$	0.025
Calculation factor	$f_0$	14

## Mass

Mass bearing		0.039 kg
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## Tolerance class

Dimensional tolerances		P6
Radial run-out		P5

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