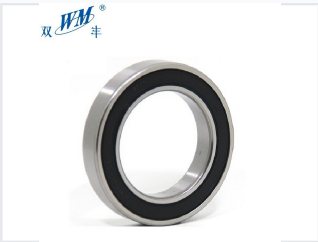
Deep Groove Ball Bearings 6201 6202 6203 6204 6205

These deep groove ball bearings are available in sizes 6201, 6202, 6203, 6204, and 6205. They feature options for 2RS, ZZ, and open configurations, as well as C0, C3, and C5 clearance ratings.

ADDITIONAL IMAGES



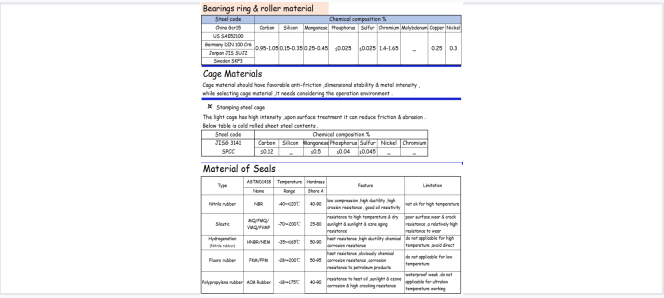
Product Overview

Internal structure of a deep groove ball bearing showing outer ring, cage, balls, and inner ring.

High-Precision Deep Groove Ball Bearings

These versatile deep groove ball bearings are engineered for high-speed and high-load applications, featuring a deep raceway geometry for smooth operation. Designed to Electric Motor Quality (EMQ) standards, they minimize friction, noise, and vibration, making them ideal for electric motors and precision machinery. Available in multiple sealing configurations and clearance grades, these bearings provide reliable performance across diverse industrial environments.

Technical Specifications



Bearings ring & roller material

Steel code	Chemical composition %								
China Gcr15	Carbon	Silicon	Manganese	Phosphorus	Sulfur	Chromium	Molybdenum	Copper	Nickel
US 52100									
Germany 100 Cr6	0.95-1.05	0.15-0.35	0.25-0.45	≤0.025	≤0.025	1.4-1.65	_	0.25	0.3
Japan JIS SUJ2									
Sweden SKF3									

Cage Materials

Cage material should have favorable anti-friction ,dimensional stability & metal intensity , while selecting cage material ,it needs considering the operation environment .

Stamping steel cage

The light cage has high intensity ,upon surface treatment it can reduce friction & abrasion .

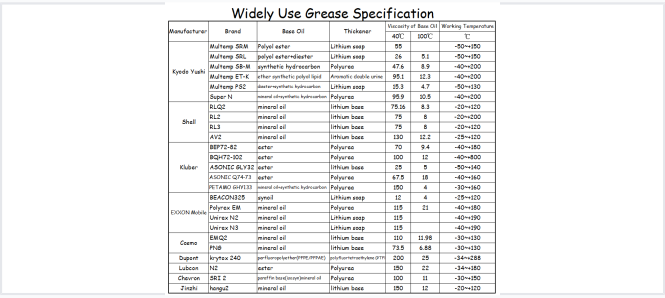
Below table is cold rolled sheet steel contents .

Steel code	Chemical composition %						
JIS G 3141	Carbon	Silicon	Manganese	Phosphorus	Sulfur	Nickel	Chromium
SPCC	≤0.12	_	≤0.5	≤0.04	≤0.045	_	_

Material of Seals

Type	ASTM D1418 Name	Temperature Range	Hardness Shore A	Feature	Limitation
Nitrile rubber	NBR	-40~+120℃	40-90	low compression high ductility ,high erosion resistance , good oil resistivity	not ok for high temperature
Silastic	MQ/PMQ/ VMQ/PVMF	-70~+200℃	25-80	resistance to high temperature & dry sunlight & sunlight & ozne aging resistance	poor surface wear & crack resistance ,a relatively high resistance to wear
Hydrogenation (Nitrile rubber)	HNBR/HEM	-25~+165℃	50-90	heat resistance, high ductility chemical corrosion resistance	do not applicable for high temperature ,avoid direct
Fluoro rubber	FKM/FPM	-20~+200℃	50-95	heat resistance ,obviously chemical corrosion resistance ,corrosion resistance to petroleum products	do not applicable for low temperature
Polypropylene rubber	ACM Rubber	-10~+175℃	40-90	resistance to heat oil ,sunlight & ozone corrosion & high smoking resistance	waterproof weak ,do not applicable for ultralow temperature working

Detailed chemical composition of bearing steel and properties of various seal materials including NBR and Silastic.



Widely Use Grease Specification

Manufacturer	Brand	Base Oil	Thickener	Viscosity of Base Oil 40℃	Viscosity of Base Oil 100℃	Working Temperature ℃
Kyodo Yushi	Multemp SRM	Polyol ester	Lithium soap	55		-50~+150
	Multemp SRL	polyol ester+diester	Lithium soap	26	5.1	-50~+150
	Multemp SB-M	synthetic hydrocarbon	Polyurea	47.6	8.9	-40~+200
	Multemp ET-K	ether synthetic polyol lipid	Aromatic diolefin urine	95.1	12.3	-40~+200
	Multemp PSC	diester+synthetic hydrocarbon	Lithium soap	15.3	4.7	-50~+130
	Super N	mineral oil+synthetic hydrocarbon	Polyurea	95.9	10.5	-40~+200
Shell	RLQ2	mineral oil	lithium base	75.16	8.3	-20~+120
	RL2	mineral oil	lithium base	75	8	-20~+200
	RL3	mineral oil	lithium base	75	8	-20~+120
	AV2	mineral oil	lithium base	130	12.2	-25~+120
Kluber	BBP72-82	ester	Polyurea	70	9.4	-40~+180
	BQH72-102	ester	Polyurea	100	12	-40~+800
	ASONEC GLY32	ester	lithium base	25	5	-50~+140
	ASONEC Q74-73	ester	Polyurea	67.5	18	-40~+160
	PETAMO GHY133	mineral oil+synthetic hydrocarbon	Polyurea	150	4	-30~+160
EXXON Mobil	BEACON325	xyleol	Lithium soap	12	4	-25~+120
	Polyrex EM	mineral oil	Polyurea	115	21	-40~+160
	Unirex N2	mineral oil	Lithium soap	115		-40~+390
	Unirex N3	mineral oil	Lithium soap	115		-40~+390
Cosmo	EM-Q2	mineral oil	lithium base	110	11.98	-30~+130
	FN8	mineral oil	lithium base	73.5	6.88	-30~+130
Dupont	krytex 240	perfluoropolyether(PFPE/PFMAE)	polytetramethylene(PTF	200	29	-34~+288
Lubcon	N2	ester	Polyurea	180	22	-34~+180
Chevron	SRI 2	paraffin base(ester)mineral oil	Polyurea	100	11	-30~+150
Zinzhi	hengu2	mineral oil	lithium base	150	12	-20~+120

Comprehensive guide to lubricant options and their respective working temperature ranges.

Closure Options

OPEN • ZZ (Metal Shielded) • 2RS (Rubber Sealed) • Z (Single Shield) • RZ • 2RZ

Radial Internal Clearance

- C0 (Standard)
- C2
- C3
- C5

Available Series	6000 Series, 6200 Series, 6300 Series, 6900 Series
Bearing Material	Chrome Steel (Gcr15)
Precision Ratings	P0, P5, P6, ABEC-3, ABEC-5

Performance Metrics

Vibration & Noise Levels

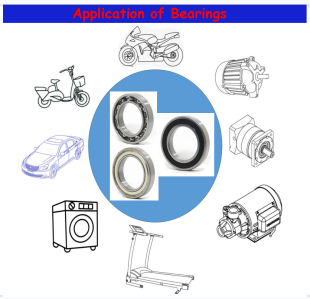
2 Z2V2
Vibration Grade

3 Z3V3
Precision Grade

6300 Series Performance Data

Model	ID (mm)	OD (mm)	Width (mm)	Dynamic Load (Cr)
6301	12	37	12	7.48
6302	15	42	13	8.8
6303	17	47	14	10.45
6304	20	52	15	12.26
6305	25	62	17	17.22

Applications



Examples of industrial and motor applications for deep groove ball bearings.

Common Applications

- Electric Motors
- Automotive Components
- Industrial Machinery
- Gearboxes
- Pumps

Logistics & Service

6300 Series Industrial Packing Details

Model	MOQ. Carton	Industrial Packing	Quantity per Carton PCS	Packing Photo
6301	1		400	
6302	1		300	
6303	1		250	
6304	1		200	
6305	1		120	
6306	1		60	
6307	1		50	
6308	1		45	
6309	1		30	

Standard industrial packing configurations and quantity per carton for various models.

Packaging	Industrial Packing, Neutral Box, Color Box
Accepted Payment	T/T, L/C, Western Union, PayPal