

Continuous performance in extreme conditions

SKF Spherical roller bearings for continuous casters.



Engineered for high static load carrying capacity and wear resistance

Extreme temperatures, very high loads and abrasive dust are just some of the challenges that continuous casting lines face. Frequent and costly shutdowns for maintenance are inevitable as water, mould powder and scale get into bearing housings.

If a bearing fails, all production must be stopped causing costly, unplanned downtime. At the same time, there is constant pressure to optimize production and cut costs per tonne.

The performance of rotating equipment is a major factor in reaching the production and cost-reduction targets of steel plants. Given the intense global competition in the steel industry, smooth mill operations is important. All of

our experience has been invested in the development of the SKF Spherical roller bearings for continuous casters. The bearings are designed to provide excellent performance, wear resistance and cost efficiency in the extreme operating conditions.

Designed specifically for continuous casting applications, they provide a number of advantages, including:

- **High static load carrying capacity**
- **Good wear resistance**
- **Good crack resistance**
- **Optimized for lubrication**
- **Fully interchangeable with standard spherical roller bearings**



Increased bearing life

The SKF Spherical roller bearings for continuous casters are optimized to provide excellent performance in the continuous casting machine environment. The patented heat treatment gives the bearings twice as good wear resistance compared to standard bainite hardened bearings. The subsurface compressive stress is on the surface and can limit initial crack growth and hinder ring crack propagation during operation, helping to avoid unplanned stops. The bearings also have an optimized internal design with an average 8% increase in internal space for grease. During its life cycle, the bearing design reduces grease consumption, making the SKF Spherical roller bearings for continuous casters an environmentally friendly and cost effective choice. The sum of these improvements contribute to increased uptime and a lower total cost of ownership.



Reduced maintenance time



Lower production cost per tonne



Reduced environmental impact

Complete offer for rotating equipment performance

By taking advantage of SKF's complete offer, you can compare your maintenance strategy to validated best practices for continuous casting machines. We supply all the technologies and products together with a proprietary online tool to fully understand and improve all aspects of your application.

Reality check – two field tests prove their performance

Tests in a live environment are an integral part of our product development process. For the SKF Spherical roller bearings for continuous casters, two customer tests have been carried out with excellent results. In case A, the failure rate was 0 out of 12 pieces. In case B, 1 out of 42 pieces. It is important to note that one bearing failure was due to a blocked lubrication pipe and not a consequence of a fault in the rotating equipment. (→ **table 1 and 2**).

Table 1

Field validation – Case A:
Excellent performance of SKF bearings

Caster OEM	Primetals (VAI)
Roll type	Common shaft
Bearings	12 pcs 23220 VA9B1 12 pcs 23220 Explorer
Volume produced	600 000 ton
Production benchmark	450 000 ton
Failure rate	0 out of 12 pcs for 23220 VA9B1 0 out of 12 pcs for 23220 Explorer

Table 2

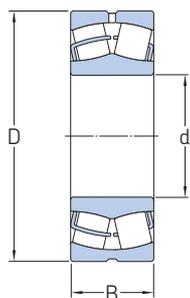
Field validation – Case B:
Excellent performance of SKF bearings

Caster OEM	SMS Group
Roll type	Double split
Bearings	42 pcs 24030 VA9B1
No. heats completed	9000+
Benchmark heats	8500
Failure rate	1* out of 42 pcs

*Bearing failed due to blocked/choked lubrication pipe.

SKF Spherical roller bearings for continuous casters

d 100 – 150 mm



Principal dimensions			Basic static load ratings	Limiting speed	Mass	Designations
d	D	B	C_0			
mm			kN	r/min	kg	–
100	180	60.3	600	20	6.71	23220/C3W33VA9B1
	180	60.3	600	20	6.71	23220/C4W33VA9B1
110	170	60	620	20	4.92	24022/C3W33VA9B1
	170	60	620	20	4.92	24022/C4W33VA9B1
120	180	60	670	20	5.36	24024/C3W33VA9B1
	180	60	670	20	5.36	24024/C4W33VA9B1
130	200	69	815	20	7.93	24026/C3W33VA9B1
	200	69	815	20	7.93	24026/C4W33VA9B1
140	210	69	900	20	8.43	24028/C3W33VA9B1
	210	69	900	20	8.43	24028/C4W33VA9B1
150	225	75	1040	20	10.34	24030/C3W33VA9B1
	225	75	1040	20	10.34	24030/C4W33VA9B1
160	240	80	1200	20	12.82	24032/C3W33VA9B1
	240	80	1200	20	12.82	24032/C4W33VA9B1
170	260	90	1460	20	17.26	24034/C3W33VA9B1
	260	90	1460	20	17.26	24034/C4W33VA9B1
110	180	69	750	20	7	24122/C3W33VA9B1
	180	69	750	20	7	24122/C4W33VA9B1
150	250	100	1530	20	19.79	24130/C3W33VA9B1
	250	100	1530	20	19.79	24130/C4W33VA9B1

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