

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 contamination 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 ton.

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 operation is important. SKF has tapped into our years of experience in the steel industry to develop

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**
- **Superior 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 reduces the risk of crack propagation during operation, helping to avoid unplanned stops. The bearings also have an optimized internal design to allow for additional lubricant.

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 ton



Reduced environmental impact

SKF's Continuous Caster Portfolio

SKF is committed to driving innovation to increase bearing service life, and creating cost efficiencies to enable price reduction. Continuous improvement allows this portfolio of superior application-specific bearings to solve customer pain points at a competitive price point.



SKF solutions for your continuous casting applications:

- [SKF Explorer SRB](#)
- [SKF CARB Toroidal Roller Bearings](#)
- [Cylindrical Roller Bearings](#)
- [Needle Roller Bearings](#)
- [Slewing Ring Bearings](#)
- [Mounted Bearings](#)
- [SKF Cooper Split Roller Bearings](#)
- [CR Seals](#)
- [Lincoln Lubrication Systems](#)
- [Maintenance Tools](#)
- [SKF Bearing Remanufacturing](#)
- [Rotating Equipment Performance](#)

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
Volume produced	600 000 ton
Production benchmark	450 000 ton
Failure rate	0 out of 12 pcs for 23220 VA9B1

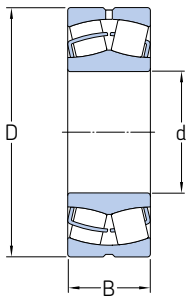
Table 2

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 caster applications

d 100 – 150 mm



Caster spherical roller bearing designation system

					C		W	3	3	V	A	9	B	1
Series					Shaft size x5	Radial clearance (available in C3 & C4)	Annular groove with three lubrication holes			Suffix for caster specific design				

Example: 24026 / C3 W33 VA9B1

Principal dimensions			Basic static load ratings	Limiting speed	Designations
d	D	B	C ₀		
mm			kN	r/min	–
120	260	86	251786	20	22324/C3W33VA9B1
120	260	86	251786	20	22324/C4W33VA9B1
160	340	114	440626	20	22332/C3W33VA9B1
160	340	114	440626	20	22332/C4W33VA9B1
150	225	56	168607	20	23030/C3W33VA9B1
150	225	56	168607	20	23030/C4W33VA9B1
110	180	56	131513	20	23122/C3W33VA9B1
110	180	56	131513	20	23122/C4W33VA9B1
100	180	60.3	134885	20	23220/C3W33VA9B1
100	180	60.3	134885	20	23220/C4W33VA9B1
120	180	60	150622	20	24024/C3W33VA9B1
120	180	60	150622	20	24024/C4W33VA9B1
130	200	69	183219	20	24026/C3W33VA9B1
130	200	69	183219	20	24026/C4W33VA9B1
140	210	69	202328	20	24028/C3W33VA9B1
140	210	69	202328	20	24028/C4W33VA9B1
150	225	75	233801	20	24030/C3W33VA9B1
150	225	75	233801	20	24030/C4W33VA9B1
160	240	80	269771	20	24032/C3W33VA9B1
160	240	80	269771	20	24032/C4W33VA9B1
170	260	90	328221	20	24034/C3W33VA9B1
170	260	90	328221	20	24034/C4W33VA9B1
110	180	69	168607	20	24122/C3W33VA9B1
110	180	69	168607	20	24122/C4W33VA9B1
140	225	85	260778	20	24128/C3W33VA9B1
140	225	85	260778	20	24128/C4W33VA9B1
150	250	100	343958	20	24130/C3W33VA9B1
150	250	100	343958	20	24130/C4W33VA9B1
130	210	80	224809	20	24126/C3W33VA9B1
130	210	80	224809	20	24126/C4W33VA9B1

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