1. Materials for SLB bearing's Outer ring, Inner ring & Rolling Elements

The most common through-hardening steel used for rolling bearing of **SLB** used is a carbon chromium steel containing approximately 1% carbon and 1.5% chromium. Below table1.1 which shown G Cr15--the main material that **SLB** used for producing our spherical roller bearings and its in terchangealbe material in other nations.

Table 1.1

Name	Standard	Chemical Composition (%)					
		C	Mn	Si	Cr	S≤	P≤
G Cr15	SLB	0.95~1.05	0.20~0.40	0.15~0.35	1.30~1.65	0.020	0.027
SUJ 2	JIS G 4805	0.95~1.10	0.50≤	0.15~0.35	1.30~1.60	0.025	0.025
100Cr6	DIN	- ditto -	- ditto -	- ditto -	- ditto -	- ditto -	- ditto -
E52100	AISI	- ditto -	- ditto -	- ditto -	- ditto -	- ditto -	- ditto -
ISO	683/XVII	- ditto -	- ditto -	- ditto -	- ditto -	- ditto -	- ditto -
SKF	-	- ditto -	- ditto -	- ditto -	- ditto -	- ditto -	- ditto -

Note: **SLB** supplies all general bearings with material of G Cr15 as normal products, unless otherwise specified by customer for special usage before ordering . i.e. Pure carbon or Stainless Steel etc.

2. Material for Bearing Retainers

The retainer is demanded to bear hitting load and have the lowest friction with the rolling elements when **SLB** bearing is working. So, low carbon steel, brass or nylon material is adopted. (Please refer to Table 2.1)

Table 2.1

Series No.	Bearing No.		
	Pressing steel cage	Machined brass cage	Nylon cage
30	23022 C ~ 23038 C	—	—
	23022 CC ~ 23060 CC	23022CACM ~ 23060CACM	—
40	24024 CC ~ 24060 CC	—	—
31	23120 C ~ 23136 C	—	—
	23120 CC ~ 23156 CC	23120CACM ~ 23156CACM	—
41	24122 CC ~ 24156 CC	—	—
22	22206 C ~ 22232 C	22206 ~ 22260	—
	22205 CC ~ 22236 CC	22205CACM ~ 22236CACM	22205 TN1 ~ 22236 TN1
32	23218 C ~ 23232 C	—	—
	23218 CC ~ 23248 CC	23218CACM ~ 23248CACM	—
13	21304 CC ~ 21322 CC	21304 TN1 ~ 21322 TN1	21304 TN1 ~ 21322 TN1
	22308 C ~ 22328 CC	22308 ~ 22356	—
23	22308 CC ~ 22330 CC	22308CACM ~ 22330CACM	22308 TN1 ~ 22330 Tn1

Note: **SLB** supply bearings with retainer material shown above as normal products, unless otherwise specified by customers for special useage before ordering .I.e Corrosion proof, poor agricultural requirement and water resistant etc.

3. Tilted angle allowance

(Please refer to **Table 3.**)

Series No.	Tilted angle allowance≤
30	1.5°
40	2.0°
31	1.5°
41	2.5°
22	1.5°
32	2.5°
13	1.0°
23	2.0°

4. Precision Class for spherical roller bearings

4.1) The accurrcy of spherical roller bearing are both dimensional and running accuracy of the bearingIt has been standardised internationally. Here we give out a interchangeable precision class standard table which is equ al to **SLB** (Table 4, 1 refers) for your reference.

Table 4.1

Selection	Classification standard	
SLB	P0	P6
ISO	Class 6X	Class 6
Japan Industral	Class 0	Class 6
Germany	P0	P6
United States	ABEC-1	ABEC-3

Note: **SLB** supply bearings with classification standard of P0 as normal products, specified by customers for higher grade usage before ordering.

4.2) The normal tolerances for **SLB** spherical roller bearings are the same as Normal Tolerances for Radial Bearings. (Please refer to Tables 4,2 and 4,3 in **SLB** General catalogue ball bearing part)

5. Internal Clearance

5.1) Radial clearance of **SLB** spherical roller bearings (Please refer to Table 5.1 and 5.2)

Table 5.1 Radial Clearance for bearing with cylindrical bore

Nominal bore diameter d (mm)		Radial Clearance (μm)									
		C2		CN		C3		C4		C5	
over	incl.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
14	18	10	20	20	35	35	45	45	60	60	75
18	24	10	20	20	35	35	45	45	60	60	75
24	30	15	25	25	40	40	55	55	75	75	95
30	40	15	30	30	45	45	60	60	80	80	100
40	50	20	35	35	55	55	75	75	100	100	125
50	65	20	40	40	65	65	90	90	120	120	150
65	80	30	50	50	80	80	110	110	145	145	180
80	100	35	60	60	100	100	135	135	180	180	225
100	120	40	75	75	120	120	160	160	210	210	260
120	140	50	95	95	145	145	190	190	240	240	300
140	160	60	110	110	170	170	220	220	280	280	350
160	180	65	120	120	180	180	240	240	310	310	390
180	200	70	130	130	200	200	260	260	340	340	430
200	225	80	140	140	220	220	290	290	380	380	470
225	250	90	150	150	240	240	320	320	420	420	520
250	280	100	170	170	260	260	350	350	460	460	570
280	315	110	190	190	280	280	370	370	500	500	630
315	355	120	200	200	310	310	410	410	550	550	690
355	400	130	220	220	340	340	450	450	600	600	750
400	450	140	240	240	370	370	500	500	660	660	820
450	500	140	260	260	410	410	550	550	720	720	900

Table 5.2 Radial Clearance for bearing with taper bore

Nominal bore diameter d (mm)		Radial Clearance (μm)									
		C2		CN		C3		C4		C5	
over	incl.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
18	24	15	25	25	35	35	45	45	60	60	75
24	30	20	30	30	40	40	55	55	75	75	95
30	40	25	35	35	50	50	65	65	85	85	105
40	50	30	45	45	60	60	80	80	100	100	130
50	65	40	55	55	75	75	95	95	120	120	160
65	80	50	70	70	95	95	120	120	150	150	200
80	100	55	80	80	110	110	140	140	180	180	230
100	120	65	100	100	135	135	170	170	220	220	280
120	140	80	120	120	160	160	200	200	260	260	330
140	160	90	130	130	180	180	230	230	300	300	380
160	180	100	140	140	200	200	260	260	340	340	430
180	200	110	160	160	220	220	290	290	370	370	470
200	225	120	180	180	250	250	320	320	410	410	520
225	250	140	200	200	270	270	350	350	450	450	570
250	280	150	220	220	300	300	390	390	490	490	620
280	315	170	240	240	330	330	430	430	540	540	680
315	355	190	270	270	360	360	470	470	590	590	740
355	400	210	300	300	400	400	520	520	650	650	820
400	450	230	330	330	440	440	570	570	720	720	910
450	500	260	370	370	490	490	630	630	790	790	1000

Note: Values for larger sizes, subject on request.

6. Main structure of spherical roller bearings

6.1) That with cylindrical bore

6.1.1) 20000 C type adopting symmetrical spherical rollers and pressing steel cage, roller have been prolonged So, its loading capacity enlarged.

6.1.2) 20000 CC type is a improved type of 20000 C, the friction be tween rings and rollers are being reduced: to gain higher loading capacity.

6.1.3) 20000 CACM type adopting symmetrical spherical rollers and machined brass cage. Its loading capacity is the same as that of 20000 CC type.

6.1.4) 20000 TN1 type adopting symmetrical s pherical rollers and Nylon cage. Its loading capacity is the same as that of 20000 CC type.

6.2) That with tapered bore

6.2.1) Those with 1: 12 tapered bore will be suffixed with K. While with 1:30 tapered bore will be suffixed with K30.

6.2.2) These type when fitting with adapter, it could slightly adjusting the radial clearance of the bearing by moving its inner ring a little along the shaft.

6.3) When outer ring of the above mentioned bearings being machined with a lubricant groove and three oil bores, the suffix W33 is added after the model number. I.e. 22206 CC/W33.