LIST OF SYMBOLS

Symbol	Description	Units
C_s	Basic static load rating	N (lb)
d_m	Pitch diameter	mm (in.)
D	Ball diameter	mm (in.)
α	Contact angle	^{o}
γ	D cos α/d_m	
φ_s	Raceway diameter	mm (in.)
	SUBSCRIPTS	
s	Refers to static loading	

Table CD9.1. Values of φ_s for Ball Bearings[a]

	Radial and Angular-Contact Goove Type		Radial Self-Aligning		Thrust	
γ	Metric[b]	Inch[c]	Metric[b]	Inch[c]	Metric[b]	Inch[c]
0.00	14.7	2120	1.9	284	61.6	8950
0.01	14.9	2180	2.0	290	60.8	8820
0.02	15.1	2220	2.0	297	59.9	8680
0.03	15.3	2270	2.1	301	59.1	8540
0.04	15.5	2300	2.1	307	58.3	8430
0.05	15.7	2350	2.1	313	57.5	8320
0.06	15.9	2400	2.2	319	56.7	8210
0.07	16.0	2430	2.2	325	55.9	8100
0.08	16.2	2480	2.3	332	55.1	7990
0.09	16.4	2440	2.3	338	54.3	7870
0.10	16.4	2410	2.4	344	53.5	7790
0.11	16.1	2370	2.4	351	52.7	7710
0.12	15.9	2340	2.4	357	51.9	7630
0.13	15.6	2290	2.5	363	51.2	7500
0.14	15.4	2260	2.5	370	50.4	7390
0.15	15.2	2220	2.6	376	49.0	7270
0.16	14.9	2190	2.6	382	48.8	7150
0.17	14.7	2140	2.7	389	48.0	7030
0.18	14.4	2110	2.7	397	47.3	6910
0.19	14.2	2070	2.8	403	46.5	6780
0.20	14.0	2040	2.8	409	45.7	6670
0.21	13.7	2000	2.8	417	44.9	6540
0.22	13.5	1960	2.9	423	44.2	6420
0.23	13.2	1920	2.9	430	43.5	6300
0.24	13.0	1890	3.0	438	42.7	6200
0.25	12.8	1850	3.0	446	41.9	6110
0.26	12.5	1820	3.1	452	41.2	6010
0.27	12.3	1780	3.1	459	40.5	5880
0.28	12.1	1750	3.2	467	39.7	5760
0.29	11.8	1730	3.2	473	39.0	5660
0.30	11.6	1690	3.3	481	38.2	5570
0.31	11.4	1670	3.3	488	37.5	5490
0.32	11.2	1630	3.4	496	36.8	5370
0.33	10.9	1600	3.4	503	36.0	5244
0.34	10.7	1560	3.5	511	35.3	5120
0.35	10.5	1530	3.5	519	34.6	5040
0.36	10.3	1490	3.6	526		
0.37	10.0	1460	3.6	534		
0.38	9.8	1440	3.7	541		
0.39	9.6	1400	3.8	549		
0.40	9.4	1370	3.8	558		

[a]Based on modulus of elasticity = 2.07×10^5 N/mm2 (30×10^6 psi), Poisson's ratio = 0.3.

[b]Use to obtain C_s in Newtons when D is given in millimeters.

[c]Use to obtain C_s in pounds when D is given in inches.