

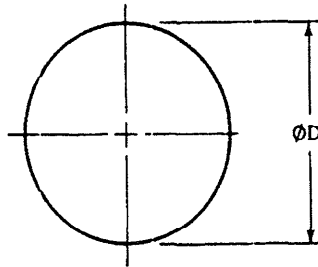
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TABLE 1. Dash numbers and dimensions.

ØD NOMINAL BALL DIAMETER	BASIC DIAMETER ^{1/}	GRADE							
		3	5	10	16	24	48	100	200
		DASH NUMBER							
1/64	.015625	301	501	1001	—	2401	—	—	—
1/32	.031250	302	502	1002	—	2402	—	—	—
3/64	.046875	303	503	1003	—	2403	—	—	—
1/16	.062500	304	504	1004	—	2404	4804	—	—
5/64	.078125	305	505	1005	—	2405	4805	—	—
3/32	.093750	306	506	1006	—	2406	4806	—	—
7/64	.109375	307	507	1007	—	2407	4807	—	—
1/8	.125000	308	508	1008	—	2408	4808	—	—
9/64	.140625	309	509	1009	—	2409	4809	—	—
5/32	.156250	310	510	1010	—	2410	4810	—	—
11/64	.171875	311	511	1011	—	2411	4811	—	—
3/16	.187500	312	512	1012	—	2412	4812	—	—
7/32	.218750	313	513	1013	—	2413	4813	—	—
1/4	.250000	314	514	1014	—	2414	4814	—	—
9/32	.281250	315	515	—	—	2415	4815	—	—
5/16	.312500	316	516	1016	—	2416	4816	—	—
11/32	.343750	317	517	1017	—	2417	4817	—	—
3/8	.375000	318	518	1018	—	2418	4818	—	—
13/32	.406250	319	519	1019	—	2419	4819	—	—
7/16	.437500	320	520	1020	—	2420	4820	—	—
15/32	.468750	321	521	1021	—	2421	4821	—	—
1/2	.500000	322	522	1022	—	2422	4822	—	—
17/32	.531250	323	523	1023	1623	—	4823	—	—
9/16	.562500	324	524	1024	1624	2424	4824	—	—
19/32	.593750	325	525	1025	1625	—	4825	—	—
5/8	.625000	326	—	1026	1626	2426	4826	—	—
21/32	.656250	327	527	1027	1627	2427	4827	—	—

^{1/}See Table III for tolerances.

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TABLE I. Dash numbers and dimensions - Continued

ØD NOMINAL BALL DIAMETER	BASIC DIAMETER ¹	GRADE							
		3	5	10	16	24	48	100	200
		DASH NUMBER							
11/16	.687500	328	528	1028	1628	2428	4828	—	—
23/32	.718750	329	529	1029	1629	2429	4829	—	—
3/4	.750000	330	530	1030	—	2430	4830	—	—
25/32	.781250	331	531	1031	1631	2431	4831	—	—
13/16	.812500	332	532	1032	1632	2432	4832	—	—
27/32	.843750	333	533	1033	1633	2433	4833	—	—
7/8	.875000	334	534	1034	1634	2434	4834	—	—
29/32	.906250	335	535	1035	1635	2435	4835	—	—
15/16	.937500	336	536	1036	1636	2436	4836	—	—
31/32	.968750	337	537	1037	1637	2437	4837	—	—
1	1.000000	338	538	1038	1638	2438	4838	—	—
1-1/16	1.062500	—	539	1039	1639	2439	4839	—	—
1-1/8	1.125000	—	540	1040	1640	2440	4840	—	—
1-3/16	1.187500	—	541	1041	1641	2441	4841	—	—
1-1/4	1.250000	—	542	1042	1642	2442	4842	—	—
1-5/16	1.312500	—	543	1043	1643	2443	4843	—	—
1-3/8	1.375000	—	544	1044	—	2444	4844	—	20044
1-7/16	1.437500	—	545	1045	—	2445	4845	—	20045
1-1/2	1.500000	—	546	1046	—	2446	4846	10046	20046
1-9/16	1.562500	—	—	—	—	—	4847	10047	20047
1-5/8	1.625000	—	—	—	—	—	4848	10048	—
1-11/16	1.687500	—	—	—	—	—	4849	10049	20049
1-3/4	1.750000	—	—	—	—	—	4850	10050	20050
1-13/16	1.812500	—	—	—	—	—	4851	10051	20051
1-7/8	1.875000	—	—	—	—	—	4852	10052	20052
1-15/16	1.937500	—	—	—	—	—	4853	10053	20053
2	2.000000	—	—	—	—	—	4854	10054	20054
2-1/8	2.125000	—	—	—	—	—	4855	10055	20055
2-1/4	2.250000	—	—	—	—	—	4856	10056	20056
2-3/8	2.375000	—	—	—	—	—	4857	10057	20057
2-1/2	2.500000	—	—	—	—	—	4858	10058	20058

¹ See Table III for tolerances

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DLA — ISTABLE II. Tolerance by grade for individual balls.
(Tolerance in millionths of an inch)

GRADE	ALLOWABLE BALL DIAMETER VARIATION V_D	ALLOWABLE DEVIATION FROM SPHERICAL FORM W	ALLOWABLE SURFACE ROUGHNESS (ARITHMETICAL AVERAGE)
3	3	3	.5
5	5	5	.8
10	10	10	1.0
16	16	16	1.0
24	24	24	2.0
48	48	48	3.0
100	100	100	5.0
200	200	200	8.0

TABLE III. Tolerances by grade for lots.
(Tolerance in millionths of an inch)

GRADE	ALLOWABLE LOT DIAMETER VARIATION	BASIC DIAMETER TOLERANCE	ALLOWABLE BALL GAGE DEVIATION		CONTAINER MARKING INCREMENT
			HIGH	LOW	
3	5	± 30	+30	-30	10
5	10	± 50	+50	-40	10
10	20	± 100	+50	-40	10
16	32	± 100	+50	-40	10
24	48	± 100	+100	-100	10
48	96	± 200	1 ¹	1 ¹	50
100	200	± 500	1	1 ¹	1 ¹
200	400	± 1000	1 ¹	1 ¹	1 ¹

¹ Not applicable.

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TABLE IV Dash number changes.

BASIC DIAMETER	GRADE							
	10		16		24		43	
	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW
0.062500	1	1004	—	—	40	2404	79	4804
0.078125	2	1005	—	—	41	2405	80	4805
0.093750	3	1006	—	—	42	2406	81	4806
0.109375	4	1007	—	—	43	2407	82	4807
0.125000	5	1008	—	—	44	2408	83	4808
0.140625	6	1009	—	—	45	2409	84	4809
0.156250	7	1010	—	—	46	2410	85	4810
0.187500	8	1012	—	—	47	2412	86	4812
0.218750	9	1013	—	—	48	2413	87	4813
0.250000	10	1014	—	—	49	2414	88	4814
0.281250	11	1015	—	—	50	2415	89	4815
0.312500	12	1016	—	—	51	2416	90	4816
0.343750	13	1017	—	—	52	2417	91	4817
0.375000	14	1018	—	—	53	2418	92	4818
0.406250	15	1019	—	—	54	2419	93	4819
0.437500	16	1020	—	—	55	2420	94	4820
0.468750	17	1021	—	—	56	2421	95	4821
0.500000	18	1022	—	—	57	2422	96	4822
0.531250	—	—	19	1623	58	2423	97	4823
0.562500	—	—	20	1624	59	2424	98	4824
0.593750	—	—	21	1625	60	2425	99	4825
0.625000	—	—	22	1626	61	2426	100	4826
0.656250	—	—	23	1627	62	2427	101	4827
0.687500	—	—	24	1628	63	2428	102	4828
0.718750	—	—	25	1629	64	2429	103	4829
0.750000	—	—	26	1630	65	2430	104	4830
0.781250	—	—	27	1631	66	2431	105	4831
0.812500	—	—	28	1632	67	2432	106	4832
0.843750	—	—	29	1633	68	2433	107	4833
0.875000	—	—	30	1634	69	2434	108	4834
0.906250	—	—	31	1635	70	2435	109	4835
0.937500	—	—	33	1636	71	2436	110	4836
0.968750	—	—	33	1637	72	2437	111	4837
1.000000	—	—	34	1638	73	2438	112	4838
1.062500	—	—	35	1639	74	2439	113	4839
1.125000	—	—	36	1640	75	2440	114	4840
1.187500	—	—	37	1641	76	2441	115	4841

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TABLE IV. Dash number changes. - Continued

BASIC DIAMETER	GRADE							
	10		16		24		48	
	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW
1.250000	—	—	38	1642	77	2442	116	4842
1.312500	—	—	39	1643	78	2443	117	4843
1.375000	—	—	—	—	—	—	118	4844
1.437500	—	—	—	—	—	—	119	4845
1.500000	—	—	—	—	—	—	120	4846
1.562500	—	—	—	—	—	—	121	4847
1.625000	—	—	—	—	—	—	122	4848
1.687500	—	—	—	—	—	—	123	4849
1.750000	—	—	—	—	—	—	124	4850
1.812500	—	—	—	—	—	—	125	4851
1.875000	—	—	—	—	—	—	126	4852
1.937500	—	—	—	—	—	—	127	4853
2.000000	—	—	—	—	—	—	128	4854
2.125000	—	—	—	—	—	—	129	4855
2.250000	—	—	—	—	—	—	130	4856
2.375000	—	—	—	—	—	—	131	4857
2.500000	—	—	—	—	—	—	132	4858

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TABLE V. Part number changes.

SUPERSEDED NUMBER	REPLACEMENT NUMBER
MS150451	MS19059-2404
MS150452	MS19059-2406
MS150453	MS19059-2408
MS150454	MS19059-2410
MS150455 thru 150481	MS19059-2412 thru 19059-2438
MS150482	None
MS150483	MS19059-2439
MS150484	None
MS150485	MS19059-2440
MS150486	None
MS150487	MS19050-2441
MS150488	None
MS150489	MS19059-2442

REQUIREMENTS:

1. MATERIAL: CHROME ALLOY STEEL, CONFORMING TO THE CHEMICAL COMPOSITION OF UNS G51986 IN ACCORDANCE WITH AMS 6449 OR UNS G52986 IN ACCORDANCE WITH AMS 6440, AND AS SPECIFIED IN PROCUREMENT DOCUMENT.
2. HARDNESS: SHALL BE 60-67 HRC OR EQUIVALENT
3. SURFACE ROUGHNESS: TOLERANCE LIMITS FOR SURFACE ROUGHNESS AS SPECIFIED IN TABLE II, AND IN ACCORDANCE WITH ANSI B46.1.
4. MATERIAL DENSITY: SHALL BE .283 POUND PER CUBIC INCH.
5. PART NUMBER: CONSISTS OF THE BASIC MS NUMBER FOLLOWED BY A DASH NUMBER FROM TABLE I.

EXAMPLE: MS19059-504

DASH NUMBER

BASIC MS NUMBER

MS19059-504 INDICATES A GRADE 5 BEARING BALL OF CHROME ALLOY STEEL WITH A BASIC DIAMETER OF .062500 INCH.

NOTES:

1. ALL DIMENSIONS ARE IN INCHES. COLUMN HEADINGS IN TOLERANCE TABLES ARE IN ACCORDANCE WITH AFBMA-STD-10.
2. IN THE EVENT OF A CONFLICT BETWEEN THE TEXT OF THIS STANDARD AND THE REFERENCES CITED HEREIN, THE TEXT OF THIS STANDARD SHALL TAKE PRECEDENCE.
3. REFERENCED GOVERNMENT (OR NONGOVERNMENT) DOCUMENTS OF THE ISSUE LISTED IN THAT ISSUE OF THE DEPARTMENT OF DEFENSE INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) SPECIFIED IN THE SOLICITATION FORM A PART OF THIS STANDARD TO THE EXTENT SPECIFIED HEREIN.

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