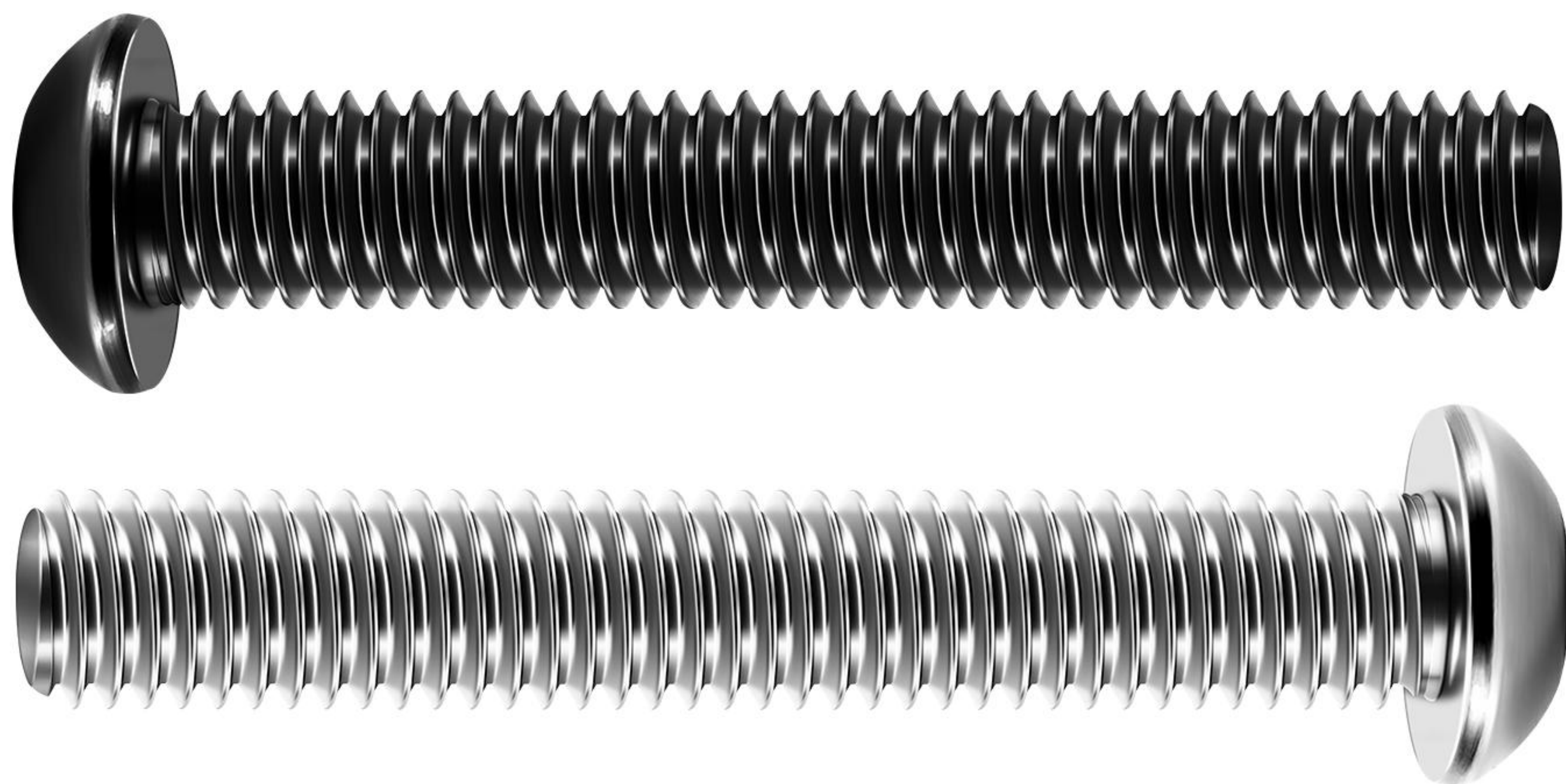
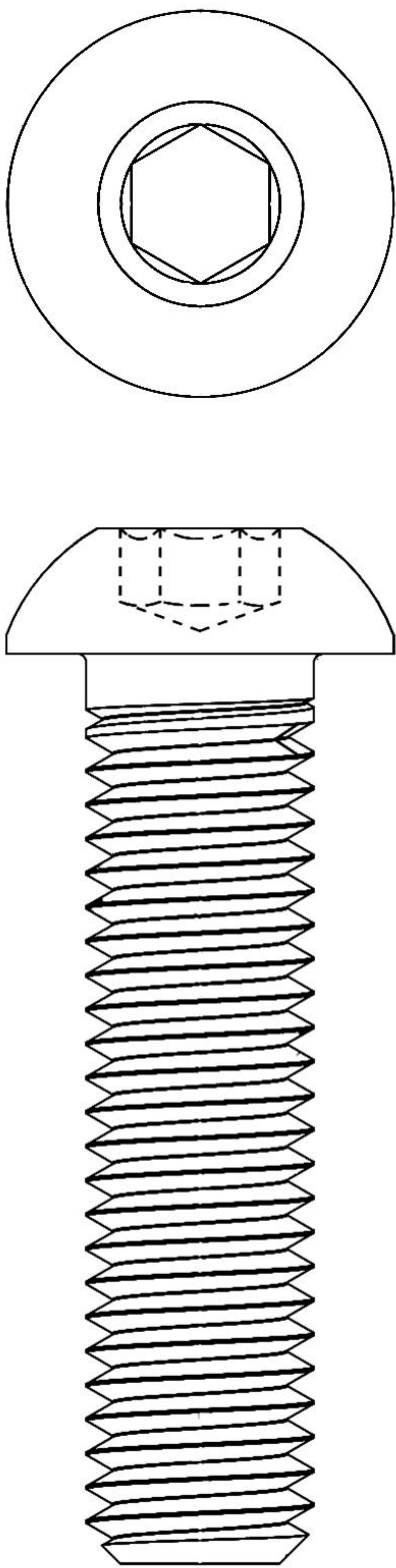




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BUTTON HEAD SOCKET CAP METRIC SCREWS



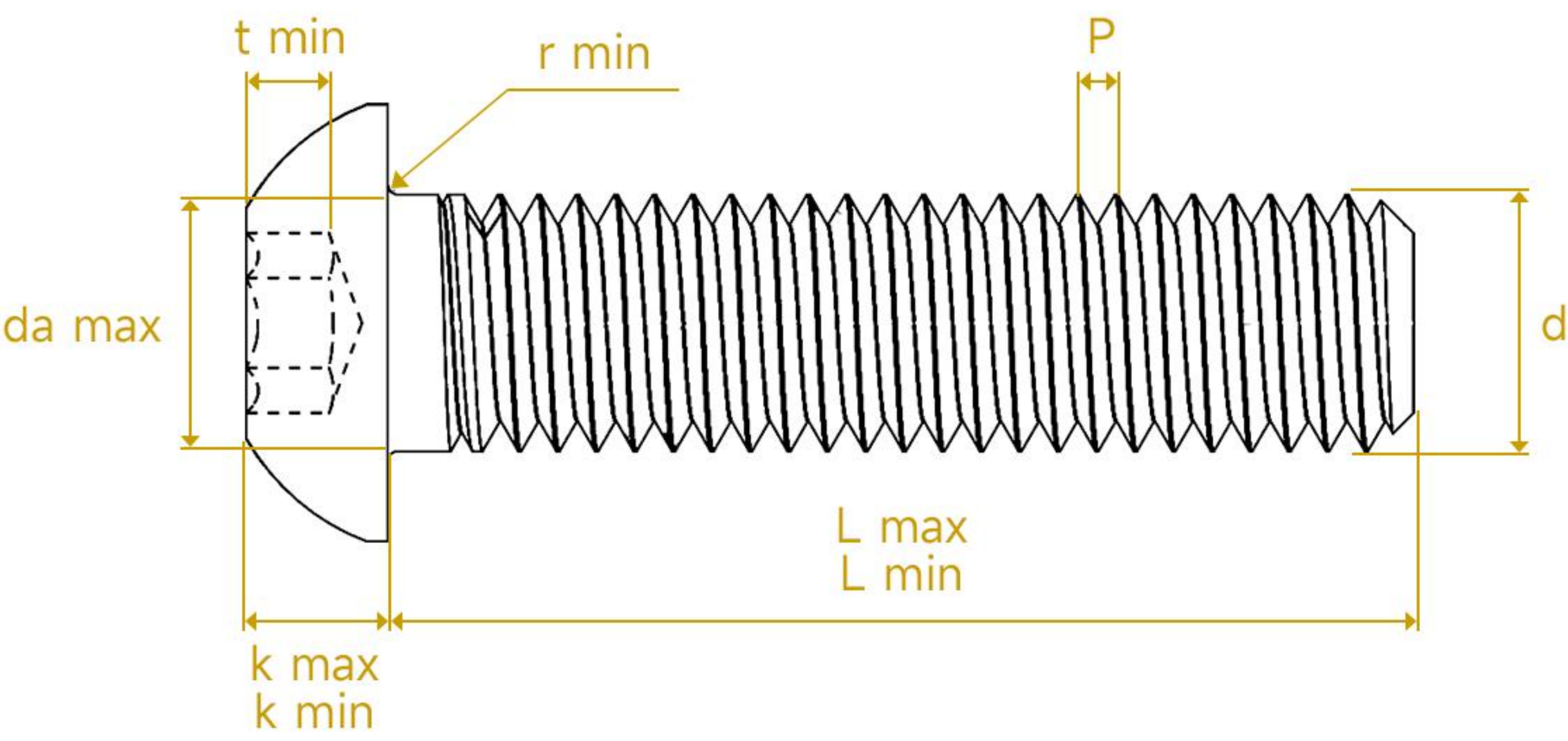
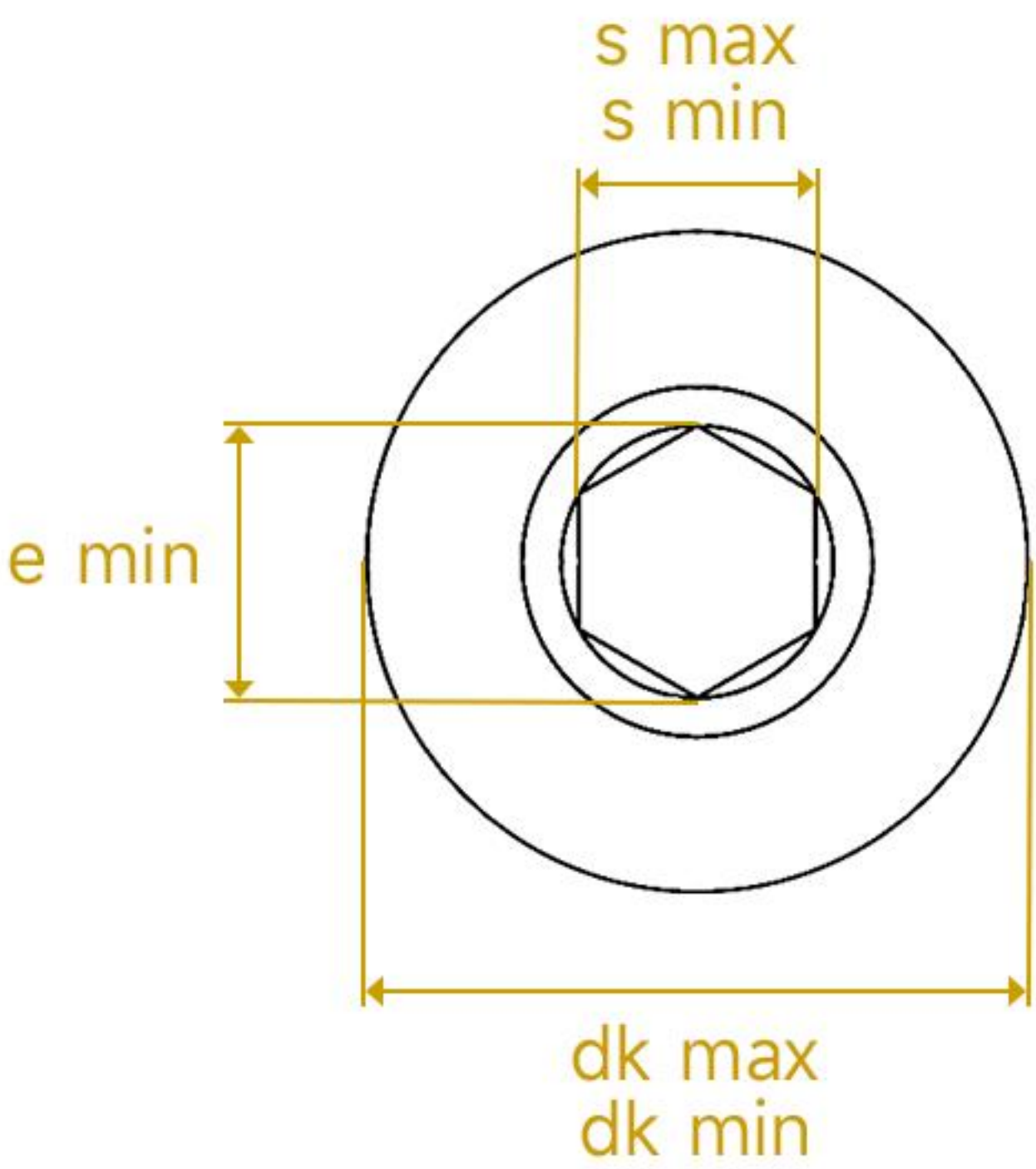


General Specifications		ISO 8992
Thread	Tolerance	8.8 Level、10.9 Level: 6g; 12.9 Level: 5g6g
	Standard	ISO 261、ISO 965-2、ISO 965-3
Mechanical Properties	Performance Grade	8.8 Level、10.9 Level、12.9 Level
	Standard	ISO 898-1
Tolerance	Quality Grade	A
	Standard	ISO 4759-1
Surface Treatment		Uncoated; Electroplating requirements according to ISO 4042; Non-electrolytic zinc flake coating requirements according to ISO 10683.
Surface Defect		12.9 Grade: ISO 6157-3 Other Grades: ISO 6157-1
Acceptance And Packaging		ISO 3269

Mechanical Testing And Compliance Requirements For Screws

Due to the head structure, these screws may not achieve the minimum tensile load as specified in ISO 898-1, Class B test. However, these screws must still comply with the material and other requirements stipulated in ISO 898-1.

Additionally, according to the clamping method specified in ISO 898-1, a tensile test shall be performed on actual screw samples. When the load reaches the minimum tensile load given in Table 3, the screw must not break. Continue loading until failure occurs; the fracture may occur in the threaded portion, the head, or the junction between the head and the shank.



(MM)	M3	M4	M5	M6	M8	M10	M12	M16
P	0.5	0.7	0.8	1	1.25	1.5	1.75	2
da max	3.6	4.7	5.7	6.8	9.2	11.2	13.7	17.7
dk max	5.7	7.6	9.5	10.5	14	17.5	21	28
dk min	5.4	7.24	9.14	10.07	13.57	17.07	20.48	27.48
e min	2.303	2.873	3.443	4.583	5.723	6.863	9.149	11.429
k max	1.65	2.2	2.75	3.3	4.4	5.5	6.6	8.8
k min	1.4	1.95	2.5	3	4.1	5.2	6.24	8.44
r min	0.1	0.2	0.2	0.25	0.4	0.4	0.6	0.6
s max	2.08	2.58	3.08	4.095	5.14	6.14	8.175	10.175
s min	2.02	2.52	3.02	4.02	5.02	6.02	8.025	10.025
t min	1.04	1.3	1.56	2.08	2.6	3.12	4.16	5.2



Metric and Inch Thread Conversion Chart

Thread Size	Diameter	Coarse Thread	Fine Thread Pitch	Coarse Thread	Fine Thread Pitch	60-degree Thread Form	60-degree Thread Form	55-degree Thread Form
	Major Diameter	Threads Per Inch (TPI)		Pitch		Metric Thread/M	Unified National Thread/UN	British Standard Whitworth (BSW) thread
M3	3	/	/	0.5	0.35	M	/	/
5#	3.175	40	44	0.635	0.5773	/	UN	/
1/8"	3.175	40	44	0.635	0.5773	/	/	BS
M4	4	/	/	0.7	0.5	M	/	/
8#	4.1656	32	36	0.7938	0.7056	/	UN	/
3/16"	4.7625	24	32	1.0583	0.7983	/	/	BS
10#	4.826	24	32	1.0583	0.7983	/	UN	/
M5	5	/	/	0.8	0.5	M	/	/
M6	6	/	/	1	0.5	M	/	/
1/4"	6.35	20	28	1.27	0.9071	/	UN	/
1/4"	6.35	20	28	1.27	0.9071	/	/	BS
5/16"	7.9375	18	24	1.4111	1.0583	/	UN	/
5/16"	7.9375	18	22	1.4111	1.1545	/	/	BS
M8	8	/	/	1.25	1	M	/	/
3/8"	9.525	16	24	1.5875	1.0583	/	UN	/
3/8"	9.525	16	20	1.5875	1.27	/	/	BS
M10	10	/	/	1.5	1	M	/	/
7/16"	11.1125	14	20	1.8143	1.27	/	UN	/
7/16"	11.1125	14	18	1.8143	1.4111	/	/	BS
M12	12	/	/	1.75	1.5/1	M	/	/
1/2"	12.7	13	20	1.9538	1.27	/	UN	/
1/2"	12.7	13	18	1.9538	1.4111	/	/	BS
M14	14	/	/	2	1.5	M	/	/
9/16"	14.2875	12	18	2.1167	1.4111	/	UN	/
9/16"	14.2875	12	16	2.1167	1.5875	/	/	BS
5/8"	15.875	11	18	2.3091	1.4111	/	UN	/
5/8"	15.875	11	14	2.3091	1.8143	/	/	BS
M16	16	/	/	2	1.5	M	/	/
M18	18	/	/	2.5	2	M	/	/
3/4"	19.05	10	16	2.54	1.5875	/	UN	/
3/4"	19.05	10	16	2.54	1.5875	/	/	BS
M20	20	/	/	2.5	2/1.5	M	/	/
M22	22	/	/	2.5	2	M	/	/
7/8"	22.225	9	14	2.8222	1.8143	/	UN	/
7/8"	22.225	9	11	2.8222	2.3091	/	/	BS
M24	24	/	/	3	2/1.5	M	/	/
1"	25.4	8	12	3.175	2.1167	/	UN	/
1"	25.4	8	10	3.175	2.54	/	/	BS



Minimum Tensile Load For Coarse Thread

Thread Specification (d)	Thread Stress Area (As ¹)	Performance Grade									
		3.6	4.6	4.8	5.6	5.8	6.8	8.8	9.8	10.9	12.9
		Minimum Tensile Load (As×σ _{pmin}),N									
M3	5.03	1660	2010	2110	2510	2620	3020	4020	4530	5230	6140
M3.5	6.78	2240	2710	2850	3390	3530	4070	5420	6100	7050	8270
M4	8.78	2900	3510	3690	4390	4570	5270	7020	7900	9130	10700
M5	14.2	4690	5680	5960	7100	7380	8520	11350	12800	14800	17300
M6	20.1	6630	8040	8440	10000	10400	12100	16100	18100	20900	24500
M7	28.9	9540	11600	12100	14400	15000	17300	23100	26000	30100	35300
M8	36.6	12100	14600	15400	18300	19000	22000	29200	32900	38100	44600
M10	58	19100	23200	24400	29000	30200	34800	46400	52200	60300	70800
M12	84.3	27800	33700	35400	42200	43800	50600	67400 ²⁾	75900	87700	103000
M14	115	38000	46000	48300	57500	59800	69000	92000 ²⁾	104000	120000	140000
M16	157	51800	62800	65900	78500	81600	94000	125000 ²⁾	141000	163000	192000
M18	192	63400	76800	80600	96000	99800	115000	159000	-	200000	234000
M20	245	80800	98000	103000	122000	127000	147000	203000	-	255000	299000
M22	303	100000	121000	127000	152000	158000	182000	252000	-	315000	370000
M24	353	116000	141000	148000	176000	184000	212000	293000	-	367000	431000
M27	459	152000	184000	193000	230000	239000	275000	381000	-	477000	560000
M30	561	185000	224000	236000	280000	292000	337000	466000	-	583000	684000
M33	694	229000	278000	292000	347000	361000	416000	576000	-	722000	847000
M36	817	270000	327000	343000	408000	425000	490000	678000	-	850000	997000
M39	976	322000	390000	410000	488000	508000	586000	810000	-	1020000	1200000



Proof Load For Coarse Thread

Thread Specification (d)	Thread Stress Area (As ¹)	Performance Grade									
		3.6	4.6	4.8	5.6	5.8	6.8	8.8	9.8	10.9	12.9
		Proof Load (As×Sp),N									
M3	5.03	910	1130	1560	1410	1910	2210	2920	3270	4180	4880
M3.5	6.78	1220	1530	2100	1900	2580	2980	3940	4410	5630	6580
M4	8.78	1580	1980	2720	2460	3340	3860	5100	5710	7290	8520
M5	14.2	2560	3200	4400	3980	5400	6250	8230	9230	11800	13800
M6	20.1	3620	4520	6230	5630	7640	8840	11600	13100	16700	19500
M7	28.9	5200	6500	8960	8090	11000	12700	16800	18800	24000	28000
M8	36.6	6590	8240	11400	10200	13900	16100	21200	23800	30400	35500
M10	58	10400	13000	18000	16200	22000	25500	33700	37700	48100	56300
M12	84.3	15200	19000	26100	23600	32000	37100	48900 ²⁾	54800	70000	81800
M14	115	20700	25900	35600	32200	43700	50600	66700 ²⁾	74800	95500	112000
M16	157	28300	35300	48700	44000	59700	69100	91000 ²⁾	102000	130000	152000
M18	192	34600	43200	59500	53800	73000	84500	115000	-	159000	186000
M20	245	44100	55100	76000	68600	93100	108000	147000	-	203000	238000
M22	303	54500	68200	93900	84800	115000	133000	182000	-	252000	294000
M24	353	63500	79400	109000	98800	134000	155000	212000	-	293000	342000
M27	459	82600	103000	142000	128000	174000	202000	275000	-	381000	445000
M30	561	101000	126000	174000	157000	213000	247000	337000	-	466000	544000
M33	694	125000	156000	215000	194000	264000	305000	416000	-	576000	673000
M36	817	147000	184000	253000	229000	310000	359000	490000	-	687000	792000
M39	976	176000	220000	303000	273000	371000	429000	586000	-	810000	947000