



# TOLERANCE OF COMMONLY USED HOLE FITS

EXCERPT FROM JIS B 0401 (1986)

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Deviations of holes to be used in commonly used fits

Basic size step (mm)	Tolerance zone class of hole																			Unit $\mu\text{m}$																
	B10	C9	C10	D8	D9	D10	E7	E8	E9	F6	F7	F8	G6	G7	H6	H7	H8	H9	H10		JS6	JS7	K6	K7	M6	M7	N6	N7	P6	P7	R7	S7	T7	U7	X7	
3	+180	+85	+100	+34	+45	+60	+24	+28	+39	+12	+16	+20	+8	+12	+6	+10	+14	+25	+40	$\pm 3$	$\pm 5$	0	0	-2	-2	-4	-4	-6	-6	-10	-14	-14	-18	-20	-18	-20
6	+140	+60	+118	+48	+60	+78	+32	+38	+50	+18	+22	+28	+12	+16	+8	+12	+18	+30	+48	$\pm 4$	$\pm 6$	+2	+3	-1	0	-5	-4	-9	-8	-11	-15	-15	-19	-24	-28	-30
10	+140	+70	+70	+30	+30	+30	+20	+20	+20	+10	+10	+10	+4	+4	+4	+4	0	0	0	0	0	0	-6	-9	-9	-12	-13	-16	-17	-23	-27	-31	-31	-36	-36	
14	+208	+116	+138	+62	+46	+98	+40	+47	+61	+22	+28	+35	+14	+20	+9	+15	+22	+36	+58	$\pm 7$	$\pm 7$	+2	+5	0	0	-7	-4	-12	-9	-13	-17	-22	-28	-32	-28	-48
20	+150	+80	+80	+40	+40	+25	+25	+25	+25	+13	+13	+13	+5	+5	+5	+5	0	0	0	0	0	0	-7	-10	-12	-15	-16	-19	-21	-24	-28	-32	-37	-43	-48	
30	+220	+138	+165	+77	+93	+120	+50	+59	+75	+27	+34	+43	+17	+24	+11	+18	+27	+43	+70	$\pm 9$	$\pm 9$	+2	+6	-4	0	-9	-5	-15	-11	-16	-21	-26	-34	-39	-44	-51
40	+150	+95	+95	+50	+50	+32	+32	+32	+32	+16	+16	+16	+6	+6	0	0	0	0	0	$\pm 5.5$	$\pm 5.5$	+9	-9	-12	-15	-18	-20	-23	-26	-29	-34	-39	-44	-48	-56	
50	+244	+162	+194	+98	+117	+149	+61	+73	+92	+33	+41	+53	+20	+28	+13	+21	+33	+52	+84	$\pm 10$	$\pm 10$	+2	+6	-4	0	-11	-7	-18	-14	-20	-27	-33	-40	-47	-54	-67
60	+160	+110	+110	+65	+65	+65	+40	+40	+40	+20	+20	+20	+7	+7	0	0	0	0	0	$\pm 6.5$	$\pm 6.5$	+10	-11	-15	-17	-21	-24	-28	-31	-35	-41	-48	-54	-61	-77	
80	+270	+182	+220	+119	+142	+180	+75	+88	+112	+41	+50	+64	+25	+34	+16	+25	+39	+62	+100	$\pm 12$	$\pm 12$	+3	+7	-4	0	-12	-8	-21	-17	-25	-34	-44	-54	-64	-76	
100	+170	+120	+120	+80	+80	+80	+50	+50	+50	+25	+25	+25	+9	+9	0	0	0	0	0	$\pm 8$	$\pm 8$	+12	-13	-18	-20	-25	-28	-33	-37	-42	-50	-59	-64	-76	-86	
120	+310	+214	+260	+146	+174	+220	+90	+106	+134	+49	+60	+76	+29	+40	+19	+30	+46	+74	+120	$\pm 15$	$\pm 15$	+4	+9	-5	0	-14	-9	-26	-21	-30	-40	-51	-64	-81	-106	-130
140	+190	+140	+140	+100	+100	+100	+60	+60	+60	+30	+30	+30	+10	+10	0	0	0	0	0	$\pm 9.5$	$\pm 9.5$	+15	-15	-21	-24	-30	-33	-39	-45	-51	-58	-64	-74	-91	-113	-146
160	+360	+257	+310	+174	+207	+260	+107	+126	+159	+58	+71	+90	+34	+47	+22	+35	+54	+87	+140	$\pm 11$	$\pm 11$	+4	+10	-6	0	-16	-10	-30	-24	-33	-43	-53	-66	-81	-103	-133
180	+220	+170	+170	+120	+120	+120	+72	+72	+72	+36	+36	+36	+12	+12	0	0	0	0	0	$\pm 17$	$\pm 17$	+4	+10	-6	0	-16	-10	-30	-24	-33	-43	-53	-66	-81	-103	-133
200	+380	+267	+320	+146	+174	+220	+107	+126	+159	+58	+71	+90	+34	+47	+22	+35	+54	+87	+140	$\pm 20$	$\pm 20$	+4	+12	-8	0	-20	-12	-36	-28	-36	-46	-56	-68	-83	-109	-159
225	+240	+180	+180	+145	+145	+145	+85	+85	+85	+43	+43	+43	+14	+14	0	0	0	0	0	$\pm 23$	$\pm 23$	+5	+13	-8	0	-22	-14	-41	-33	-43	-53	-63	-79	-99	-123	-166
250	+605	+395	+465	+242	+285	+355	+146	+172	+215	+79	+96	+122	+44	+61	+29	+46	+72	+115	+185	$\pm 26$	$\pm 26$	+5	+16	-9	0	-25	-14	-47	-36	-46	-56	-66	-82	-103	-133	-171
280	+420	+280	+280	+170	+170	+170	+100	+100	+100	+50	+50	+50	+15	+15	0	0	0	0	0	$\pm 23$	$\pm 23$	+5	+13	-8	0	-22	-14	-41	-33	-43	-53	-63	-79	-99	-123	-166
315	+690	+430	+510	+271	+320	+400	+162	+191	+240	+88	+108	+137	+49	+69	+32	+52	+81	+130	+210	$\pm 16$	$\pm 16$	+5	+16	-9	0	-25	-14	-47	-36	-46	-56	-66	-82	-103	-133	-171
355	+480	+300	+300	+190	+190	+190	+110	+110	+110	+56	+56	+56	+17	+17	0	0	0	0	0	$\pm 26$	$\pm 26$	+5	+16	-9	0	-25	-14	-47	-36	-46	-56	-66	-82	-103	-133	-171
400	+750	+460	+540	+271	+320	+400	+162	+191	+240	+88	+108	+137	+49	+69	+32	+52	+81	+130	+210	$\pm 18$	$\pm 18$	+7	+17	-10	0	-26	-16	-51	-41	-51	-61	-71	-87	-103	-133	-171
450	+830	+500	+590	+299	+350	+440	+182	+214	+265	+98	+119	+151	+54	+75	+36	+57	+89	+140	+230	$\pm 28$	$\pm 28$	+7	+17	-10	0	-26	-16	-51	-41	-51	-61	-71	-87	-103	-133	-171
500	+910	+540	+630	+210	+210	+210	+125	+125	+125	+62	+62	+62	+18	+18	0	0	0	0	0	$\pm 31$	$\pm 31$	+8	+18	-10	0	-27	-17	-55	-45	-55	-65	-75	-91	-109	-133	-171
550	+680	+400	+400	+327	+385	+460	+198	+232	+290	+108	+131	+165	+60	+83	+40	+63	+97	+155	+250	$\pm 20$	$\pm 20$	+8	+18	-10	0	-27	-17	-55	-45	-55	-65	-75	-91	-109	-133	-171
600	+760	+440	+440	+330	+390	+470	+200	+230	+290	+135	+155	+195	+68	+92	+40	+64	+97	+155	+250	$\pm 20$	$\pm 20$	+8	+18	-10	0	-27	-17	-55	-45	-55	-65	-75	-91	-109	-133	-171
650	+1090	+635	+730	+230	+230	+230	+135	+135	+135	+68	+68	+68	+20	+20	0	0	0	0	0	$\pm 20$	$\pm 20$	+8	+18	-10	0	-27	-17	-55	-45	-55	-65	-75	-91	-109	-133	-171
700	+840	+480	+480	+370	+440	+530	+210	+240	+300	+140	+160	+200	+70	+94	+40	+64	+97	+155	+250	$\pm 20$	$\pm 20$	+8	+18	-10	0	-27	-17	-55	-45	-55	-65	-75	-91	-109	-133	-171

Note: This table shows that the upper figures are the upper deviation and the lower figures are the lower deviation.

Deviations of shafts to be used in commonly used fits

Basic size step (mm)	Tolerance Zone class of shaft																			Unit $\mu\text{m}$															
	b9	c9	d8	d9	e7	e8	e9	f6	f7	f8	g5	g6	h5	h6	h7	h8	h9	h9	js5		js6	js7	k5	k6	m5	m6	n5*	n6	p6	r6	s6	t6	u6	x6	
3	-140	-85	-84	-20	-14	-14	-14	-14	-16	-16	-20	-6	-2	0	0	0	0	0	0	$\pm 2$	$\pm 3$	$\pm 5$	+4	+6	+6	+8	+8	+10	+12	+16	+20	+20	+24	+26	+26
6	-170	-100	-48	-60	-32	-38	-50	-18	-22	-28	-9	-12	-4	0	0	0	0	0	0	$\pm 2.5$	$\pm 4$	$\pm 6$	+6	+9	+9	+12	+12	+13	+16	+20	+23	+27	+31	+36	+36
10	-150	-80	-40	-40	-25	-25	-13	-13	-13	-13	-5	-5	0	0	0	0	0	0	0	$\pm 3$	$\pm 4.5$	$\pm 7$	+7	+10	+12	+15	+16	+19	+24	+28	+32	+37	+43	+43	+43
14	-186	-116	-62	-76	-47	-47	-22	-22	-22	-35	-11	-14	-6	-9	-15	-22	-36	-36	-36	$\pm 3$	$\pm 4.5$	$\pm 7$	+9	+12	+15	+18	+20	+23	+29	+34	+39	+44	+44	+44	
20	-193	-138	-77	-93	-50	-59	-27	-34	-43	-43	-14	-17	-8	-11	-18	-27	-43	-43	-43	$\pm 4$	$\pm 5.5$	$\pm 9$	+9	+12	+15	+18	+20	+23	+29	+34	+39	+44	+44	+44	
30	-160	-110	-65	-65	-40	-40	-20	-20	-20	-20	-7	-7	0	0	0	0	0	0	0	$\pm 4.5$	$\pm 6.5$	$\pm 10$	+11	+15	+17	+21	+24	+28	+35	+41	+48	+54	+61	+67	
40	-212	-162	-98	-117	-61	-73	-92	-33	-41	-53	-16	-20	-9	-13	-21	-33	-52	-52	-52	$\pm 5$	$\pm 7$	$\pm 10$	+12	+16	+19	+23	+27	+33	+40	+48	+56	+64	+72	+77	
50	-170	-120	-70	-80	-50	-50	-25	-25	-25	-25	-9	-9	0	0	0	0	0	0	0	$\pm 5.5$	$\pm 8$	$\pm 12$	+13	+18	+20	+25	+28	+33	+42	+50	+59	+68	+76	+80	+86
60	-180	-130	-80	-90	-60	-60	-30	-30	-30	-30	-11	-14	-6	-9	-16	-25	-39	-39	-39	$\pm 6$	$\pm 8$	$\pm 12$	+13	+18	+20	+25	+28	+33	+42	+50	+59	+68	+76	+80	+86
80	-242	-192	-120	-130	-80	-80	-40	-40	-40	-40	-13	-16	-7	-10	-19	-29	-44	-44	-44	$\pm 6.5$	$\pm 9$	$\pm 15$	+15	+21	+24	+30	+33	+39	+48	+57	+66	+75	+84	+88	+94
100	-190	-140	-90	-100	-60	-60	-30	-30	-30	-30	-10	-10	0	0	0	0	0	0	0	$\pm 6.5$	$\pm 9.5$	$\pm 15$	+15	+21	+24	+30	+33	+39	+48	+57	+66	+75	+84	+88	+94
120	-260	-200	-140	-150	-90	-90	-40	-40	-40	-40	-13	-16	-7	-10	-19	-29	-44	-44	-44	$\pm 7$	$\pm 10$	$\pm 15$	+15	+21	+24	+30	+33	+39	+48	+57	+66	+75	+84	+88	+94
140	-307	-257	-190	-200	-100	-100	-50	-50	-50	-50	-14	-17	-8	-11	-20	-30	-46	-46	-46																