ALBANY COUNTY FASTENERS

Clearance Hole Chart

Recommended Hole Sizes for Close, Normal, and Loose Fit

What is a Clearance Hole? A clearance hole is a hole drilled larger than the fastener diameter to allow the screw or bolt to pass through freely. The three standard fits are: **Close Fit** (minimal clearance for precise alignment), **Normal Fit** (standard applications), and **Loose Fit** (allows for adjustment and misalignment).

Close Fit – Tight tolerance Normal Fit – Standard use Loose Fit – Maximum clearance

Inch Series Clearance Holes

Screw/Bolt Size	Major Dia.	Close Fit		Normal Fit		Loose Fit	
		Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal
#0	0.060	#52	0.0635	#50	0.0700	#46	0.0810
#1	0.073	#48	0.0760	#46	0.0810	#43	0.0890
#2	0.086	#43	0.0890	#41	0.0960	#37	0.1040
#3	0.099	#38	0.1015	#36	0.1065	#32	0.1160
#4	0.112	#32	0.1160	#30	0.1285	#27	0.1440
#5	0.125	#30	0.1285	#29	0.1360	#23	0.1540
#6	0.138	#27	0.1440	#25	0.1495	#18	0.1695
#8	0.164	#18	0.1695	#15	0.1800	#10	0.1935
#10	0.190	#9	0.1960	#5	0.2055	#2	0.2210
#12	0.216	#2	0.2210	7/32"	0.2344	1/4"	0.2500
1/4"	0.250	F	0.2570	17/64"	0.2656	9/32"	0.2812
5/16"	0.3125	21/64"	0.3281	11/32"	0.3438	3/8"	0.3750
3/8"	0.375	25/64"	0.3906	13/32"	0.4062	7/16"	0.4375
7/16"	0.4375	29/64"	0.4531	15/32"	0.4688	1/2"	0.5000
1/2"	0.500	33/64"	0.5156	17/32"	0.5312	9/16"	0.5625
9/16"	0.5625	37/64"	0.5781	19/32"	0.5938	5/8"	0.6250
5/8"	0.625	41/64"	0.6406	21/32"	0.6562	11/16"	0.6875
3/4"	0.750	49/64"	0.7656	25/32"	0.7812	13/16"	0.8125
7/8"	0.875	57/64"	0.8906	29/32"	0.9062	15/16"	0.9375
1"	1.000	1-1/64"	1.0156	1-1/32"	1.0312	1-1/16"	1.0625

Metric Series Clearance Holes (ISO 273)

Bolt Size	Major Dia. (mm)	Close Fit (H12)		Normal Fit (H13)		Loose Fit (H14)	
		Hole (mm)	Hole (in)	Hole (mm)	Hole (in)	Hole (mm)	Hole (in)
M1.6	1.6	1.7	0.067	1.8	0.071	2.0	0.079
M2	2.0	2.2	0.087	2.4	0.094	2.6	0.102
M2.5	2.5	2.7	0.106	2.9	0.114	3.1	0.122
M3	3.0	3.2	0.126	3.4	0.134	3.6	0.142
M4	4.0	4.3	0.169	4.5	0.177	4.8	0.189
M5	5.0	5.3	0.209	5.5	0.217	5.8	0.228
M6	6.0	6.4	0.252	6.6	0.260	7.0	0.276
M8	8.0	8.4	0.331	9.0	0.354	10.0	0.394
M10	10.0	10.5	0.413	11.0	0.433	12.0	0.472
M12	12.0	13.0	0.512	13.5	0.531	14.5	0.571
M14	14.0	15.0	0.591	15.5	0.610	16.5	0.650
M16	16.0	17.0	0.669	17.5	0.689	18.5	0.728
M20	20.0	21.0	0.827	22.0	0.866	24.0	0.945
M24	24.0	25.0	0.984	26.0	1.024	28.0	1.102
M30	30.0	31.0	1.220	33.0	1.299	35.0	1.378

When to Use Close Fit

- Precision assemblies requiring exact alignment
- Dowel pins and alignment applications
- CNC machined parts with tight tolerances
- Aerospace and medical applications

When to Use Normal Fit

- General purpose assemblies
- Most industrial applications
- Standard machinery construction
- Recommended default for most projects

When to Use Loose Fit

• Assemblies requiring adjustment during installation • Slotted holes for alignment • Thermal expansion allowance • Field assembly with hand tools
• Applications where hole alignment may vary

⚠ **Important Disclaimer:** This chart is for general reference only. Always verify clearance requirements with engineering specifications for your specific application. Material thickness, fastener grade, joint design, and load requirements may dictate different hole sizes. Follow manufacturer instructions and applicable industry standards (ASME, ISO). Albany County Fasteners assumes no liability for improper fastener selection or installation.