

Needle gauge comparison chart

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Hypodermic needles are available in a wide variety of outer diameters described by gauge numbers.

Smaller gauge numbers indicate larger outer diameters.^[1] Inner diameter depends on both gauge and wall thickness. The following chart shows nominal inner diameter and wall thickness for regular-wall

needles.^{[1][2]} Thin-wall needles (not shown) have identical outer diameters but larger inner diameters for a given gauge.

Needle wire gauge is derived from the Birmingham Wire Gauge. #1 = 18½ B.W.G.; #2 = 19 B.W.G., and so on to #14 = 31 B.W.G.

Needle	Nominal outer diameter			Nominal inner diameter			Nominal wall thickness		
	<i>Gauge</i>	<i>inches</i>	<i>mm</i>	<i>tol.</i> <i>inches</i> <i>(mm)</i>	<i>inches</i>	<i>mm</i>	<i>tol.</i> <i>inches</i> <i>(mm)</i>	<i>inches</i>	<i>mm</i>
7	0.180	4.572	±0.001 (±0.025)	0.150	3.810	±0.003 (±0.076)	0.015	0.381	±0.001 (±0.025)
8	0.165	4.191	±0.001 (±0.025)	0.135	3.429	±0.003 (±0.076)	0.015	0.381	±0.001 (±0.025)
9	0.148	3.759	±0.001 (±0.025)	0.118	2.997	±0.003 (±0.076)	0.015	0.381	±0.001 (±0.025)
10	0.134	3.404	±0.001 (±0.025)	0.106	2.692	±0.003 (±0.076)	0.014	0.356	±0.001 (±0.025)
11	0.120	3.048	±0.001 (±0.025)	0.094	2.388	±0.003 (±0.076)	0.013	0.330	±0.001 (±0.025)
12	0.109	2.769	±0.001 (±0.025)	0.085	2.159	±0.003 (±0.076)	0.012	0.305	±0.001 (±0.025)
13	0.095	2.413	±0.001 (±0.025)	0.071	1.803	±0.003 (±0.076)	0.012	0.305	±0.001 (±0.025)
14	0.083	2.108	±0.001 (±0.025)	0.063	1.600	±0.003 (±0.076)	0.01	0.254	±0.001 (±0.025)
15	0.072	1.829	±0.0005 (±0.013)	0.054	1.372	±0.0015 (±0.038)	0.009	0.229	±0.0005 (±0.013)
16	0.065	1.651	±0.0005 (±0.013)	0.047	1.194	±0.0015 (±0.038)	0.009	0.229	±0.0005 (±0.013)
17	0.058	1.473	±0.0005 (±0.013)	0.042	1.067	±0.0015 (±0.038)	0.008	0.203	±0.0005 (±0.013)
18	0.050	1.270	±0.0005 (±0.013)	0.033	0.838	±0.0015 (±0.038)	0.0085	0.216	±0.0005 (±0.013)
19	0.042	1.067	±0.0005 (±0.013)	0.027	0.686	±0.0015 (±0.038)	0.0075	0.191	±0.0005 (±0.013)
20	0.03575	0.9081	±0.00025 (±0.0064)	0.02375	0.603	±0.00075 (±0.019)	0.006	0.1524	±0.00025 (±0.0064)
21	0.03225	0.8192	±0.00025 (±0.0064)	0.02025	0.514	±0.00075 (±0.019)	0.006	0.1524	±0.00025 (±0.0064)
22	0.02825	0.7176	±0.00025 (±0.0064)	0.01625	0.413	±0.00075 (±0.019)	0.006	0.1524	±0.00025 (±0.0064)
22s	0.02825	0.7176	±0.00025 (±0.0064)	0.006	0.152	±0.00075 (±0.019)	0.0111	0.2826	±0.00025 (±0.0064)
23	0.02525	0.6414	±0.00025 (±0.0064)	0.01325	0.337	±0.00075 (±0.019)	0.006	0.1524	±0.00025 (±0.0064)
24	0.02225	0.5652	±0.00025 (±0.0064)	0.01225	0.311	±0.00075 (±0.019)	0.005	0.1270	±0.00025 (±0.0064)

25	0.02025	0.5144	± 0.00025 (± 0.0064)	0.01025	0.260	± 0.00075 (± 0.019)	0.005	0.1270	± 0.00025 (± 0.0064)
26	0.01825	0.4636	± 0.00025 (± 0.0064)	0.01025	0.260	± 0.00075 (± 0.019)	0.004	0.1016	± 0.00025 (± 0.0064)
26s	0.01865	0.4737	± 0.00025 (± 0.0064)	0.005	0.127	± 0.00075 (± 0.019)	0.0068	0.1734	± 0.00025 (± 0.0064)
27	0.01625	0.4128	± 0.00025 (± 0.0064)	0.00825	0.210	± 0.00075 (± 0.019)	0.004	0.1016	± 0.00025 (± 0.0064)
28	0.01425	0.3620	± 0.00025 (± 0.0064)	0.00725	0.184	± 0.00075 (± 0.019)	0.0035	0.0889	± 0.00025 (± 0.0064)
29	0.01325	0.3366	± 0.00025 (± 0.0064)	0.00725	0.184	± 0.00075 (± 0.019)	0.003	0.0762	± 0.00025 (± 0.0064)
30	0.01225	0.3112	± 0.00025 (± 0.0064)	0.00625	0.159	± 0.00075 (± 0.019)	0.003	0.0762	± 0.00025 (± 0.0064)
31	0.01025	0.2604	± 0.00025 (± 0.0064)	0.00525	0.133	± 0.00075 (± 0.019)	0.0025	0.0635	± 0.00025 (± 0.0064)
32	0.00925	0.2350	± 0.00025 (± 0.0064)	0.00425	0.108	± 0.00075 (± 0.019)	0.0025	0.0635	± 0.00025 (± 0.0064)
33	0.00825	0.2096	± 0.00025 (± 0.0064)	0.00425	0.108	± 0.00075 (± 0.019)	0.002	0.0508	± 0.00025 (± 0.0064)
34	0.00725	0.1842	± 0.00025 (± 0.0064)	0.00325	0.0826	± 0.00075 (± 0.019)	0.002	0.0508	± 0.00025 (± 0.0064)

See also

- French catheter scale chart
- Stubs Needle Gauge

References

- "Syringe Needle Gauge Chart". Sigma Aldrich. Retrieved 20 March 2012.
- "Hypodermic Needle Gauge Chart". Medical Tube Technology, Inc. Retrieved 20 March 2012.

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