

Nails

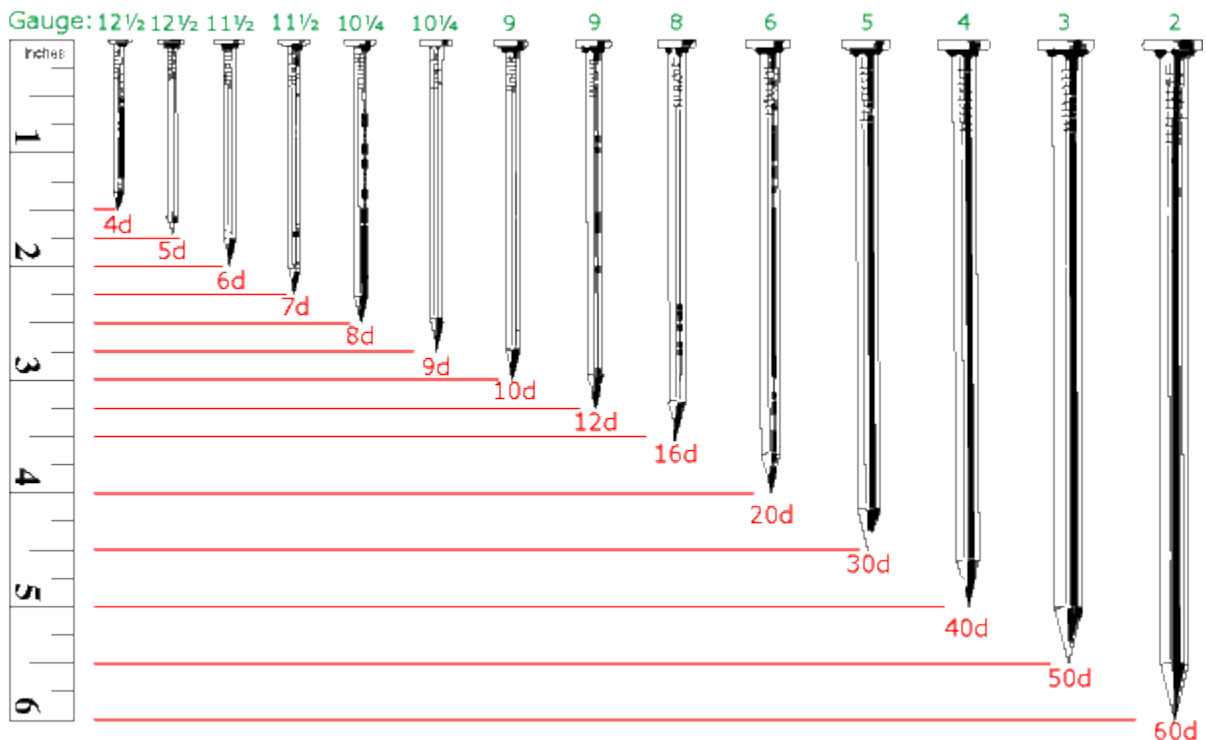
In the U.S. the lengths of nails are sometimes indicated in pennies (d) as well as inches. If you want a 2 ½" and you ask for a pound of 8 penny nails the clerk will think you know what you are talking about.

There are specialty nails for all occasions but we will just mention the most common; Box, Common, and Finish.

Some things to keep in mind when choosing nails:

- Use a nail 3 times longer than the thickness of the sheet/board you want to attach – unless this would cause the nail to protrude. When nailing a ½" board to a 2"x4" use a 1½" or 4d nail. When nailing 2 - 2"x4" together (which are 1½" thick) use an 8d or 9d nail.
- To prevent splitting don't use a nail longer than necessary.
- To prevent splitting don't use a nail thicker than necessary. A sheet/board needs to be at least 12 times wider than the diameter of the nail or at least as wide as the nail is long.
- The diameter of nails is given in "Gauges", just remember that the smaller the number the larger the diameter.

Please see the following illustration.



Box Nails



Box nails are made for use in thin dry wood. To reduce a nail's tendency to split such wood, the point is slightly blunted. Box nails are thinner than the corresponding penny size in common nails, and about $\frac{1}{8}$ inch shorter than their nominal size. Often they are coated with a resin (such as nylon) that is melted by the heat generated in driving the nail and glues the nail in place.

Size	Nominal length, inches	Gauge	Diameter, inches
2d	1	15½	0.067
3d	1¼	14½	0.076
4d	1½	14	0.080
5d	1¾	14	0.080
6d	2	12½	0.099
7d	2¼	12½	0.099
8d	2½	11½	0.113
9d	2¾	11½	0.113
10d	3	10½	0.128
12d	3¼	10½	0.128
16d	3½	10	0.135
20d	4	9	0.148
30d	4½	9	0.148
40d	5	8	0.162

Common Wire Nails



Size	Length, inches	Gauge	Number in a pound	Safe Lateral Load*	
				Required penetration. inches	load, pounds, in Douglas Fir
2d	1	15	876		
3d	1¼	14	568		
4d	1½	12½	316		
5d	1¾	12½	271		
6d	2	11½	181	1	70
7d	2¼	11½	161		
8d	2½	10¼	106	1¼	100
9d	2¾	10½	96		
10d	3	9	69	1½	120
12d	3¼	9	64	1 5/8	130
16d	3½	8	49	1 5/8	160
20d	4	6	31	2	190
30d	4½	5	24	2¼	230
40d	5	4	18	2 1/3	270
50d	5½	3	14	2¾	310
60d	6	2	11	3	360

Finishing Nails

Finishing nails are used where the nail head must be hidden. They have small heads and smaller diameters than common nails.

Finishing nails, seen in profile, have a barrel-shaped head with a small diameter and a dimple on the top. After the nail is driven almost flush with the surface, the point of a nail set is placed in the dimple and the head driven below the surface. The resulting small hole can be filled with putty. Outdoors, in time the hole will tend to close by itself when the wood fibers swell.

Size	Length, inches	Gauge	Number per pound
2d	1	16½	1,351
3d	1¼	15½	807
4d	1½	15	584
5d	1¾	15	500
6d	2	13	309
7d	2¼	13	238
8d	2½	12½	189
9d	2¾	12½	172
10d	3	11½	121
12d	3¼	11½	113
16d	3½	11	90
20d	4	10	62