

Sheet metal *gauge chart*.

Sheet metal gauge numbers mean **different thicknesses** depending on the material. Steel, galvanized steel, aluminum, and copper all use the same numbers — but the actual thickness differs significantly. Here's the full cross-reference.

The chart

GAUGE	STEEL (UNCOATED)	GALVANIZED STEEL	ALUMINUM / B&S	COPPER / BRASS
3	0.2391" / 6.07 mm	–	0.2294" / 5.83 mm	0.2294" / 5.83 mm
4	0.2242" / 5.69 mm	–	0.2043" / 5.19 mm	0.2043" / 5.19 mm
5	0.2092" / 5.31 mm	–	0.1819" / 4.62 mm	0.1819" / 4.62 mm
6	0.1943" / 4.94 mm	–	0.1620" / 4.12 mm	0.1620" / 4.12 mm
7	0.1793" / 4.55 mm	–	0.1443" / 3.66 mm	0.1443" / 3.66 mm
8	0.1644" / 4.18 mm	0.1681" / 4.27 mm	0.1285" / 3.26 mm	0.1285" / 3.26 mm
9	0.1495" / 3.80 mm	0.1532" / 3.89 mm	0.1144" / 2.91 mm	0.1144" / 2.91 mm
10	0.1345" / 3.42 mm	0.1382" / 3.51 mm	0.1019" / 2.59 mm	0.1019" / 2.59 mm
11	0.1196" / 3.04 mm	0.1233" / 3.13 mm	0.0907" / 2.30 mm	0.0907" / 2.30 mm
12	0.1046" / 2.66 mm	0.1084" / 2.75 mm	0.0808" / 2.05 mm	0.0808" / 2.05 mm
13	0.0897" / 2.28 mm	0.0934" / 2.37 mm	0.0720" / 1.83 mm	0.0720" / 1.83 mm

GAUGE	STEEL (UNCOATED)	GALVANIZED STEEL	ALUMINUM / B&S	COPPER / BRASS
14	0.0747" / 1.90 mm	0.0785" / 1.99 mm	0.0641" / 1.63 mm	0.0641" / 1.63 mm
15	0.0673" / 1.71 mm	0.0710" / 1.80 mm	0.0571" / 1.45 mm	0.0571" / 1.45 mm
16	0.0598" / 1.52 mm	0.0635" / 1.61 mm	0.0508" / 1.29 mm	0.0508" / 1.29 mm
17	0.0538" / 1.37 mm	0.0575" / 1.46 mm	0.0453" / 1.15 mm	0.0453" / 1.15 mm
18	0.0478" / 1.21 mm	0.0516" / 1.31 mm	0.0403" / 1.02 mm	0.0403" / 1.02 mm
19	0.0418" / 1.06 mm	0.0456" / 1.16 mm	0.0359" / 0.91 mm	0.0359" / 0.91 mm
20	0.0359" / 0.91 mm	0.0396" / 1.01 mm	0.0320" / 0.81 mm	0.0320" / 0.81 mm
21	0.0329" / 0.84 mm	0.0366" / 0.93 mm	0.0285" / 0.72 mm	0.0285" / 0.72 mm
22	0.0299" / 0.76 mm	0.0336" / 0.85 mm	0.0253" / 0.64 mm	0.0253" / 0.64 mm
23	0.0269" / 0.68 mm	0.0306" / 0.78 mm	0.0226" / 0.57 mm	0.0226" / 0.57 mm
24	0.0239" / 0.61 mm	0.0276" / 0.70 mm	0.0201" / 0.51 mm	0.0201" / 0.51 mm
25	0.0209" / 0.53 mm	0.0247" / 0.63 mm	0.0179" / 0.45 mm	0.0179" / 0.45 mm
26	0.0179" / 0.45 mm	0.0217" / 0.55 mm	0.0159" / 0.40 mm	0.0159" / 0.40 mm
27	0.0164" / 0.42 mm	0.0202" / 0.51 mm	0.0142" / 0.36 mm	0.0142" / 0.36 mm
28	0.0149" / 0.38 mm	0.0187" / 0.47 mm	0.0126" / 0.32 mm	0.0126" / 0.32 mm
29	0.0135" / 0.34 mm	0.0172" / 0.44 mm	0.0113" / 0.29 mm	0.0113" / 0.29 mm
30	0.0120" / 0.30 mm	0.0157" / 0.40 mm	0.0100" / 0.25 mm	0.0100" / 0.25 mm

Why the same number means different things. Steel sheet gauge originated as a US Standard Gauge in the 1800s and was tied to weight per square foot. Aluminum, copper, and brass adopted the Brown &

Sharpe (B&S) system, which is identical to AWG wire gauge — a logarithmic series tied to diameter. The two systems collided at the names but never merged. Galvanized steel adds ~0.0025–0.004” of zinc coating on top of the steel thickness, so a 14-gauge galvanized sheet is meaningfully thicker than a 14-gauge uncoated steel sheet.

Common applications

USE CASE	TYPICAL GAUGE	MATERIAL
Automobile body panels	18–22	Steel
Truck bed	12–14	Steel
HVAC ductwork (residential)	26–30	Galvanized steel
HVAC ductwork (commercial)	22–26	Galvanized steel
Range hood / vent	22–26	Galvanized steel or aluminum
Aircraft skin (general aviation)	16–22	Aluminum (2024 or 7075)
Aluminum siding	24–26	Aluminum
Sheet metal cabinet body	18–22	Steel or aluminum
Decorative copper flashing	16 oz (= ~24 gauge)	Copper (sold by weight)
Standing seam roof	22–24	Galvanized or aluminum

Common pitfalls

- **Same number, different thickness.** 16-gauge steel is 1.519 mm; 16-gauge aluminum is 1.291 mm — about 15% thinner. Specifying material AND gauge is non-negotiable.
- **Galvanized adds thickness.** 16-gauge galvanized is 0.0635" vs 16-gauge uncoated steel at 0.0598" — about 6% thicker. The zinc coating is real material.
- **Stainless usually uses decimal thickness.** Stainless steel is typically specified by actual thickness (e.g., 0.062") rather than gauge, to avoid the confusion. If you do see stainless given in gauges, treat it like uncoated steel.
- **Copper is often sold by weight, not gauge.** '16 oz copper' means 16 ounces per square foot, which corresponds to roughly 24 gauge (0.0216"). Confusing if you're used to thinking in gauges.
- **'Gauge' is a tradesperson's word.** CAD drawings and engineering specs increasingly use decimal inches or millimeters directly. Always verify against actual dimensions for precision work.

Common questions

Why does the same gauge mean different thicknesses for different metals?

Steel, aluminum, and copper each have their own gauge system — they evolved separately. 14-gauge steel = 0.0747" (1.9 mm); 14-gauge aluminum = 0.0641" (1.6 mm); 14-gauge copper = 0.0641" (1.6 mm but different scale than aluminum). Always specify both gauge and metal type, or just use thickness directly.

How heavy is one square foot of 16-gauge steel?

16-gauge steel is 0.0598" thick. Steel weighs about 489 lb/ft³, so $1 \text{ ft}^2 \times 0.0598/12 \text{ ft} \times 489 = 2.44 \text{ lb/ft}^2$ (about 11.9 kg/m²). For aluminum at 16-gauge (0.0508" thick), 0.72 lb/ft². For copper at 16-gauge (0.0508"), 2.36 lb/ft². Useful for shipping cost estimation.

Can I weld 22-gauge steel?

Possible but tricky. At 0.0299" (0.76 mm), thin sheet warps from heat input and burns through easily. Use MIG with thin wire (0.023" or 0.030"), low amperage, short bursts, and back-and-forth motion. TIG with foot pedal control gives better results. Spot welding or brazing is often easier for thin sheets.

What gauge is 'standard' for HVAC ductwork?

Residential supply ducts: 26-gauge galvanized steel (0.0217") for round, 26-30 gauge for rectangular small ducts. Commercial: 22-26 gauge depending on dimensions. SMACNA tables match gauge to duct size and pressure class. Going lighter saves cost but trades against rigidity, vibration, and lifespan.

Why is sheet metal sold by weight and not gauge?

Suppliers and recyclers price by weight because that's what they handle. Specification engineers think in gauge because that's what design tables and code use. Bridge the two with conversion charts — knowing 16-gauge steel weighs 2.5 lb/ft² lets you check a quote and verify you're getting the right material.

Sources

- **Steel:** SAE J-403 — Manufacturers' Standard Gauge for Sheet Steel. Also reproduced in ASTM A568/A568M.
- **Galvanized:** ASTM A653/A653M — Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process. The thickness includes the zinc coating (typically G60 or G90).
- **Aluminum, copper, brass:** Brown & Sharpe gauge, identical formula to AWG: $d(n) = 0.005 \times 92^{((36-n)/39)}$ inches.
- **Stainless:** Typically per ASTM A480 / A240, specified by decimal thickness rather than gauge number.

Disclaimer. Sheet metal thicknesses shown are nominal. Actual mill tolerance is typically $\pm 10\%$ for thin gauges and $\pm 5\%$ for thicker. For precision sheet metal work, specify by decimal thickness with tolerance, not by gauge alone.