US Standard Gauge for Sheet Steel

SheetMetal · Engineering reference · Checked 2026-11-03

Typical engineering values — confirm against the applicable standard and your machine before quoting.

Gauges 3–30 with inch thickness, derived millimetres, weight per square metre and the weight of one 1000 × 2000 mm sheet in carbon steel.

How to read this chart

The gauge column follows 15 USC 206 (https://uscode.house.gov/us/usc/t15/s206/), checked 2026-11-03. Commercial Manufacturers Standard Gauge is a different table. The inch column is the reference thickness for that gauge; the millimetre column is derived as inches × 25.4 and rounded to four decimals. The weight columns use the carbon-steel density held by the site calculator, 7.85 g/cm³, so they include no coating, tolerance or edge allowance. These calculated masses are not the statutory table's weight columns.

The last column is the mass of one rectangular sheet 1000 mm × 2000 mm (2 m²), which is the common stock size in this chart. A different sheet size scales with area: a 1250 × 2500 mm sheet has 3.125 m², so multiply the kg/m² value by 3.125. A different material scales with density.

Gauge table (carbon steel, density 7.85 g/cm³)

Gauge	Thickness (in)	Thickness (mm)	Weight (kg/m²)	One 1000 × 2000 mm sheet (kg)
3	0.2500	6.3500	49.85	99.69
4	0.2344	5.9531	46.73	93.46
5	0.2188	5.5562	43.62	87.23
6	0.2031	5.1594	40.50	81.00
7	0.1875	4.7625	37.39	74.77
8	0.1719	4.3656	34.27	68.54
9	0.1563	3.9688	31.16	62.31
10	0.1406	3.5719	28.04	56.08
11	0.1250	3.1750	24.92	49.85
12	0.1094	2.7781	21.81	43.62
13	0.0938	2.3812	18.69	37.38
14	0.0781	1.9844	15.58	31.16
15	0.0703	1.7859	14.02	28.04
16	0.0625	1.5875	12.46	24.92
17	0.0563	1.4287	11.22	22.43
18	0.0500	1.2700	9.97	19.94

19	0.0437	1.1112	8.72	17.45
20	0.0375	0.9525	7.48	14.95
21	0.0344	0.8731	6.85	13.71
22	0.0313	0.7937	6.23	12.46
23	0.0281	0.7144	5.61	11.22
24	0.0250	0.6350	4.98	9.97
25	0.0219	0.5556	4.36	8.72
26	0.0187	0.4762	3.74	7.48
27	0.0172	0.4366	3.43	6.85
28	0.0156	0.3969	3.12	6.23
29	0.0141	0.3572	2.80	5.61
30	0.0125	0.3175	2.49	4.98

Weight for common stock sizes

The same density applied to three stock sizes. These values are for a full rectangular sheet with square corners; a nested blank is a separate area calculation. Use the sheet weight for freight, pallet loading and lifting, and the per-piece weight from the calculator for material cost.

Gauge	Thickness (mm)	1000 × 2000 mm (kg)	1250 × 2500 mm (kg)	1500 × 3000 mm (kg)
8	4.3656	68.54	107.09	154.21
10	3.5719	56.08	87.62	126.18
12	2.7781	43.62	68.15	98.14
14	1.9844	31.16	48.68	70.10
16	1.5875	24.92	38.94	56.08
18	1.2700	19.94	31.15	44.86
20	0.9525	14.95	23.37	33.65
24	0.6350	9.97	15.58	22.43

Weight per running metre at 1000 mm width

A 1000 mm wide coil or strip is weighed per running metre rather than per sheet. The values below are the same density chain with a 1000 × 1000 mm area, so they equal the kg/m² column numerically while giving the workshop a per-metre figure to measure against. Multiply by the actual strip width in metres for another width.

Gauge	Thickness (mm)	Weight per metre (kg)
3	6.3500	49.85

4	5.9531	46.73
5	5.5562	43.62
6	5.1594	40.50
7	4.7625	37.39
8	4.3656	34.27
9	3.9688	31.16
10	3.5719	28.04
11	3.1750	24.92
12	2.7781	21.81
13	2.3812	18.69
14	1.9844	15.58
15	1.7859	14.02
16	1.5875	12.46
17	1.4287	11.22
18	1.2700	9.97
19	1.1112	8.72
20	0.9525	7.48
21	0.8731	6.85
22	0.7937	6.23
23	0.7144	5.61
24	0.6350	4.98
25	0.5556	4.36
26	0.4762	3.74
27	0.4366	3.43
28	0.3969	3.12
29	0.3572	2.80
30	0.3175	2.49

Worked check

At 1 mm the chart reads 7.85 kg/m², which is the hand check behind the site calculator: 1 m² of 1 mm carbon steel at 7.85 g/cm³ weighs 7.85 kg. A 2 mm sheet doubles that value, and a 1000 × 2000 mm sheet doubles it again because the area is 2 m². A second check follows the same chain in millimetres: density × thickness × width × length, divided by 1,000,000. The divisor converts cubic millimetres and grams into kilograms. Keeping

all three dimensions in millimetres avoids a mixed-unit conversion and is the same chain the calculator uses.

Rounding and precision

The inch values are the published gauge reference thicknesses. The millimetre value is derived and rounded to four decimals, so converting it back to inches can differ in the fourth decimal from the inch column. That difference is a display rounding, not a second thickness. Weight values are rounded to two decimals; a batch total should be accumulated from the unrounded piece weight inside the calculator, not from the rounded chart cells.

Density is the largest assumption. Carbon steel is held at 7.85 g/cm³, which is a common nominal value; a specific grade can differ slightly. Stainless 304 is 7.93 g/cm³ and aluminium is 2.70 g/cm³. When the material is outside the carbon-steel row, use the calculator with the matching material instead of scaling this table by eye.

Thickness tolerance and coating

Gauge values are reference thicknesses, not manufacturing tolerances. A delivered sheet can be above or below the nominal gauge within the mill tolerance, and the mill certificate is the authority for the delivered thickness. The table ignores zinc coating on galvanized sheet, paint, cladding and any edge condition; for commercial weight estimates those layers are small, but they are not included here. If a quotation depends on a tight weight, ask for the certified weight ticket rather than rounding the chart value.

Quantity matters as much as piece weight. A batch weight is the piece weight multiplied by the number of pieces, before scrap and skeleton loss. Add the nesting loss from the actual layout rather than applying one percentage to every job. Pieces per tonne, shown by the calculator, is the whole-number result of 1,000 kg divided by the weight of one piece.

Gauge systems differ by material

This table covers carbon sheet steel only. Aluminium and stainless steel are published under different gauge systems, so their gauge numbers do not convert with this table. Enter aluminium and stainless-steel thickness in millimetres, or ask the mill for the millimetre thickness, before using a weight calculation. Gauge values are reference thicknesses, not manufacturing tolerances; the mill certificate remains the authority for the delivered thickness.

Using the chart in a quotation

Use the piece weight for material cost and the batch weight for freight, pallet loading and lifting. Compare a quoted price per tonne with a price per piece through the pieces-per-tonne figure. When a batch approaches a crane or pallet limit, confirm that limit with the workshop before the weight is written into the quotation. The result is an estimate for quotation preparation; confirm the material grade, density, thickness tolerance and blank area with engineering before quoting.