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Rebar Size and Weight Chart

US #3 to #18 and metric 6 to 50 mm bars: diameter, area, weight per foot and per metre, plus site quick tables

For: Site and structural engineers, contractors, estimators, steel fixers and students

allunitconversions.com/rebar-size-chart
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KEY RELATIONSHIP
US bar number = nominal diameter in eighths of an inch (#3 to #8); metric bars are named by diameter in mm

FORMULA
kg/m = $d^2 \div 162.2$ (d in mm, steel 7,850 kg/m³)

REVERSE
d (mm) = $\sqrt{(162.2 \times \text{kg/m})}$

WORKED EXAMPLE
16 mm bar: $16^2 \div 162.2$ = 1.578 kg/m; #5 bar = 1.043 lb/ft

US values as published in ASTM A615; metric masses to 3 decimals. Order and check steel to the project specification.

US reinforcing bars (ASTM A615)

Bar	Metric bar	Diameter (in)	Diameter (mm)	Area (in²)	Area (mm²)	lb/ft	kg/m
#3	#10	0.375	9.5	0.11	71	0.376	0.560
#4	#13	0.500	12.7	0.20	129	0.668	0.994
#5	#16	0.625	15.9	0.31	200	1.043	1.552
#6	#19	0.750	19.0	0.44	284	1.502	2.235
#7	#22	0.875	22.2	0.60	387	2.044	3.042
#8	#25	1.000	25.4	0.79	510	2.670	3.973
#9	#29	1.128	28.7	1.00	645	3.400	5.060
#10	#32	1.270	32.3	1.27	819	4.303	6.404
#11	#36	1.410	35.8	1.56	1,006	5.313	7.907
#14	#43	1.693	43.0	2.25	1,452	7.650	11.384
#18	#57	2.257	57.3	4.00	2,581	13.600	20.239

Metric reinforcing bars (EN 10080 / BS 4449)

Diameter (mm)	Area (mm²)	kg/m	m per tonne	lb/ft	Nearest US bar
6	28.3	0.222	4,505.4	0.149	#3
8	50.3	0.395	2,534.3	0.265	#3
10	78.5	0.617	1,622.0	0.414	#3
12	113.1	0.888	1,126.4	0.597	#4
14	153.9	1.208	827.5	0.812	#4
16	201.1	1.578	633.6	1.061	#5
20	314.2	2.466	405.5	1.657	#6
25	490.9	3.853	259.5	2.589	#8
28	615.8	4.834	206.9	3.248	#9
32	804.2	6.313	158.4	4.242	#10
40	1,256.6	9.865	101.4	6.629	#14
50	1,963.5	15.413	64.9	10.357	#14

Bar area per metre width at common spacings (mm²/m)

Area of steel per metre of slab or wall = bar area × 1000 ÷ spacing (mm).

Bar (mm)	@100	@125	@150	@175	@200	@225	@250	@300
8	503	402	335	287	251	223	201	168
10	785	628	524	449	393	349	314	262
12	1,131	905	754	646	565	503	452	377
16	2,011	1,608	1,340	1,149	1,005	894	804	670
20	3,142	2,513	2,094	1,795	1,571	1,396	1,257	1,047
25	4,909	3,927	3,272	2,805	2,454	2,182	1,963	1,636

Slope: percent, ratio and angle

Percent	Ratio (1 in …)	Degrees	mm per m
0.5%	1 in 200	0.29	5
1%	1 in 100	0.57	10
1.5%	1 in 66.7	0.86	15
2%	1 in 50	1.15	20
2.5%	1 in 40	1.43	25
3%	1 in 33.3	1.72	30
4%	1 in 25	2.29	40
5%	1 in 20	2.86	50
6%	1 in 16.7	3.43	60

Percent	Ratio (1 in …)	Degrees	mm per m
8%	1 in 12.5	4.57	80
10%	1 in 10	5.71	100
12.5%	1 in 8	7.13	125
15%	1 in 6.7	8.53	150
20%	1 in 5	11.31	200
25%	1 in 4	14.04	250
33.33%	1 in 3	18.43	333
50%	1 in 2	26.57	500
100%	1 in 1	45.00	1,000

Concrete volume for slabs

Add a waste allowance (typically 5–10%) when ordering.

Thickness (mm)	m^3 per 10 m^2	Thickness (in)	yd^3 per 100 ft^2
75	0.75	3	0.93
100	1.00	4	1.23
125	1.25	5	1.54
150	1.50	6	1.85
175	1.75	7	2.16
200	2.00	8	2.47
250	2.50	10	3.09
300	3.00	12	3.70

Sources and method

- **ASTM A615/A615M** — Deformed and plain carbon-steel bars for concrete reinforcement: nominal dimensions and masses
- **EN 10080 and BS 4449** — Steel for the reinforcement of concrete: preferred metric diameters (7,850 kg/m^3)

US bar dimensions are transcribed from ASTM A615 and cross-checked against a second published table; metric masses, areas and the site tables are calculated. Interactive version, corrections and more charts: **allunitconversions.com/rebar-size-chart**