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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	FORMULA	REVERSE	WORKED EXAMPLE
US bar number = nominal diameter in eighths of an inch (#3 to #8); metric bars are named by diameter in mm	kg/m = d² ÷ 162.2 (d in mm, steel 7,850 kg/m³)	d (mm) = √(162.2 × kg/m)	16 mm bar: 16² ÷ 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

Bar (mm)	@100	@125	@150	@175	@200	@225	@250	@300
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**