Material densities and round bar weight (kg/m)

Bar weight per metre = π/4 × D² × ρ / 1000 (D in mm, ρ in g/cm³). Values are theoretical, based on nominal diameter.

Material densities

MATERIAL	G/CM³	KG PER M² PER 1 MM
Steel (S235, C45, 42CrMo4)	7,85	7,85
Stainless steel 304 (1.4301)	7,93	7,93
Stainless steel 316 (1.4401)	8,00	8,00
Cast iron (grey)	7,20	7,20
Aluminium (6082, 6061, 5083)	2,70	2,70
Aluminium 7075	2,81	2,81
Copper	8,96	8,96
Brass (CuZn39Pb3)	8,47	8,47
Bronze	8,80	8,80
Titanium Ti6Al4V	4,43	4,43
POM (acetal)	1,41	1,41
PA6 (polyamide)	1,14	1,14
PE-HD / PE-UHMW	0,95	0,95
PEEK	1,30	1,30
PMMA (acrylic)	1,19	1,19

Round bar weight, kg/m

Ø, MM	STEEL	STAINLESS 304	ALUMINIUM	BRASS
6	0,222	0,224	0,076	0,239
8	0,395	0,399	0,136	0,426
10	0,617	0,623	0,212	0,665
12	0,888	0,897	0,305	0,958
14	1,208	1,221	0,416	1,304
16	1,578	1,594	0,543	1,703
18	1,998	2,018	0,687	2,155
20	2,466	2,491	0,848	2,661
22	2,984	3,014	1,026	3,220
25	3,853	3,893	1,325	4,158
28	4,834	4,883	1,663	5,215
30	5,549	5,605	1,909	5,987
32	6,313	6,378	2,171	6,812
35	7,553	7,630	2,598	8,149

Ø, MM	STEEL	STAINLESS 304	ALUMINIUM	BRASS
40	9,865	9,965	3,393	10,644
45	12,485	12,612	4,294	13,471
50	15,413	15,571	5,301	16,631
55	18,650	18,840	6,415	20,123
60	22,195	22,422	7,634	23,948
65	26,049	26,314	8,959	28,106
70	30,210	30,518	10,391	32,596
75	34,680	35,034	11,928	37,419
80	39,458	39,861	13,572	42,575
90	49,940	50,448	17,177	53,884
100	61,654	62,282	21,206	66,523

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