

# Anchor Bolt Weight Chart — M12

M12 · 13 lengths · 4 configurations · kg per piece · carbon steel 7.85 g/cm³

M12

kg per piece

| Shank length L (mm) | Straight<br>no add-on | J-Hook<br>hook +72 mm (6d) | L-Bend<br>leg +48 mm (4d) | With Plate<br>plate 48×6 mm |
|---------------------|-----------------------|----------------------------|---------------------------|-----------------------------|
| 100                 | 0.089                 | 0.15                       | 0.13                      | 0.2                         |
| 150                 | 0.13                  | 0.2                        | 0.18                      | 0.24                        |
| 200                 | 0.18                  | 0.24                       | 0.22                      | 0.29                        |
| 250                 | 0.22                  | 0.29                       | 0.26                      | 0.33                        |
| 300                 | 0.27                  | 0.33                       | 0.31                      | 0.37                        |
| 400                 | 0.36                  | 0.42                       | 0.4                       | 0.46                        |
| 500                 | 0.44                  | 0.51                       | 0.49                      | 0.55                        |
| 600                 | 0.53                  | 0.6                        | 0.58                      | 0.64                        |
| 800                 | 0.71                  | 0.77                       | 0.75                      | 0.82                        |
| 1000                | 0.89                  | 0.95                       | 0.93                      | 1                           |
| 1200                | 1.1                   | 1.1                        | 1.1                       | 1.2                         |
| 1500                | 1.3                   | 1.4                        | 1.4                       | 1.4                         |
| 2000                | 1.8                   | 1.8                        | 1.8                       | 1.9                         |

All values are computed as geometric volume × density (carbon steel 7.85 g/cm³, base metal, coating excluded) — no copyrighted standard tables are reproduced. Straight = cylinder  $\pi/4 \cdot d^2 \cdot L$ ; J-hook = shank + hook developed length 6d (GB/T 799 hooked-bolt basis, identical to the online calculator); L-bend = shank + leg 4d (explicit assumption — GB/T 799 has no L-type leg table); with-plate = shank + square plate  $a \times a \times t$  ( $a=4d$ ,  $t=0.5d$ , explicit assumption, unwelded-hole-free plate, weld and accessories excluded). The full nominal diameter is used along the shank with no thread reduction.

Cell shows weight per piece (kg/pc, carbon steel 7.85 g/cm³). L = straight shank length (hook/leg/plate excluded); full nominal diameter along the whole shank (no thread reduction).

## Basis of Calculation & Disclosed Assumptions

Boundary: theoretical geometric estimates for quotation, freight and lifting budgets. Actual piece weight varies with the as-built configuration (hook/leg/plate per drawing) and coating (hot-dip galvanizing ≈ +4.5%). Use measured values for trade settlement; send drawings for non-standard configurations.

### References

- GB/T 799-2020 — Anchor bolts (CN, official full text; common series — anchor bolts are often custom-designed per project drawing) — [https://openstd.samr.gov.cn/bzgk/gb/std?std\\_no=GB%2FT%20799-2020](https://openstd.samr.gov.cn/bzgk/gb/std?std_no=GB%2FT%20799-2020)
- GB/T 192-2003 — General purpose metric screw threads: basic profile (CN, official full text; ISO 68-1 equivalent) — [https://openstd.samr.gov.cn/bzgk/gb/std?std\\_no=GB%2FT%20192-2003](https://openstd.samr.gov.cn/bzgk/gb/std?std_no=GB%2FT%20192-2003)
- Metric thread basic profile (ISO 68-1)
- Dimensions cross-checked against industry fastener data libraries; densities are common industry values

Disclaimer: This chart is an engineering estimation for selection, quotation and freight estimation only. It does not constitute design or acceptance criteria.

## Material Density Conversion

Values above are carbon steel (7.85 g/cm³); for other materials multiply by the density factor.

| Material             | Density<br>(g/cm³)<br>g/cm³ | Factor |
|----------------------|-----------------------------|--------|
| Carbon / Alloy Steel | 7.85                        | ×1.000 |
| Stainless 304        | 7.93                        | ×1.010 |
| Stainless 316        | 7.98                        | ×1.017 |
| Brass                | 8.5                         | ×1.083 |