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# Hex Nut Weight Chart · Flat & Spring Washer Weight Chart — M6

**M6 · hex nut · flat washer · spring washer · g per piece · kg/1000 pcs · carbon steel 7.85 g/cm³**

## M6

2 g / piece

| Nut Dimensions | Nominal diameter d mm | Width across flats s mm | Nut height m mm | Weight per piece (g) g / piece | Bulk weight (kg/1000 pcs) |
|---|---|---|---|---|---|
| **M6** | 6 | 10 | 5 | **2** | 2 |

All values are computed as geometric volume × density (carbon steel 7.85 g/cm³, base metal, coating excluded) — no copyrighted standard tables are reproduced. Hex nut = hexagonal prism (across flats s) minus the tapped hole (effective diameter d − 0.5×pitch: the mean of thread major/minor diameters with face-chamfer allowance, calibrated family-wide against public per-1,000-pcs weight tables) — identical formula and parameters as the online weight calculator.

Width across flats s follows GB/T 6170 (≈ ISO 4032) style-1 hex nuts; nut height m is our library's modeled dimension (ISO 4032:1999 / GB/T 6170-2000 series), identical to the catalog SKU and calculator parameters. Fine-thread nuts (GB/T 6171) share the same envelope, so this table approximates their unit weight.

### Flat Washers (GB/T 97.1, ≈ ISO 7089)

| Size | OD D mm | Thickness t mm | Weight per piece (g) g / piece | Bulk weight (kg/1000 pcs) |
|---|---|---|---|---|
| **M6** | 12 | 1.6 | **1** | 1 |

### Spring Lock Washers (DIN 127 series, modeled dims)

| Size | OD D mm | Thickness t mm | Weight per piece (g) g / piece | Bulk weight (kg/1000 pcs) |
|---|---|---|---|---|
| **M6** | 11.8 | 1.6 | **1** | 1 |

All values are computed as annular geometric volume π/4·(D²−d²)·t × density (carbon steel 7.85 g/cm³, base metal, coating excluded; spring lock washers carry an additional ×0.83 effective-section allowance for the split gap and section chamfers, regressed on published DIN 127 per-1,000-pcs weights) — no copyrighted standard tables are reproduced. The bore is taken at the nominal diameter d (the actual clearance hole is slightly larger, so no unmodeled ID column is shown); flat-washer dimensions follow the GB/T 97.1 (≈ ISO 7089) basis and spring lock washers use DIN 127-series library modeled dimensions — identical parameters as the online weight calculator and catalog SKUs.

## Basis of Calculation & Disclosed Assumptions

Boundary: theoretical geometric estimates for quotation, freight and packing budgets. Actual piece weight varies with thread tolerance, chamfer and coating (hot-dip galvanizing ≈ +4.5%); use measured values for trade settlement. Note the standards difference: withdrawn DIN 934 gave M12 a width across flats of 19 mm, while GB/T 6170 / ISO 4032 specify 18 mm — weights differ slightly. This chart uses GB/T 6170 across-flats with the library modeled nut height (ISO 4032:1999 / GB/T 6170-2000 series, same parameters as our catalog SKUs).

### References


- GB/T 6170-2015 — Style 1 hexagon nuts (CN, official full text; dimension series identical to ISO 4032:1999 / GB/T 6170-2000) — https://openstd.samr.gov.cn/bzgk/gb/std?std_no=GB%2FT%206170-2015
- Hex nut dimensions (ISO 4032 series)
- 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
- 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.

## Basis of Calculation & Disclosed Assumptions

Boundary: theoretical geometric estimates for quotation, freight and packing budgets. Actual piece weight varies with chamfer, split-ring geometry and coating (hot-dip galvanizing ≈ +4.5%); use measured values for trade settlement.

### References


- GB/T 97.1-2002 — Plain washers, product grade A (CN, official full text; aligns with ISO 7089/7090 series) — https://openstd.samr.gov.cn/bzgk/gb/std?std_no=GB%2FT%2097.1-2002
- Plain washer dimensions (ISO 7089/7090 series)
- 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
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