# Commercial large washer · 100 HV

A 100 HV steel large washer providing a wider bearing surface under a bolt head or nut. This commercial series is distinct from ISO 7093-1: select the bore, outside diameter and thickness together with the finish.

ISO 7093-1

Dimensional range

M3-M36

Series

Large · without chamfer

Configuration

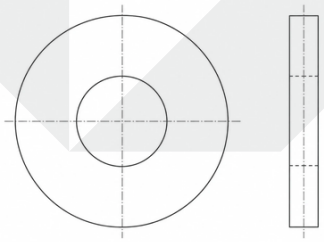
100 HV

References

ISO 7093-1



## Technical drawing



d1

bore diameter

d2

outside diameter

s

thickness (also designated h in technical references)

## Variants and dimensional data

Tabulated commercial sizes M3-M36, with gaps in the series. Other bores, outside diameters and thicknesses on request; nominal M denotes the reference bolt size.

Dimensions in mm. Identification drawing, not a manufacturing drawing.

| M | d1 | d2 | s |
|---|---|---|---|
| 3 | 3.2 | 9 | 0.8 |
| 4 | 4.3 | 12 | 1 |
| 5 | 5.3 | 15 | 1.2 |
| 6 | 6.4 | 18 | 1.6 |
| 8 | 8.4 | 24 | 2 |
| 10 | 10.5 | 30 | 2.5 |
| 12 | 13 | 37 | 3 |
| 14 | 15 | 44 | 3 |
| 16 | 17 | 50 | 3 |
| 18 | 20 | 56 | 4 |
| 20 | 22 | 60 | 4 |
| 24 | 26 | 72 | 5 |
| 30 | 33 | 92 | 6 |
| 36 | 39 | 110 | 8 |

100 HV identifies the hardness of the commercial steel version described here. Dimensions are nominal catalogue values; tolerances and delivery requirements are agreed for the ordered specification. Do not automatically apply ISO 7093-1 tolerances.

Table dimensions refer to the stated execution. DIN/UNI, polymer and special variants require verification of their own dimensions; they do not automatically inherit reference geometry, weight or performance.

## Materials, classes, finishes and treatments

Executions are distinguished by reference, material, class and finish. DIN, ISO and UNI references do not imply dimensional equivalence or availability of every size in each material. Supply and batch documents require quotation confirmation.

| Execution reference | Material | Class / hardness | Documented finishes |
|---|---|---|---|
| DIN 9021 | Stainless A2 | To be specified | To be specified |
| DIN 9021 | Nylon (PA) | Not applicable | To be specified |
| DIN 9021 | Brass | Not applicable | To be specified |
| DIN 9021 | Steel | 100 HV | Black oxide; Black zinc plated; Bronze plated; GEOMET 321A; Geomet 321b; Hot-dip galvanized; Nickel plated; Plain; Trivalent iridescent zinc plated; Yellow zinc plated; Yellow zinc plated Cr III 12 µm with sealer; Yellow zinc plated ≥12 µm; Zinc plated; Zinc plated with sealer; Zinc plated ≥12 µm; Zinc plated ≥8 µm |
| DIN 9021 | Stainless A4 | To be specified | To be specified |
| UNI 6593 | Steel | 100 HV | Black oxide; Black zinc plated; GEOMET 321A; Hot-dip galvanized; Nickel plated; Plain; Yellow zinc plated; Yellow zinc plated Cr III 12 µm with sealer; Zinc plated; Zinc plated ≥8 µm |
| DIN 440 | Steel | 100 HV | Zinc plated |
| DIN 9021 | Steel | 200 HV | Zinc plated |
| DIN 433 | Stainless A4 | To be specified | To be specified |
| DIN 433 | Steel | 200 HV | Zinc plated |
| DIN 6340 | Steel | 100 HV | Zinc plated |
| DIN 34816 ex DIN 9021 | Polyamide | Not applicable | Natural colour |
| DIN 9021 | Stainless A5 · 1.4571 | To be specified | To be specified |
| DIN 9021 | Duplex · 1.4462 | To be specified | To be specified |
| DIN 9021 | Stainless HCR · 1.4529 | To be specified | To be specified |
| DIN 9021 | Nylon PA66 | Not applicable | To be specified |

“To be specified” is a requirement not established by this selection; it does not imply class 70/80, HV hardness or an automatic finish. Steel property classes do not apply to nylon/polyamide; PA6 and PA66 are distinguished only where stated. For nuts with non-metallic inserts, the material shown is the body material.

## Documentation

| Document | Status |
|---|---|
| Declaration of conformity | Subject to order agreement |
| Material certificate | Subject to order agreement |
| EN 10204 2.2 test report | Subject to order agreement |
| EN 10204 3.1 inspection certificate | Subject to order agreement |
| Dimensional inspection report | Subject to order agreement |
| Coating report | Subject to order agreement |
| Other documentation | Subject to order agreement |

Batch documents are not automatically included: specify your requirements in the RFQ.

## ISO, DIN and UNI: key differences

### DIN 9021

DIN 9021 is a withdrawn reference still used commercially. This sheet describes the commercial 100 HV series, not a declaration of conformity with ISO 7093-1.

### ISO 7093-1:2000

Related series, not an exact equivalent. In this commercial table M5 is 1.2 mm thick; M18/M20/M24 have 20/22/26 mm bores. Hardness and tolerances remain separate from the ISO series.