

What Are Socket Head Cap Screw Used For?

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Fasteners/Screws/Socket Head Cap Screw — GB/T 70.1 / ISO 4762 (Series 014)/Applications

Screws · GB/T 70.1 / ISO 4762 · Application guide

Typical applications, the industries that specify socket head cap screw, and how to choose the right size, material and finish for the joint.

Socket Head Cap Screws are used for threaded assemblies where the head drive and seating style matter. They are manufactured to GB/T 70.1 / ISO 4762, and the choice of size, property class and finish is driven by the load in the joint and the environment it sits in.

Primary duty

Threaded assemblies where the head drive and seating style matter

Governing standard

GB/T 70.1 / ISO 4762

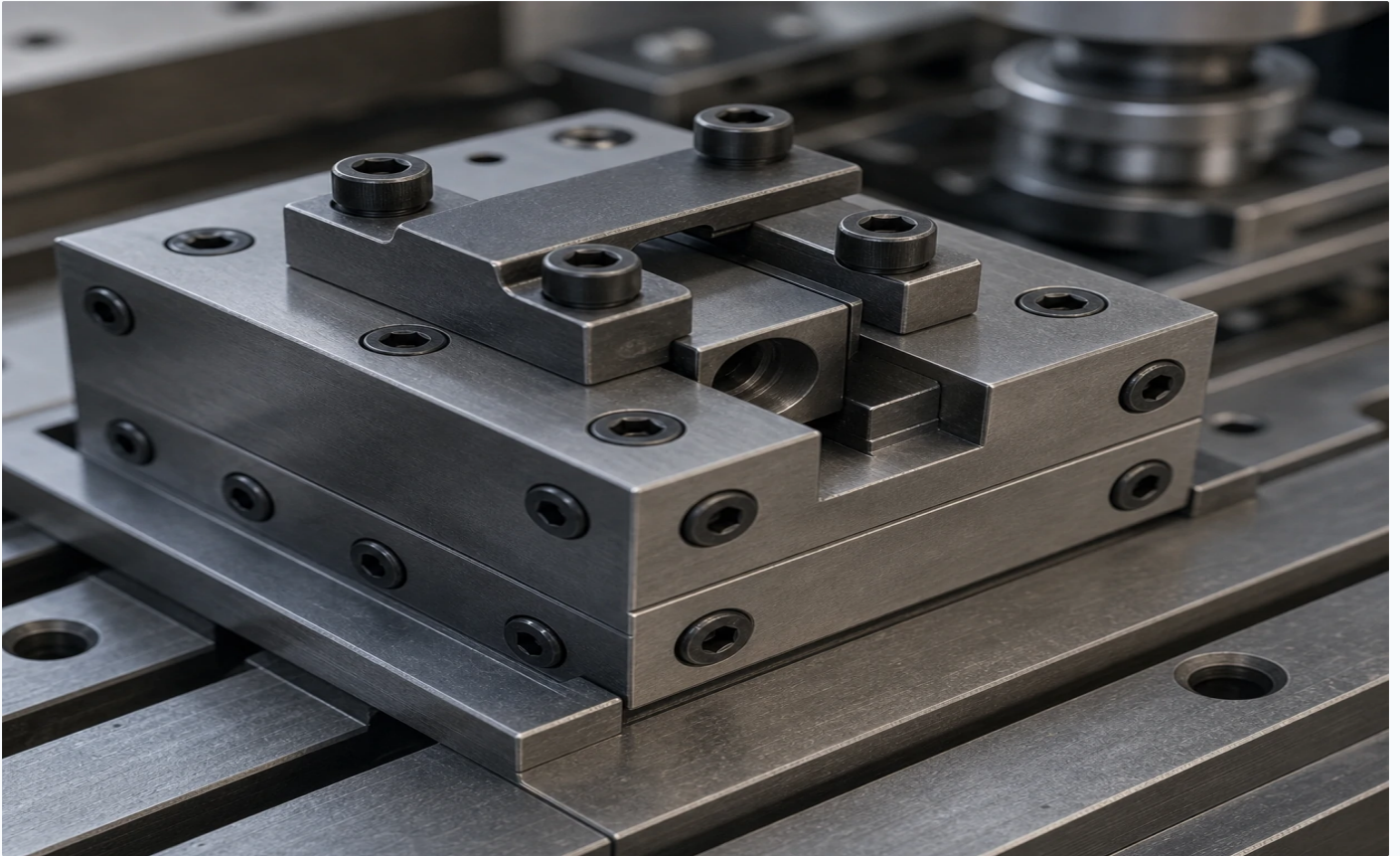
Thread size range

M3 to M36

Category

Screws

Application notes are general engineering guidance. Verify the property class and any approval requirement against your own design calculation.



Socket Head Cap Screws are used primarily for threaded assemblies where the head drive and seating style matter. This page lists the industries and assemblies where they are specified, the selection criteria that matter for each application, installation practice, and the cases where a different fastener type is the correct choice. Parts are supplied to GB/T 70.1 / ISO 4762. Stocked across roughly M3 to M36, they cover general to heavy-duty work.

Typical Applications for Socket Head Cap Screw — GB/T 70.1 / ISO 4762 (Series 014)

The most common settings where these are specified:

- **Machine guarding & panels:** removable access covers that are opened for service.
- **General machine building:** fastening covers, brackets, motors and sub-assemblies on production equipment.
- **Maintenance & repair (MRO):** a stocked size for servicing existing plant where the original fastener spec must be matched.
- **Fabrication & metalwork:** bench and on-site assembly of steel frames, enclosures and weldments.
- **Electronics & enclosures:** mounting PCBs, panels and lids where the drive style and head height matter.

How to Specify Socket Head Cap Screw — GB/T 70.1 / ISO 4762 (Series 014) for Your Application

- **Size:** Match the nominal size to the mating thread or hole. This product spans M3–M36; check the full table below for the exact dimensions of each size.
- **Drive & head:** Pick the drive (socket, cross, slot) and head style for the tool access and seating surface; a recessed drive resists cam-out under power tools.
- **Environment:** For damp, coastal or chemical exposure prefer A4/316 stainless or a suitable coating; indoors, plated steel or A2 is usually sufficient.
- **Standard:** This product is supplied to GB/T 70.1 / ISO 4762. Quoting the standard on your order guarantees interchangeable dimensions between suppliers.

Installation & Assembly Practice

- Match the driver exactly to the recess (PH ≠ PZ; hex key sizes per ISO 2936) and keep the tool axial — side load is the main cause of stripped drives.
- In tapped holes, engage a thread length of at least 1× the nominal diameter in steel, 2× in aluminum.
- Set power tools to a torque that seats the head without embedding it into the mating surface.

Common Selection Mistakes with Socket Head Cap Screw — GB/T 70.1 / ISO 4762 (Series 014)

- Under-sizing the drive for the installation torque — a small recess at high torque strips before the screw is seated.
- Using a countersunk head in thin sheet where the countersink removes most of the load-bearing material.
- Specifying stainless in high-strength duty: A2-70 is roughly class 7 steel, not a 10.9 substitute.

Where Socket Head Cap Screw — GB/T 70.1 / ISO 4762 (Series 014) Are Not the Right Choice

Not for high-preload structural joints (use a property-class bolt and nut), and not in thin sheet where a self-drilling or self-tapping type suits better.

Technical Drawing

Customize the parameters below — every spec field is editable, and the drawing redraws to match the values you choose. Changing the size will snap the other fields to that size's standard values; you can then override any individual value.

Sends the selected values to the quote form below.

Request a Quote

The form below follows the current technical drawing configuration. Change the drawing values above and the request details update automatically.

Dimensions & Specifications (GB/T 70.1 / ISO 4762)

Size	Pitch (mm)	Length L (mm)	Head diameter dk (mm)	Head height k (mm)	Hex socket s (mm)	Reference standard
M3	0.5	20	5.5	3	2.5	ISO 4762 / GB/T 70.1
M4	0.7	25	7.0	4	3.0	ISO 4762 / GB/T 70.1
M5	0.8	30	8.5	5	4.0	ISO 4762 / GB/T 70.1
M6	1.0	40	10.0	6	5.0	ISO 4762 / GB/T 70.1
M8	1.25	50	13.0	8	6.0	ISO 4762 / GB/T 70.1
M10	1.5	60	16.0	10	8.0	ISO 4762 / GB/T 70.1
M12	1.75	80	18.0	12	10.0	ISO 4762 / GB/T 70.1
M14	2.0	80	21.0	14	12.0	ISO 4762 / GB/T 70.1
M16	2.0	100	24.0	16	14.0	ISO 4762 / GB/T 70.1
M18	2.5	100	27.0	18	14.0	ISO 4762 / GB/T 70.1
M20	2.5	120	30.0	20	17.0	ISO 4762 / GB/T 70.1
M24	3.0	150	36.0	24	19.0	ISO 4762 / GB/T 70.1
M30	3.5	180	45.0	30	22.0	ISO 4762 / GB/T 70.1
M36	4.0	200	54.0	36	27.0	ISO 4762 / GB/T 70.1

Inside the plant

Manufactured in our own plant

This part is cold-formed, threaded, heat-treated and finished in-house. The stages below are where its class and finish are actually decided.

1.



01

Cold heading

Wire rod is drawn to size and cold-formed into blanks. Forming rather than cutting keeps the grain flow continuous around the head, which is where a bolt is most likely to fail.

Head dimensions and under-head radius checked at set-up and per shift.



2.

02

Thread rolling

Threads are rolled between hardened dies rather than cut. Rolled threads are stronger in fatigue than cut threads and hold pitch and flank angle far more consistently across a batch.

Go / no-go ring gauges to ISO 965 tolerance class 6g.

3.



03

Heat treatment

Quench-and-temper brings carbon and alloy steel to the property class ordered — 8.8, 10.9 or 12.9 — with the furnace charge tracked so a finished lot can be traced back to it.

Core hardness and tensile tested per lot to ISO 898-1.

4.



04

Surface treatment

Zinc, zinc-nickel, hot-dip galvanizing, black oxide, phosphate and Dacromet, selected against the service environment rather than against the price list.

Coating thickness and neutral salt spray hours to ISO 9227.

Frequently Asked Questions

Are Socket Head Cap Screw — GB/T 70.1 / ISO 4762 (Series 014) made to a recognized standard?

Yes — they are manufactured to GB/T 70.1 / ISO 4762, so dimensions are interchangeable between suppliers when you quote the standard on your order.

What are Socket Head Cap Screw — GB/T 70.1 / ISO 4762 (Series 014) used for?

Threaded assemblies where the head drive and seating style matter. They are supplied to GB/T 70.1 / ISO 4762.

Which industries use Socket Head Cap Screw — GB/T 70.1 / ISO 4762 (Series 014)?

They are commonly specified in machine guarding & panels, general machine building and maintenance & repair (mro), among other sectors.

How do I choose the right size of Socket Head Cap Screw — GB/T 70.1 / ISO 4762 (Series 014)?

Match the nominal size to the mating thread or hole. This product is available from M3 to M36; the full dimension table on this page lists each size.

Can I get a quote for Socket Head Cap Screw — GB/T 70.1 / ISO 4762 (Series 014) in the size and material I need?

Yes. Use the technical drawing and quote form on this page to set the size and options, then send the exact configuration to our team for pricing and lead time.

Related Pages

Product page: [Socket Head Cap Screw — GB/T 70.1 / ISO 4762 \(Series 014\) — specifications & sizes](#)

Socket Head Cap Screw — GB/T 70.1 / ISO 4762 (Series 014) Specification Guides

- [M3 Socket Head Cap Screw — GB/T 70.1 / ISO 4762 \(Series 014\) size guide](#)
- [A4 stainless Socket Head Cap Screw — GB/T 70.1 / ISO 4762 \(Series 014\)](#)

Related Fastener Applications

- [Button Head Socket Screws applications](#)
- [Cheese Head Screws applications](#)
- [Countersunk Socket Screws applications](#)
- [Fine Adjustment Set Screws applications](#)
- [Heavy Hex Socket Head Cap Screw — GB/T 1228 / ASTM A325 \(Series 046\) applications](#)
- [Hex Socket Cone Point Set Screw — GB/T 77 / ISO 4026 \(Series 022\) applications](#)