

What Are Engineered Component Used For?

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Typical applications, the industries that specify engineered component, and how to choose the right size, material and finish for the joint.

Engineered Components are used for a specific function defined by the part drawing rather than by a catalog fastener standard. They are manufactured to GB/T 78 / ISO 4027, and selection is driven by the nominal size, the fit and tolerance the assembly requires, and the service environment.

Primary duty

A specific function defined by the part drawing rather than by a catalog fastener standard

Governing standard

GB/T 78 / ISO 4027

Nominal size range

1 mm to 8 mm

Category

General Components

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



Engineered Components (GB/T 78 / ISO 4027) are specified where the joint requires a specific function defined by the part drawing rather than by a catalog fastener standard. The sections below cover the typical end-uses by industry, the size and material decisions for each, assembly practice, and the applications this fastener type is not suited to. Stocked across roughly 1 mm to 8 mm, they cover general to heavy-duty work.

Typical Applications for Engineered Component — GB/T 78 / ISO 4027 (Series 026)

The most common settings where these are specified:

- **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.

How to Specify Engineered Component — GB/T 78 / ISO 4027 (Series 026) for Your Application

- **Size:** Select on nominal size, and confirm it against the mating feature in the assembly. This product spans 1 mm–8 mm; check the full table below for the exact dimensions of each size.
- **Material:** Choose the material and finish for the service environment — plated steel for general use, stainless for corrosion resistance.
- **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 78 / ISO 4027. Quoting the standard on your order guarantees interchangeable dimensions between suppliers.

Where Engineered Component — GB/T 78 / ISO 4027 (Series 026) Are Not the Right Choice

Match the fastener to the load, environment and whether the joint must be reopened; the wrong class or style is the usual cause of joint failure.

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 78 / ISO 4027)

Size designation	Outer diameter / width (mm)	Length / height (mm)	Bore / thread (mm)	Material	Reference standard
Size 1	10	20	6	C45 carbon steel	GB/T 1804-m
Size 2	12	25	8	C45 carbon steel	GB/T 1804-m
Size 3	16	32	10	C45 carbon steel	GB/T 1804-m
Size 4	20	40	12	C45 carbon steel	GB/T 1804-m
Size 5	25	50	16	C45 carbon steel	GB/T 1804-m
Size 6	32	63	20	C45 carbon steel	GB/T 1804-m
Size 7	40	80	25	C45 carbon steel	GB/T 1804-m
Size 8	50	100	30	C45 carbon steel	GB/T 1804-m

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

What are Engineered Component — GB/T 78 / ISO 4027 (Series 026) used for?

A specific function defined by the part drawing rather than by a catalog fastener standard. They are supplied to GB/T 78 / ISO 4027.

Which industries use Engineered Component — GB/T 78 / ISO 4027 (Series 026)?

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

How do I choose the right size of Engineered Component — GB/T 78 / ISO 4027 (Series 026)?

Select on nominal size and on the fit the assembly requires. This product is available from 1 mm to 8 mm; the full dimension table on this page lists each size.

Are Engineered Component — GB/T 78 / ISO 4027 (Series 026) made to a recognized standard?

Yes — they are manufactured to GB/T 78 / ISO 4027, so dimensions are interchangeable between suppliers when you quote the standard on your order.

Can I get a quote for Engineered Component — GB/T 78 / ISO 4027 (Series 026) 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: [Engineered Component — GB/T 78 / ISO 4027 \(Series 026\) — specifications & sizes](#)

Engineered Component — GB/T 78 / ISO 4027 (Series 026) Specification Guides

- [A4 stainless Engineered Component — GB/T 78 / ISO 4027 \(Series 026\)](#)

Related Fastener Applications

- [CDZZ Limit Post — GB/T 6170 / ISO 4032 \(Series 062\) applications](#)
- [Custom Hex Bolt \(GHJ Series\) — GB/T 5783 / ISO 4017 \(Series 009\) applications](#)
- [Custom Machined Component — GB/T 5782 / ISO 4014 \(Series 004\) applications](#)
- [Custom Machined Component — ISO / DIN \(Series 115\) applications](#)
- [Custom Machined Component — ISO / DIN \(Series 130\) applications](#)
- [Cylinder Connecting Sleeve — GB/T 5783 / ISO 4017 \(Series 013\) applications](#)