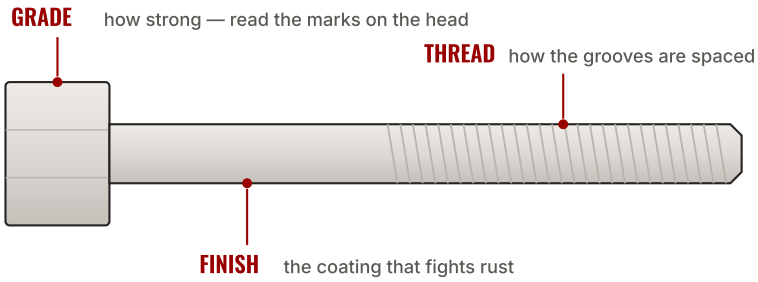
Thread, Grade & Finish, Explained

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J & E Supply & FASTENER CO.

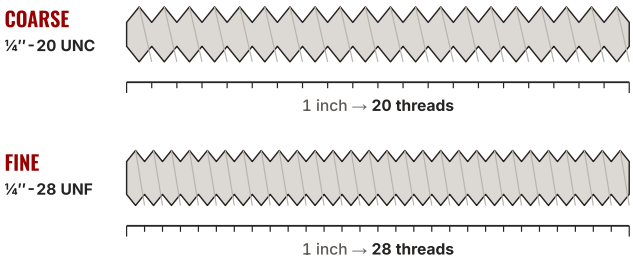
Three words you'll hear at the counter — and what each one actually changes about the fastener in your hand.

Beyond its size, three things describe any bolt: its **thread**, its **grade**, and its **finish**. Here's where each one lives on the bolt:



Thread — coarse vs. fine

Thread is how tightly the grooves are packed, counted as **threads per inch**. Most inch sizes come two ways. Same bolt size, one inch of each:



Drawn to scale against each other. Fine threads are closer together *and* shallower.

COARSE · UNC

The everyday default

- Faster to run on and off
- Shrugs off nicks, dirt, and plating
- Strips less in soft material

FINE · UNF

The precision option

- A bit stronger at the same size
- Holds better under vibration
- Automotive, aerospace, machinery

Not sure? **Coarse is usually right.** Use fine when the maker calls for it. Every size's pitches are in the thread pitch & tap-drill chart.

> **Rule of thumb:** nut and bolt must share the same thread. If they don't spin together by hand, stop — forcing it ruins both.

Grade — how strong

Grade is the bolt's **strength rating**, stamped on top of the head. Look down at the head and count the lines:



Grade 2
plain head
74,000 psi

Grade 5
3 lines
120,000 psi

Grade 8
6 lines
150,000 psi

A325
structural — letters
120,000 psi

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Bars show minimum tensile strength (how hard you can pull before it breaks), common sizes. Every head mark and every number by size is in the bolt grades & strength chart.

Replacing a Grade 5? Here's the rule:

✓ Grade 5
Match what came out. Almost always right.

~ Grade 8
Only if a spec calls for it. Harder = more brittle, and it costs more.

✗ Grade 2
Never step down. That's how joints fail.

Mystery bolt? Bring it in. We'll read the head with you and match the grade.

Finish — fighting rust

Finish is the **coating** on the outside, and its job is keeping rust away. Pick it by **where the fastener will live**:

Dry & indoors
Plain or zinc plated

Outdoors, in the weather
Hot-dip galvanized or 18-8 stainless

Salt, pools, chemicals
316 stainless or a specialty coating

rust protection, rough guide →



Plain / black no coating
Bare steel. Cheapest, least protection. Fine dry and indoors, or where it gets painted or oiled. Rusts outside.



Zinc plated clear or yellow
Thin, shiny zinc — the most common finish on the shelf. Indoor and light outdoor. Yellow is mostly cosmetic; not for constant wet.



Hot-dip galvanized thick zinc
Heavy, dull, slightly rough. The outdoor and structural workhorse. The coat is so thick the matching nuts are tapped oversize — use galvanized nuts.



Stainless 18-8 / 304 the metal itself
No coating to chip off — the rust resistance is in the steel. Covers most outdoor needs. Trades some strength for it.



Stainless 316 marine grade
The step up from 18-8 for salt water, pools, and chemicals.



Specialty coatings ceramic & fluoropolymer
Engineered coatings, like the blue ones common in oil-field work. When a job spec names one, ask us and we'll match it.

Watch for mixing metals. Plain steel touching stainless, or the wrong finish in a wet spot, can make rust *faster*. Not sure what goes together? Ask at the counter.