

## THREAD COUNT

The number of threads per unit length along the bolt's shank.

### Units

Imperial (UNC/UNF): Measured in threads per inch (TPI).

*Example: 1/4"-20 UNC means the bolt has a 1/4-inch diameter and 20 threads per inch.*

Metric (ISO): Not directly counted; instead, the pitch (see below) is used to determine spacing.

### Purpose

Higher thread count = finer threads (more threads per inch)

→ better for precision and holding in thin materials.

Lower thread count = coarse threads (fewer threads per inch)

→ stronger engagement in softer materials, faster assembly.

## THREAD PITCH

The distance from a point on one thread to the same point on the next thread, measured parallel to the bolt's axis.

### Units

Imperial: Not used directly — TPI is the standard measure.

Metric: Measured in millimeters per thread.

*Example: M8 × 1.25 means 8 mm diameter, 1.25 mm pitch (1.25 mm between threads).*

### Purpose

Smaller pitch = finer threads → more gradual engagement, greater clamping precision.

Larger pitch = coarse threads → faster assembly, more resistant to stripping.

### Relationship Between Thread Count & Pitch

In Imperial: Pitch (in inches) =  $1 \div \text{TPI}$

*Example: 20 TPI → Pitch =  $1/20 = 0.05$  inches.*

In Metric: Pitch is specified directly (e.g., 1.5 mm pitch).

### QUICK TIP

Coarse Threads: Better for quick assembly, softer materials, and resisting galling.

Fine Threads: Better for precision, thin walls, and vibration resistance.

Always match the nut's thread form, count/pitch, and diameter to the bolt.

## THREADS PER INCH

## THREAD PITCH

