

# 1/4-20 Hardware

1/4-20 hardware is commonly used in FRC for high-load applications where additional strength is needed. The larger diameter provides greater thread engagement and improved resistance to stripping.

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## What Does 1/4-20 Mean?

- **1/4** refers to the major diameter of the screw (0.250")
- **20** refers to the number of threads per inch (TPI)

This makes 1/4-20 a coarse-thread fastener that is durable and well-suited for structural applications.

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## Common Hardware

1/4-20 hardware includes:

- Socket head cap screws
  - Button head screws
  - Nylock nuts
  - Washers
  - Tapped holes in aluminum
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## Common Lengths

Typical lengths used in FRC include:

- 1/2"
- 3/4"
- 1"
- 1-1/4"
- 1-1/2"
- 2"

The correct length should allow full thread engagement without excessive exposed threads.

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## Typical Tools

- 3/16" hex key or T-handle
- 7/16" wrench or socket for nuts
- #7 drill bit for tap holes
- 17/64" drill bit for clearance holes

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## Why FRC Teams Use It

- Stronger than 10-32 hardware
- Better for high-load applications
- Less likely to strip in aluminum
- Common for structural and mounting applications

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## Key Idea

1/4-20 hardware is used when additional strength and durability are needed. Its larger size makes it ideal for high-load joints and structural connections.

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