



## The Bolts That Hold Skyscrapers Together: Steelmet's Structural-Grade Secret

### Description

At Steelmet Industries, we engineer our **cold drawn steel bright bars** to meet the extreme demands of **structural and load-bearing fasteners** used in bridges, power plants, mining equipment, and heavy industrial machinery — where failure is not an option.

### Why Structural Fasteners Demand Superior Materials

Load-bearing fasteners must withstand:

- **Constant vibration** and **dynamic loading**
- **Shear forces** from structural movements
- **Corrosive environments** (offshore, chemical plants)
- **Temperature extremes** (-40°C to +400°C)

**Our specialty:**

- **Ultra-clean steel** with sulfur  $\leq 0.025\%$  for hydrogen resistance
- **Controlled grain flow** for uniform strength in large diameters

## Critical Applications in Heavy Industries

### 1. Civil Infrastructure

- **Bridge expansion joint bolts** (ASTM A490)
- **Wind turbine foundation bolts** (EN 14399 HV)
- **Seismic retrofit anchor systems**

## 2. Heavy Machinery

- Mining shovel bucket pins
- Crusher frame bolts
- Hydraulic press tie rods

## 3. Energy Sector

- Boiler tube hanger bolts (ASTM A193 B16)
- Flange bolts for high-pressure piping
- Nuclear containment vessel studs

## Technical Specifications

Grade	Standard	Proof Load (MPa)	Charpy Impact (J)	Corrosion Solution
AISI 4140	ASTM A193 B7	850+	27@-29°C	Cadmium plating
42CrMo4	EN 14399 HV	1100+	55@-40°C	Hot-dip galvanizing
B7M	NACE MR0175	725+	34@-46°C	Xylan coating
AISI 8740	ASTM A320 L7	950+	40@-60°C	PTFE impregnation

\*Special processing available:

- Rolled threads (vs cut) for 30% greater fatigue life
- Ultrasonic testing of 100% of critical fasteners
- Dimensional certification to EN 10204 3.1/3.2\*

## Why Steelmet is Trusted for Critical Fasteners

• Heavy industry expertise 15+ years serving EPC contractors  
• Large diameter capability up to 150mm

- â? Material traceability with full mill certifications
- â? Technical partnership from design to manufacturing

For structural fastener solutions that wonâ??t compromise, visit [Steelmet Industriesâ?? website](#) or request our Heavy Industry Fastener Guide.

### Category

1. Posts

### Tags

1. ASTM A490
2. bridge bolts
3. construction anchors
4. heavy industry fasteners
5. high-strength fasteners
6. load-bearing bolts
7. mining equipment bolts
8. pressure vessel studs
9. structural fasteners
10. wind turbine bolts

### Date

04/05/2026

### Author

admin

*Steelmet Industries - Bright Bars, Alloy Steels, Free Cutting Steels, Stainless Steels*