

Hex Head Cap Screw / Bolt

SERIES: HB-316-PT

Premium grade, partially threaded hexagonal head fastener designed for high-stress mechanical and structural engineering applications.

PRODUCT OVERVIEW

This industrial-grade Hex Head Bolt features a precision-formed hexagonal head engineered for maximum torque delivery using standard wrenching tools. The body features an unthreaded shank (grip length) followed by a clean, unified coarse/fine thread profile that ensures high clamping force and secure retention when paired with a matching hex nut and washer.

KEY FEATURES & BENEFITS

- Partial Threading:** Provides superior shear strength across the unthreaded shank section in joint interfaces.
- Hexagonal Geometry:** Six contact points allow reliable high-torque tightening with standard impact or hand tools.
- Chamfered Point:** Flat, slightly beveled end facilitates easy alignment and smooth engagement into threaded holes or nuts.

Visual Nomenclature

[Hex Head | Grip Length | Thread Length]

*Designed according to ANSI/ASME B18.2.1 and DIN 931 manufacturing standards for dimensional accuracy.

TECHNICAL SPECIFICATIONS

Mechanical & Material Properties

Fastener Type	Hex Head Bolt / Cap Screw (Partially Threaded)
Material Options	Grade 5 Carbon Steel / Grade 8 Alloy Steel / Stainless Steel (A2/A4-316)
Finish / Coating	Zinc Plated / Hot-Dip Galvanized / Plain Black Oxide
Thread Profile	UNC (Coarse), UNF (Fine), or Metric Coarse Profile
Thread Class	Class 2A / 6g precision fit
Head Type	Hexagonal External Drive

APPLICATION GUIDELINES

Ideal for use in heavy equipment assembly, construction framework, automotive drivetrains, and structural steel joints. For optimal performance, always pair with a matching material grade nut (e.g., Grade 8 Bolt with Grade 8 Nut) and hardened flat washers to distribute clamping forces evenly and prevent surface deformation.