

## What is a Product Request?

A Product Request is the first step in the SmartBolt™ engineering design process. The form is used to gather all of the specifications related to the bolt and bolted joint as well as customer demand information.

## Where can I find a Product Request Form?

Product Request Forms are available on our website at [www.smartbolts.com/support](http://www.smartbolts.com/support).

## How do I submit a Product Request Form?

To submit a Product Request Form, visit [www.smartbolts.com/support](http://www.smartbolts.com/support) to use our electronic form or download the PDF form to fill out at your leisure. The PDF form should be emailed to [sales@smartbolts.com](mailto:sales@smartbolts.com) or mailed to our mailing address.

## What if I have a request with multiple types of fasteners?

We require one form per type of fastener. Multiple forms will need to be completed for multiple types of fasteners.

## What happens after I submit a Product Request Form?

After a Product Request Form is submitted, the data is reviewed by support personnel and presented to our Engineering Department for analysis. We will contact you within one business day of submission with additional information or instructions.

## I have other questions that are not covered in these instructions. What do I do?

For additional assistance, please contact us at +1-240-631-7246 or [support@smartbolts.com](mailto:support@smartbolts.com).

## I. Bolt Information

### 1. Bolt Head Type

Select your preferred head type:

Head Type	Head Type Acronym	Description
Hex Head Cap Screw	HHCS	Feature a bearing surface that is flat and washer faced
Heavy Hex Cap Screw	HVCS	Features a greater width across wrenching flats with a bearing surface that is washer faced and flat.
Hex Flange Bolt	HFLB	Feature an enlarged bearing surface that extends beyond the hex head like a built in washer

The Product Request Form features the most commonly requested head types. The standard selection for this section is the hex head cap screw. If a preferred head type is not featured, or is custom, please enter the head type in the field labeled "Other."

### 2. Bolt Dimensions

Enter your requested bolt dimensions:

Bolt Dimension	Description
Nominal Diameter	Standard (Rounded) size of the of the unthreaded body or major diameter of

	the threads
TPI/Pitch	The pitch is the distance between two successive thread crests or roots. Pitch is usually specified for metric fasteners. TPI stands for “threads per inch” and is used with inch fasteners. Pitch is equal to the reciprocal of TPI.
Length	The length of a bolt as measured from underneath the head (Bearing surface).

Refer to the Fastener Dimension Diagram for additional information on dimensional data requirements. Please include the units used to measure your fastener.

### 3. Grade

Select your preferred grade:

Grade	Description
Grade 5	SAE J429 Grade 5 is an inch property grade of medium carbon (or alloy) steel.
Grade 8	SAE J429 Grade 8 is an inch property grade of medium carbon alloy steel.
Class 8.8	ISO 898-1 Class 8.8 is a metric property class of medium carbon steel.
Class 10.9	ISO 898-1 Class 10.9 is a metric property class of carbon alloy steel.

If a preferred grade is not featured, or is custom, please enter the grade in the field labeled “Other.”

### 4. Finish

Select your preferred finish:

Finish	Description
Plain	Bare metal and may or may not have a coating of light oil to resist corrosion, generally provided with a cosmetic black oxide finish.  <i>Recommended for fasteners with a nominal diameter <math>\geq 1"/&gt;M27</math></i>
Clear Zinc	Electroplated Zinc with clear trivalent Chromate finish. Provides better corrosion resistance than Plain.  <i>Recommended for Grade 5 fasteners with a nominal diameter <math>\leq 1"/&gt;M27</math></i>
Yellow Zinc	Electroplated Zinc with yellow hexavalent Chromate finish. Provides better corrosion resistance than clear Zinc.  <i>Recommended for Grade 8 fasteners with a nominal diameter <math>\leq 1"/&gt;M27</math></i>

If a preferred finish is not featured, or is custom, please enter the finish in the field labeled “Other.”

## 5. Thread Length

Select your preferred thread length:

Finish	Description
Partial	Fastener shank is partially threaded to a standardized thread length based on the nominal diameter and length of the fastener  <i>Recommended for fasteners when available</i>
Full	Fastener shank is fully threaded for the total length of the fastener

If a preferred thread length is custom, please enter the thread length in the field labeled "Other."

## 6. Additional Specifications

Enter additional specifications not covered in the Bolt Information options.

## II. Visual Indication System

### 1. Indicator Design

Select your preferred indicator design:

Indicator Design	Description
Standard	Indicator shows "Tight" color at 70% of fastener proof load
Custom	Indicator shows "Tight" color as requested

If a preferred indicator design is custom, please provide the following information:

Custom	Description
Requested Indicating Tension	Indicator shows "Tight" color as requested  <i>Recommended units: klbf (inch) or kN (metric)</i>
OR	
Requested Installation Torque	Torque values will be converted using the equation $T=KFD$ , where T=torque, F=force, D=diameter, and K=nut factor  Indicator shows "Tight" color at calculated indicating tension from values provided  <i>Requires an Assumed Nut Factor</i>
Assumed Nut Factor	Expected to be 0.2 unless otherwise noted by customer  <i>Requires a Requested Installation Torque</i>

## III. Application Information

### 1. Bolted Joint Type

Select your bolted joint type.

Refer to Type 1: Clearance Hole and Type 2: Blind Hole diagrams for additional information on bolted joints.

### 2. Grip Length

Enter your grip length. Grip length is the distance from a fastener's bearing surface to plane of thread engagement.

Refer to Type 1: Clearance Hole and Type 2: Blind Hole diagrams for additional information on grip lengths.

### 3. Shear Plane

Enter the distance to the shear plane(s). The shear plane is the plane in which shear stress occurs. It can be specified as the distance from fastener bearing surface to the related plane. In cases of single shear, only one shear plane exists while cases of double shear have two shear planes.

Refer to Type 1: Clearance Hole and Type 2: Blind Hole diagrams for additional information on shear planes.

### 4. Environment

Enter your noteworthy environmental conditions. We recommend supplying information about atypical temperature and/or pressure levels, corrosive atmospheres and potentially hazardous conditions.

### 5. Comments

Enter additional information not covered in the Application Information options.

## IV. Options

### 1. Options

Select additional features to be included with your purchase:

Option	Description
Protective Recess	Recessed machining to protect indicator from physical impact
Contamination Seal	Recessed machining with encapsulated indicator for high contamination and submerged applications
Retro-Reflective Indicator	Specially-coated indicator to allow for easy inspection in low light areas such as mines.
Made in USA	Base bolt sourced in USA, manufactured with 100% made in USA materials
Material Certification	Base bolt material test record for full certification traceability
Plating Certification	Third-party certification of special sourced fastener plating performance prior to conversion

## V. Order Information

### 1. Quantity

Enter your requested quantity. Quantity refers to the expected number of items to be delivered. Unless otherwise noted (with an Exact Quantity selection), Stress Indicators Inc. reserves the right to deliver a limited number of excess item quantities as noted on quotation.

Select additional Order Details:

Order Details	Description
Exact Quantity	Customer will receive the exact quantity of product as requested
Expedite Order	Lead time for shipment of product will be decreased to two weeks Limitations apply

Standard lead time for shipment of product is 4-6 weeks from purchase date.

### 2. Expected Annual Usage

Enter the amount of product you expect to require per year.

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