

High-Strength Bolting for Structural Steel

Correspondence Courses

- ✓ Bolted Joints
- ✓ Bolting Materials and Usage
- ✓ Turn-of-Nut Installation
- ✓ Twist-Off-Type Tension-Control Bolt Installation
- ✓ Direct Tension Indicator Installation
- ✓ Calibrated Wrench Installation
- ✓ Bolting Inspection

Basis for the Courses

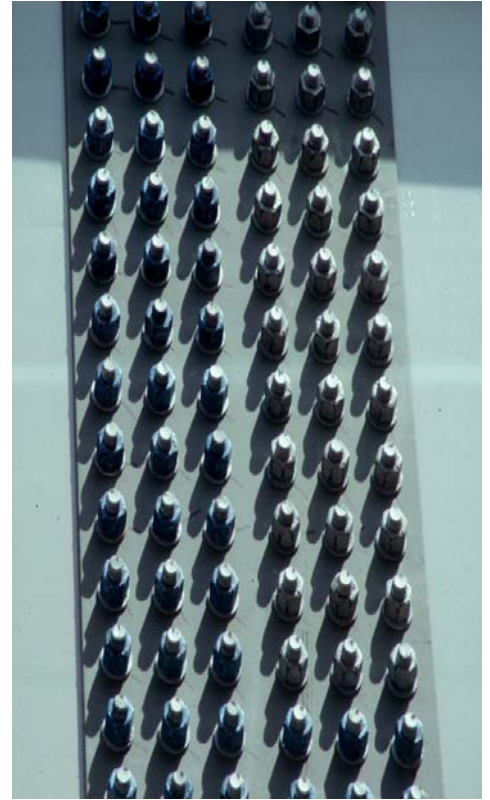
All courses are based upon the Research Council on Structural Connections "Specification for Structural Joints Using ASTM A325 or A490 Bolts" and the American Institute of Steel Construction specifications.

Courses and Examinations

Participants are provided written study materials and assigned additional reading tasks, then take a written examination to confirm understanding of the material. A 70% success rate is necessary for passing each exam. Participants are permitted to repeat the exam if they are unsuccessful the first time.

The Complete Package

The seven courses may also be taken as a complete package, and successful completion of all seven courses will earn a formal Certificate of Completion from SSTC. For this Certificate, an average exam pass rate of 80% is required, with no individual section below 70%.



Order Form

Quantity	Course	Unit Price
	Bolted Joints	\$ 30.00
	Bolting Materials and Usage	\$ 30.00
	Turn-of-Nut Installation	\$ 30.00
	Twist-Off-Type Tension-Control Bolt Installation	\$ 30.00
	Direct Tension Indicator Installation	\$ 30.00
	Calibrated Wrench Installation	\$ 30.00
	Bolting Inspection	\$ 30.00
	Complete Package of All 7 Courses	\$ 150.00

Michigan residents add 6% sales tax _____

Total Amount \$ _____

Check Enclosed _____

Visa MasterCard American Express

Credit Card Number _____

exp date ____ / ____ 3-Digit Card Security Code _____

Name on Card _____

Card Billing Address _____

____ Please print and ship to:

____ Please email the Adobe pdf files to:

Name _____

Firm _____

Address _____

City _____ State ____ Zip _____

Phone _____ ext _____

Fax _____

email _____



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Bolted Joints

Joint Types
Shear/Bearing Load Transfer
Snug-Tightened Joints
Pretensioned Joints
Slip-Critical Joints
Direct Tension Load Transfer
Required Minimum Bolt Pretensions
RCSC Specification References
Dimensions and Making of Bolt Holes

Bolting Materials and Usage

Structural Fasteners
Dimensions and Making of Bolt Holes
Jobsite Storage
Lubrication
Requirements for Washers
Bolt Stickout and Approximate Bolt Lengths
Suitable Nuts for Structural Bolts
Bolt Head Markings
Manufacturer and Supplier Marks
Dimensions of Structural Bolts
Nut Markings and Dimensions for Structural Nuts
Dimensions of ASTM F436 Washers
Dimensions of ASTM F959 Direct Tension Indicators

Turn-of-Nut Installation

Pre-Installation Verification Testing Requirements
Pre-Installation Verification - Turn-of-Nut Method
Required Minimum Bolt Pretensions
Pretensioning - Turn-of-Nut Method
Inspection Procedure - Turn-of-Nut Method
Lubrication
Requirements for Washers
Snug Tight Condition
Systematic Tightening
Bolt Stickout
Reuse of Bolts Previously Pretensioned
Required Rotations for Turn-of-Nut Method

Twist-Off-Type Tension-Control Bolt Installation

Pre-Installation Verification Testing Requirements
Pre-Installation Verification - Twist-Off Bolt Method
Required Minimum Bolt Pretensions
Pretensioning - Twist-Off Bolt Method
Inspection Procedure - Twist-Off Bolt Method
Lubrication
Requirements for Washers
Snug Tight Condition
Systematic Tightening
Bolt Stickout
Reuse of Bolts Previously Pretensioned
Determining the DTI Calibration

Direct Tension Indicator Installation

Pre-Installation Verification Testing Requirements
Pre-Installation Verification - Direct Tension Indicator Method
Required Minimum Bolt Pretensions
Pretensioning - Direct Tension Indicator Method
Inspection Procedure - Direct Tension Indicator Method
Lubrication
Requirements for Washers
Snug Tight Condition
Systematic Tightening
Bolt Stickout
Reuse of Bolts Previously Pretensioned

Calibrated Wrench Installation

Pre-Installation Verification Testing Requirements
Pre-Installation Verification - Calibrated Wrench Method
Required Minimum Bolt Pretensions
Pretensioning - Calibrated Wrench Method
Inspection Procedure - Calibrated Wrench Method
Lubrication
Requirements for Washers
Snug Tight Condition
Systematic Tightening
Bolt Stickout
Reuse of Bolts Previously Pretensioned
Determining the DTI Calibration

Bolting Inspection

Principles of Bolting Inspection
Bolt Holes
Bolt Head Markings
Bolt Manufacturer and Supplier Marks
Nut Markings
Jobsite Storage
Pre-Installation Verification Testing Requirements
Lubrication
Requirements for Washers
Systematic Tightening
Snug Tightened Joints
Required Minimum Bolt Pretensions
Inspection Procedure - Turn-of-Nut Method
Inspection Procedure - Twist-Off Bolt Method
Inspection Procedure - Direct Tension Indicator Method
Inspection Procedure - Calibrated Wrench Method
Bolt Stickout
Reuse of Bolts Previously Pretensioned
Arbitration of Disputes
Determining the DTI Calibration

These courses are offered to those involved in the design or construction of steel structures. Engineers will gain knowledge of critical design, installation and inspection practices. Steel fabrication and erection personnel will be able to improve and demonstrate their knowledge of the applicable codes and standards, as well as the proper methods for installation and quality control. Inspectors will be able to gain and demonstrate their overall knowledge of the bolting codes, standards and practices necessary for proper inspection and quality assurance.

For Fabricators and Erectors

It is essential to understand the Engineer's specifications and to properly implement the project requirements, as well as meet the code requirements as set forth by AISC and the RCSC. These courses can provide you the basis for standard procedures for implementation in your shop or in the field, reducing cost and quality problems and conflicts with inspectors. Fabricators and erectors that seek AISC Quality Certification or other approvals can use completion of these courses to demonstrate ongoing education and efforts to improve quality, as well as document the qualifications of office, supervision, bolting and inspection personnel.

For Inspectors

Besides improving your knowledge and skill at performing bolting inspection, these courses can be used to document your knowledge of bolting operations and inspection to prospective clients and employers. Currently, no existing certification program exists for bolting inspection, as it does for welding inspection. Completion of the complete package, with the receipt of the Certificate of Completion, should place you among the most qualified for bolting inspection tasks.

For Engineers

As a design professional, it is important to know the current information being used in the steel construction industry. Writing good specifications, and knowing how the project is to be properly fabricated, erected and inspected is also vital to a successful project.

The course on "Bolted Joints" is of particular interest to Engineers, as the selection of bolted joint types has a significant effect upon project requirements, construction cost and inspection cost. In addition, if you are a PE or SE that requires continuing education for maintaining your license, these courses are a practical and economical means to receive that continuing education.

CEU / PDH Credit

Courses may be taken for general educational needs or for formal continuing education credit, earning 0.1 Continuing Education Units or 1 Professional Development Hour per course. Please check with your state board or certifying body to verify eligibility for credit.

Fees

Courses are offered at \$30.00 each, which includes the written course materials, examination, examination grading, and a confirming letter upon successful completion. Completed course examinations are returned to SSTC by mail or fax. For the seven-course package, the total fee is \$150.00.

All course materials and examinations are distributed by email, but may be mailed by request. For orders outside the United States, orders will be sent by email only, unless specially requested to be mailed. In such cases, a \$10.00 handling fee plus actual shipping costs will be added.