CODES & STANDARDS FOR “STRUCTURAL STEEL FABRICATION”

Following are key codes & standards to remember for Civil Estimators to prepare the tender/bid proposal in correct manner.

Codes & Standards are published documents that establish specifications and procedures designed to ensure the reliability of the materials, products, methods, and/or services use in construction industry.

These Codes & Standards also make it easier to understand and compare competing products.

**AMERICAN INSTITUTE OF STEEL CONSTRUCTION PUBLICATIONS (AISC)**


AISC 303  Code of Standard Practice for Steel Buildings and Bridges

AISC 341  Seismic Provisions for Structural Steel Buildings

AISC 360  Specification for Structural Steel Buildings

**RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC)**

RCSC  Specification for Structural Joints Using ASTM A325 or A490 Bolts

**AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)**


ASTM A36/A36M  Specification for Carbon Structural Steel

ASTM A53/A53M  Specification for Pipe, Steel, Black and Hot-Dipped Zinc-Coated Welded and Seamless

ASTM A123/A123M  2.1.1.1 Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

ASTM A143/A143M  2.1.1.2 Standard Practice for Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement

ASTM A153/A153M  Standard Specification for Zinc Coating (Hot
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<tr>
<td>ASTM A193/A193M</td>
<td>2.1.1.3 Specification for Alloy Steel and Stainless Steel Bolting Materials for High Temperature or High pressure Service and Other Special Purpose Applications.</td>
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<td>ASTM A194/A194M</td>
<td>2.1.1.4 Specification for Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both</td>
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<td>2.1.1.5 Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for Low-Temperature Service</td>
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<td>ASTM A307</td>
<td>Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.</td>
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<td>ASTM A325/A325M</td>
<td>Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi (830 MPa), Minimum Tensile Strength.</td>
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<td>ASTM A490</td>
<td>Specification for Structural Bolts, Alloy Steel, Heat Treated, 150 ksi, Minimum Tensile Strength</td>
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<td>ASTM A500/A500M</td>
<td>Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes</td>
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<td>A563/A563M</td>
<td>Specification for Carbon and Alloy Steel Nuts</td>
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<td>ASTM A1001</td>
<td>Standard Specification for High Strength Steel Castings in Heavy Sections</td>
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<td>ASTM A759</td>
<td>Specification for Carbon Steel Crane Rails</td>
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<td>ASTM A786/A786M</td>
<td>Standard Specification for Hot-Rolled Carbon, Low-Alloy, High-Strength Low-Alloy and Alloy Steel Floor Plates</td>
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ASTM A992  Specification for Structural Steel Shapes
ASTM B209  Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B695  Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel
F436/436M  Specification for Hardened Steel Washers
ASTM F606M Test method for Determining the mechanical properties of Externally and Internally Threaded fasteners, Washers and rivets (Metric
ASTM F959  Specification for Compressible - Washer - Type Direct Tension Indicator for use with Structural Fasteners.

AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING (ASNT)
ASNT-TC-1A  Recommended Practice No. SNT-TC-1A and ASNT standard Topical Outlines for Qualification of Non-destructive Testing Personnel (ANSI / ASNT CP-105-2006)

AMERICAN WELDING SOCIETY PUBLICATIONS (AWS)
AWS D1.1/D1.1M  Structural Welding Code – Steel
AWS QC1  Standard for AWS Certification of Welding Inspectors
AWS A2.4  Standard Symbols for Welding, Brazing, and Nondestructive Examination

BRITISH STANDARDS:
BS 4190  Specification for ISO-Metric Black Hexagon Bolts, Screws & Nuts
BS 5950 (Part 1): Structural Use of Steelwork in Building Part 1: Code of Practice for design – Rolled and Welded Sections
BS 7668  Weldable Structural Steels Hot Finished Structural Hollow Sections in Weather
Resistant Steels - Specification

BS EN 10025 (Parts 1 thru 6): Hot Rolled products of Structural Steels

BS EN 10204: Metallic products - Types of inspection documents

BS EN 10210 (Parts 1 & 2): Hot Finished Structural Hollow Sections of Non-Alloy and Fine Grain Structural Steels

BS EN 10225: Weldable structural steels for fixed offshore structures — Technical delivery conditions

BS EN 14399 (Parts 1 thru 6): High Strength Structural Bolting assemblies for preloading

BS EN 1592 (Parts 1 thru 4): Aluminum and Aluminum Alloys – HF Seam Welded Tubes

INTERNATIONAL CODE COUNCIL (ICC)

IBC International Building Code

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO 9001 Quality Management Systems – Requirements

ISO 9004 Managing for the sustained success of an organization - A quality management approach
STRUCTURAL STEEL ERECTION

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

AISC 303  Code of Standard Practice for Steel Buildings and Bridges
AISC 325  Steel Construction Manual.
AISC 360  The AISC Specification for Structural Steel Buildings

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Test method for Determining the mechanical properties of Externally and Internally Threaded fasteners, Washers and rivets (Metric)

Specification for Compressible-Washer-Type Direct Tension Indicators for Use with Structural Fasteners

Specification for Structural Steel Shapes

Recommended Practice for Qualification of Non-destructive Testing Personnel

Specification for ISO-Metric Black Hexagon Bolts, Screws & Nuts

High Strength Friction Grip Bolts and Associated Nuts and Washers for Structural Engineering

Structural Use of Steelwork in Building Part 1: Code of Practice for design – Rolled and Welded Sections

Structural Use of Steelwork in Building Part 2: Specification for Materials, fabrication & Erection: Hot Rolled Sections

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**INTERNATIONAL CODE COUNCIL (ICC)**

International Building Code