

Robert E. Shaw, Jr., PE

President

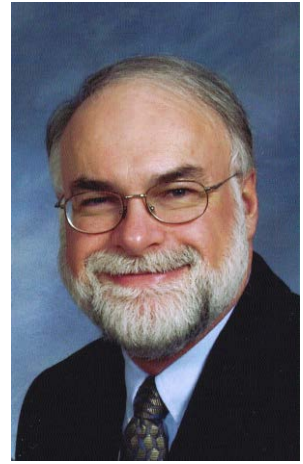
Steel Structures Technology Center, Inc.

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Education

BS Civil Engineering - Rose-Hulman Institute of Technology, Terre Haute, IN, 1975

Professional Registrations

Registered Professional Engineer - Michigan

Registered International Code Council Special Inspector

- ▶ Structural Steel and Bolting (S1)
- ▶ Structural Welding (S2)

Engineering Specialties

- ▶ steel construction quality and inspection
- ▶ high-strength bolted joints
- ▶ welded joints for structural steel
- ▶ remediation of deficient structures
- ▶ fitness for purpose of welded joints

Technical Activities

International Institute of Welding

- ▶ Commission XV on Design, Analysis and Fabrication of Welded Structures (Chairman)
- ▶ Subcommittee XV-C on Fabrication (Past Chairman)
- ▶ Commission XIII on Fatigue of Welded Components and Structures (Expert)
- ▶ Select Committee on Quality Management in Welding and Allied Processes (Chairman)
- ▶ Working Group on Regional Activities (Member)
- ▶ Technical Management Board (Member)

American Welding Society

- ▶ D1 Structural Welding Committee, responsible for all D1 structural welding codes (Member)
- ▶ Subcommittee D1Q on Steel, responsible for AWS D1.1 (Member)
- ▶ Subcommittee D1L on Seismic Welding, responsible for AWS D1.8 (Member)
- ▶ Subcommittee D1R on Strengthening and Repairing Existing Structures (Past Chair, Advisor)
- ▶ Subcommittee D1X Executive Committee (Member)
- ▶ D1 Task Group 1 on Design (Member)
- ▶ D1 Task Group 6 on Prequalification (Member)

American Institute of Steel Construction

- ▶ Specifications Committee, responsible for AISC 360 Specification for Structural Steel Buildings (Member)
- ▶ Task Committee 6 on Connections (Member)
- ▶ Task Committee 9 on Seismic Issues, responsible for AISC 341 Seismic Provisions for Structural Steel Buildings (Member)
- ▶ Task Committee 13 on Quality Control and Quality Assurance (Member)
- ▶ Connections Prequalification Review Panel, responsible for AISC 358 Prequalified Connections for Special and Intermediate Steel Moment Frames (Member)

Research Council on Structural Connections

- ▶ Specifications Committee (Member)
- ▶ Education Committee (Past Chair, Member)

ASTM International

- ▶ Subcommittee A1.02 on Structural Steels (Member)
- ▶ Subcommittee F16.02 on Steel Bolts, Nuts, Rivets and Washers (Member)

Publications

Books

- ▶ Structural Bolting Handbook - on testing, installation, inspection and use of bolts, published by SSTC, 2010
- ▶ Structural Welding Quality Handbook - on structural steel welding quality and inspection, published by SSTC, 2010
- ▶ Shop Inspection Handbook for Structural Steel Buildings - on references and standards, structural steels, fabrication, bolting, welding, and surface preparation/coatings, published by SSTC, 2010
- ▶ Structural Steel Inspectors Workbook, published by International Code Council, 2007
- ▶ Welding - Design Procedures and Inspections, Technical Instruction (TI 809-26), published by US Army Corps of Engineers, 1996
- ▶ Recommended Specifications and Quality Assurance Guidelines for Steel Moment-Frame Construction in Seismic Applications, (FEMA 353), published by Federal Emergency Management Agency (lead guideline writer), 2000
- ▶ Guide to Metric Steel Fabrication, published by American Institute of Steel Construction, 1990s
- ▶ Chapter 8 on "Inspection and Quality Control" for the textbook Handbook of Structural Steel Connection Design and Details, published by McGraw-Hill, editor Akbar Tamboli, 2010
- ▶ Chapter 12 on "Fabrication, Erection and Quality Control" for the textbook Steel LRFD Design, published by McGraw-Hill, editor Akbar Tamboli, 1997

Papers

- ▶ "Weld Quality in Standards – Engineering v Workmanship", and "Inspection and NDE Protocols in International Standards", proceedings of *1st Australasian International Welding, Inspection and NDT Conference*, Perth Australia, March 2013
- ▶ "Design and Construction Standards for Steel Connections in Seismic Frames", with James O. Malley, proceedings of *14th World Conference on Earthquake Engineering*, Beijing China, October 2008
- ▶ "AISC Seismic Provisions for Structural Steel Buildings", with James O. Malley, proceedings of *14th World Conference on Earthquake Engineering*, Beijing China, October 2008
- ▶ "Meeting Challenges to Achieve Seismic Safety", proceedings of IIW International Congress, Chennai India, January 2008
- ▶ "Project specifications for new steel moment-frame building construction", *Earthquake Spectra*, published by Earthquake Engineering Research Institute, July 2003
- ▶ "Steel Design and Construction in the US after the Northridge Earthquake", proceedings of *Symposium on Steel Structure*, Japanese Society of Steel Construction, Tokyo Japan, April 2002
- ▶ "Ultrasonic Testing Procedures, Technician Skills, and Qualifications", *ASCE Journal of Materials in Civil Engineering*, published by American Society of Civil Engineers, Jan/Feb 2002
- ▶ "USA Practice for Steel Building Design, Welding and Inspection in Seismic Regions", proceedings of *7th International Symposium of Japan Welding Society*, Kobe Japan, November 2001
- ▶ "Engineering Decisions: Weld Quality Requirements", proceedings of *North American Steel Construction Conference* (AISC), Ft Lauderdale FL, May 2001

Invited Lectures

- ▶ New Zealand - Heavy Engineering Research Association, "Achieving Performance in Bolted Connections ", March 2013
- ▶ Australia - Welding Technology Institute of Australia, "Structural Welding Design", March 2013
- ▶ Australia - 1st Australasian International Welding, Inspection and NDT Conference, "Weld Quality in Standards – Engineering v Workmanship", and "Inspection and NDE Protocols in International Standards", March 2013
- ▶ USA - North American Steel Construction Conference (AISC), "Suitable Inspection Intervals", April 2012
- ▶ South Africa - South African Institute of Welding, "Welding And Inspection Requirements For Steel Structures In Accordance With AWS D1.1 Structural Welding Code – Steel " and "Achieving Performance In Bolted Structural Joints ", May 2012
- ▶ New Zealand - Heavy Engineering Research Association, "Achieving Performance in Welded Seismic Connections", February 2012
- ▶ USA - North American Steel Construction Conference (AISC), "AISC 360 Chapter N - Are You Ready?", May 2010 and May 2011
- ▶ Australia - Welding Technology Institute of Australia, "Specifying and Achieving Performance in Structural Bolted Joints", September 2010, March 2013
- ▶ USA - North American Steel Construction Conference (AISC), "Steel Interchange LIVE!", April 2009
- ▶ Nigeria - Nigerian Institute of Welding, 1st Nigerian International Welding Congress, "The Engineering of Welded Structures: Design, Details, Production, and Quality", and "Engineering for the Repair and Strengthening of Welded Steel Structures", March 2009
- ▶ India -Institute of Steel Development and Growth, "Welding and Welded Connections", "Bolting and Bolted Connections", "Seismic Connections", "Steel Erection", and "Quality", January 2008
- ▶ India - Indian Institute of Welding, IIW International Congress, "Meeting Challenges to Achieve Seismic Safety", January 2008
- ▶ USA - North American Steel Construction Conference (AISC), "Steel Interchange LIVE!", May 2006
- ▶ USA - North American Steel Construction Conference (AISC), "Engineering Decisions: Weld Quality Requirements", May 2001
- ▶ Japan - Japanese Society of Steel Construction, "Steel Design and Construction in the US after the Northridge Earthquake", Tokyo Japan, April 2002
- ▶ Japan - 7th International Symposium of Japan Welding Society, "USA Practice for Steel Building Design, Welding and Inspection in Seismic Regions", Kobe Japan, November 2001

In-House Training Seminars - representative clients

- ▶ Port Authority of New York and New Jersey (inspection)
- ▶ American Bridge / Fluor Joint Venture (bolting)
- ▶ Tacoma Narrows Constructors (bolting)
- ▶ New York School Construction Authority (inspection)
- ▶ Quality Management Company (bolting)
- ▶ Quality Management Company (AISC 360-10 Chapter N: QC and QA)
- ▶ Weidlinger Associates (welding design)
- ▶ STV, Inc. (welding design)
- ▶ Ove Arup & Partners (welding design)
- ▶ New York City Transit Authority / MTA (welding design, inspection)
- ▶ RK&K (steel bridge inspection)
- ▶ State of California, Division of the State Architect (welding design, inspection)
- ▶ Atlas-Copco Drilling Solutions (welding design)
- ▶ US Army Corps of Engineers (inspection)
- ▶ Aker Solutions (bolting)
- ▶ Danny's Construction (bolting)
- ▶ TTL (structural steel inspection)
- ▶ numerous steel fabricators and erectors (bolting, welding, quality, inspection)
- ▶ numerous inspection and testing agencies (bolting, welding, quality, inspection)

Public Training Seminars

- ▶ Structural Steel and Bolting Inspection
- ▶ Structural Welding Inspection
- ▶ Structural Welding: Design and Specification
- ▶ Inspection of Seismic Steel Frames
- ▶ AISC 360 Chapter N: Quality Control and Quality Assurance
- ▶ Plan Reading for Steel Construction

Technical Consultation

- ▶ Principal Consultant to update the Commentary to the AWS D1.5-96 Bridge Welding Code for the NCHRP / Transportation Research Board
- ▶ Principal Consultant and Instructor to update and present Federal Highway Administration / National Highway Institute course on "*High Strength Bolts for Bridges*"
- ▶ Lead Guideline Writer for In-Process Construction Inspection for the SAC Joint Venture Program to Reduce Earthquake Hazards in Steel Moment Frame Structures - Phase 2, and served on the Welding and Joining Technical Advisory Panel

Project Consultation - representative projects

- ▶ Arecibo National Observatory, Puerto Rico (bolting)
- ▶ Municipal Services Building, City of Glendale, CA (seismic retrofit, repair, welding)
- ▶ Bay Bridge, San Francisco - Oakland, CA (seismic retrofit, welding)
- ▶ Calpine Fremont Energy Center, Fremont, OH (bolting)
- ▶ Florida Power & Light Port Everglades Plant, Ft Lauderdale, FL, (bolting)
- ▶ Miller Park Baseball Stadium, Milwaukee, WI (bolting, welding)
- ▶ Los Angeles County Courthouse, Van Nuys, CA (seismic retrofit, welding)
- ▶ Los Angeles County DPW Building, Alhambra, CA (seismic retrofit, welding)
- ▶ D. L. Lawrence Convention Center, Pittsburgh, PA (connection failure)
- ▶ Port Everglades Power Plant, Fort Lauderdale, FL (bolting)
- ▶ Athletic Training Facility, Iowa State University (welding)
- ▶ Palazzo Tower, Las Vegas, NV (bolting)
- ▶ Puentes Combined Cycle Thermal Power Plant, La Coruna, Spain (steel tolerances, bolting)
- ▶ University of Iowa Arts Building, Iowa City, IA (welding)
- ▶ Puente Hills Material Recovery Facility Administration Building, Whittier, CA (quality audit, welding)
- ▶ NASA Marshall Space Flight Center, Huntsville, AL (inspection and evaluation protocol for existing structure)
- ▶ Ambassador Bridge, Detroit, MI (deck grating welding)
- ▶ Boeing 787 Assembly Plant, Charleston, SC (bolting)
- ▶ World Trade Center Transportation Hub, New York, NY (welding, quality requirements)
- ▶ World Trade Center Oculus, New York, NY (welding, quality requirements)
- ▶ Intel Fab 42 – Chandler, AZ (welding)
- ▶ Intel D1X – Hillsboro, OR (welding)
- ▶ Third Highway System Bridge on the River Orinoco, Venezuela (bolting)