



Building Construction and Sustainable Energy Seminars, Workshops and Training Programs



Copper Development
Association Inc.
Copper Alliance

Mission Statement:

Copper Development Association Inc. (CDA) is a U.S.-based, not-for-profit association of the global copper industry, influencing the use of copper and copper alloys through research, development and education, as well as technical and end-user support. CDA is committed to promoting the proper use of copper materials in sustainable, efficient applications for business, industry and the home.

Vision Statement:

Copper Development Association Inc. promotes the goals of our members while serving the needs of the users, purchasers, designers and specifiers of copper and copper alloy products.

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Custom Presentations and Seminars for a Variety of Events

Seminars
Annual Meetings

Conferences
Trade Shows

Workshops

Webinars
Workforce Development



The ultimate source for speakers on copper and
its many useful and efficient applications

Whether your organization is looking to engage a speaker for an annual meeting, conference, workshop or seminar, or is hosting an educational session, our topics can easily be customized to meet your needs.

Some CDA sessions also offer Learning Units (LUs) through the American Institute of Architects (AIA) and the Institute of Electrical and Electronics Engineers (IEEE), enabling attendees to pursue their professional continuing education credits. No matter what the goal, CDA will tailor the content to the occasion.

AIA
Continuing
Education
Provider

The majority of sessions are at no cost to your organization and are suitable for various sized groups.

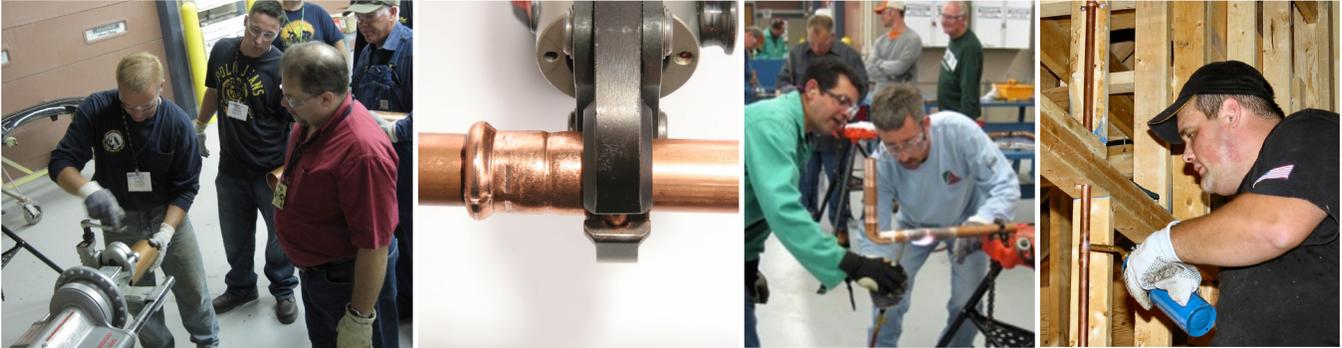
Benefits to your Organization

In today's "green" building environment, designers, engineers, and contractors are all looking for information on how materials and systems choices affect the sustainability of their next construction projects. The sessions offered by the Copper Development Association's Speakers Bureau will educate your staff in the proper design, use and application of copper systems to improve efficiency, functionality, reliability and durability. Your staff will gain useful knowledge, tools and resources to enhance your operations and save money.

For more information, please contact us at seminars@copperalliance.us

Piping Applications

The Installation of Copper Piping Systems



Learn about the theory and practice necessary for the installation of copper piping systems. Emphasis is on copper and copper alloy tube and fittings and how these materials are used in a piping system.

Topics include:

- Standards and applications of copper and copper alloy tube and fittings
- Materials and steps in making consistent, high quality soldered, brazed and mechanical joints
- Discuss ways to identify and avoid several common causes of failure of copper piping systems

Format: 2.5 hour seminar

Alternative Joining



This program focuses on the design and installation of the newer no-flame and alternate joining technologies now available for copper tube piping systems.

Types of Alternate Joints Discussed

- Press-connect
- Push-connect
- Mechanically formed extruded tees (*T-Drill™*)
- Roll Grooved

Format: 1.0 hour presentation

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Piping Applications

Designing Copper Piping Systems for Long-term Performance



This program focuses on long-term performance of copper piping systems and methods that can be used in the design, specification and installation of the system to prevent problems from occurring. Discussion includes information on common piping system problems, their identification, causes, prevention and rehabilitation.

Following the completion of these presentation participants should be able to:

- Recognize various basic copper corrosion mechanisms
- Identify design/installation concerns that contribute to performance issues
- Apply basic copper corrosion knowledge gained from this presentation to future designs and specifications

Format: 1.0 hour presentation

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Piping Applications

Fuel Gas Distribution Systems



For the information and guidance of professionals dealing with the design and installation of copper tube in natural and LP gas distribution systems. Many local regulatory authorities have adapted the National Fuel Gas Code®, some with additional requirements for use within their jurisdictions. Copper's main advantages are flexibility, resistance to corrosion, easy joining and its availability in long lengths.

Format: 1.0 hour presentation

Automatic Fire Sprinkler Systems



A program for design professionals, installers and inspectors with the latest copper tube, pipe and fitting technical information available as it relates to the design, installation and code compliance requirements for copper automatic fire sprinkler systems. A strong emphasis on copper's superior flow, reduced size, and ease of installation will be addressed.

Format: 1.0 hour presentation

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Architectural Applications

Elevating Design With Copper



In this one-hour course, you will learn about the amazing qualities of copper and its inherent sustainability in the built environment. The properties and characteristics of copper and copper alloy offer versatility, sustainability, and unlimited design potential. Examples of good design practice will be evaluated along with an assessment of project solutions and improvements. In addition, current award-winning projects will be reviewed to inspire the creativity of design professionals. The presentation will conclude with a question and answer session.



**Approved
Continuing
Education**

Learning Objectives:

- Examine the inherent properties of copper that make it an efficient building material and how design professionals can incorporate these characteristics into high performing buildings and infrastructure
- Assess recent construction projects utilizing copper and copper alloys in roofing, wall cladding, and ornamental systems
- Define copper, identify common copper alloy families, and interpret how copper is 100% recyclable
- Discuss the functional contributions of copper and copper alloys as part of a sustainable building design.

Format: 1.0 hour seminar with box lunch; online webinar

Continuing Education: 1LU, 1 HSW Hour. Course number 18CDA110.

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Sustainable Energy

Energy Efficient Motors



A discussion of the various efficiencies of motors, recent and pending motor efficiency legislation and the trends and technologies driving future development.

Format: 20 minutes to 1.0 hour presentation

American Institute of Architects (AIA) members can qualify for Learning Units (HSW) and may be made available



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Education**

Energy Efficient Transformers



A review of transformer basics including the different efficiency classifications, recent legislation and pending needs and issues for the future requirements in the age of increasing energy demand.

Format: 20 minutes to 1.0 hour presentation

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Policies, Procedures and Motor Standards Around the Globe



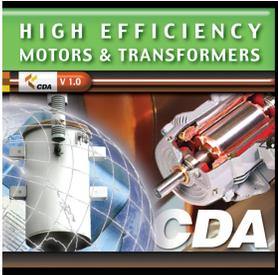
A global perspective of varied aspects of the motor world including Minimum Energy Performance Standards (MEPS), recent testing center advancements, emerging technologies and obstacles facing legislators, regulators, manufacturers and governments.

Format: This session can be tailored from a 20 minute to 1.0 hour program

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Sustainable Energy

Motor Management Best Practices* (cost associated)



A combined CDA/Washington State University/DOE sponsored workshop.

Topics include:

- Overview of Motor Systems: Motor Options and Specifications
- Motor System Management / Basic and Advanced
- Electronic Variable Speed Drives Overview
- Power Factor Correction
- Motor Systems Maintenance
- Motor Repair

Format: One-day training session/workshop.

* This program is often combined with an introduction to the interactive DOE **MotorMaster+** software tool.

MotorMaster+ Software* (cost associated)



Day long/hands-on interactive computer lab training using the Washington State University developed/DOE sponsored motor management software. The software has a 17,000 motor database and an encompassing capacity to manage your facility's motor inventory.

Provides the tools necessary to make new purchase, repair/replace and retrofit decisions.

Topics include:

- Introduction to using the DOE's MotorMaster+ Software Tool
- Overview of software tool capabilities
- Motor selection decisions, economics
- New motor purchase policy
- Repair versus replace analysis
- Oversized and undersized motors
- Building an in-plant motor inventory
- Batch analysis
- Energy accounting: Tracking and trending savings from efficiency measures
- Guidelines and methods to evaluate repairing versus replacing motors
- Maintenance logging
- Motor load and efficiency estimation
- Preparing your motor management plan

Format: One-day training session/workshop. Attendees will bring their own laptops or use one in a dedicated computer lab

* This session is often combined with the **Motor Management Best Practices** workshop for a two day session.

Ultra Efficient Copper Rotor Motor



This presentation covers the technology behind and design of the ultra efficient copper rotor motor including efficiency improvements and energy savings.

Format: 20 minutes to 1.0 hour presentation

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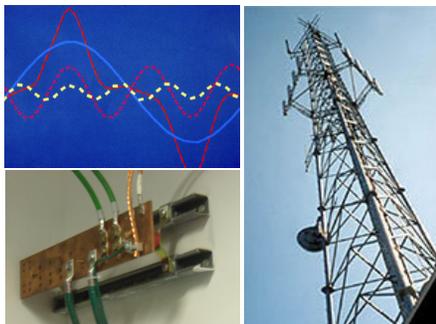


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Electrical Applications

Power Quality



Presentation topics can be general, such as Power Quality Basics or industry-focus on various end-uses, including but not limited to: broadcasting, public service communications, data centers, or general construction. Other areas to discuss could include:

- Robust wiring
- Going beyond Code minimums
- Wiring, grounding and bonding
- Harmonics and safety related issues

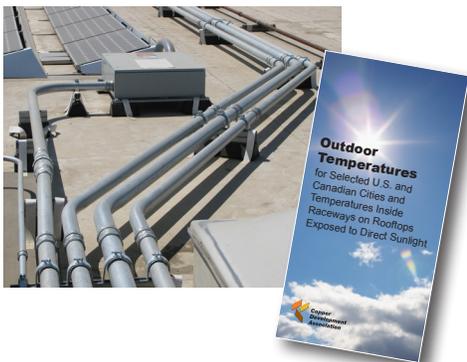
Numerous case studies illustrate techniques and recommended practices.

Format: Several presentations are available and flexible enough to provide from 1.0 to 16.0 hours of training depending on requirements of the group

CDA is an Educational Partner of IEEE, and CEU's may be made available



Ampacity Adjustment Calculations



A separate or a combined presentation discussing the research experiments that developed temperature of building wire in groupings (bundling); and separate experiments of wire in raceway and direct sunlight on rooftops, and application of temperature adjustment rules of the National Electrical Code®. Code requirements and calculations are explained and illustrated with examples.

Format: 30 minutes to 1.0 hour presentation or as requested

National Electrical Code® Issues



We can provide speakers on selected NEC subjects, depending on the needs of the group. This may vary from grounding and bonding to lightning protection to ampacity. Topics discussed and the length of the program will depend on the needs of the audience.

Format: 30 minutes to 1.0 hour presentation or as requested

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