MECHANICAL INSULATION—IT WORKS!™

E-LEARNING EDUCATION & AWARENESS SERIES

AVAILABLE AT *WWW.NTERLEARNING.ORG*

START-STOP FLEXIBILITY

Module 1: Educational Series Introduction and Defining Mechanical Insulation

Provides an overview of the series, discusses mechanical insulation in comparison to other insulation, and provides information on the National Institute of Building Sciences' Mechanical Insulation Design Guide (MIDG), including demonstrations of the online energy, financial, condensation, safety, and other simple calculators available in MIDG.

Module 2: Benefits of Mechanical Insulation

"Why insulate?" is a complex topic. Insulation can reduce energy consumption and greenhouse gas emissions, be an important part of sustainable design initiatives and safety programs, increase manufacturing productivity, reduce corrosion under insulation, control condensation and mold growth, and provide an unrivaled Return on Investment, so why is it a forgotten technology? This module provides an overview of the power of mechanical insulation in the new construction, renovation, and maintenance arenas, when it is designed, installed, and maintained properly.

Module 3: Mechanical Insulation Science & Technology

Insulation is applied but rarely engineered. Specifications primarily based on old documents and a lack of programs about the value of a properly engineered, installed, and maintained mechanical insulation system have led to the underutilization of mechanical insulation. This module discusses understanding energy, what insulation is, how insulation works, psychrometrics, and mechanical insulation definitions and terminology.

Module 4: Mechanical Insulation Design Objectives and Considerations

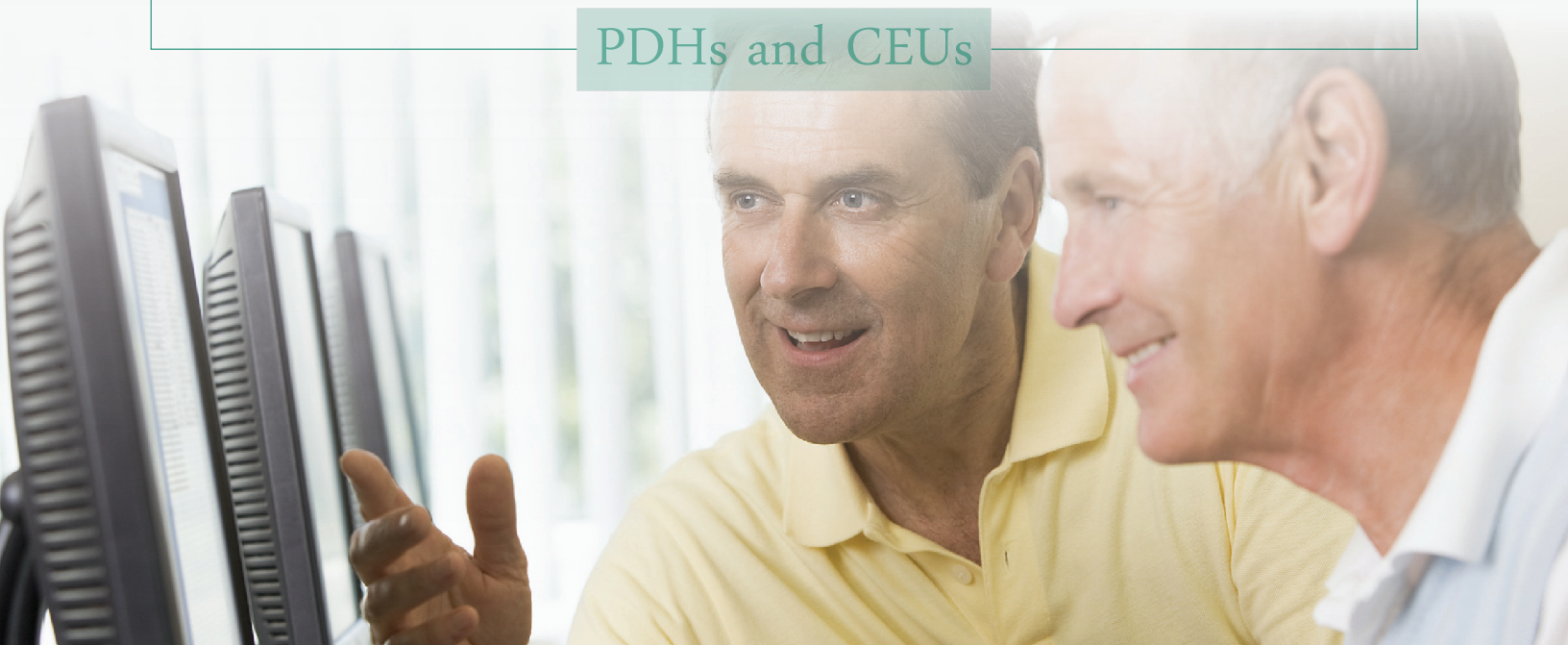
Most engineers, architects, specifiers, and end users are familiar with the use of insulation in building envelopes but are not as familiar with insulations used for pipes, ducts, tanks, and equipment. Mechanical insulation may be used to satisfy the following design objectives: condensation control; energy, economics, and the environment; fire safety; freeze protection; personnel protection; process control; and noise control. Design considerations include abuse resistance, corrosion under insulation, indoor air quality, maintainability, regulatory considerations, service and location, and service life.

AVAILABLE 24/7

Module 5: Mechanical Insulation Maintenance

Insulation systems, like all mechanical systems, require periodic inspection and maintenance. With time, insulation systems can be damaged for a variety of reasons and, if not repaired or replaced, can become ineffective. Understanding the benefits of timely and proper maintenance can provide a significant Return on Investment.

PDHs and CEUs



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EASY TO USE

Each module ranges from 15 to 35 minutes in length. In fact, in just over 2 hours, you can complete the entire module series on mechanical insulation and gain the opportunity to earn up to 0.2 CEUs or 2 PDH credits. The modules are flexible in that you can start, pause or log off if you need to, and pick up right where you left off when you are ready to continue. Getting started is easy—and free! Visit ***www.nterlearning.org*** and follow the instructions to create an account. Then, click on or search for the Mechanical Insulation Education & Awareness E-Learning Series, and log on to begin.

These modules are helpful if you are responsible for energy efficiency, overseeing maintenance, specifying materials, keeping your facility running smoothly, or are new to your field. Anyone responsible for mechanical insulation should view these modules!

ADDITIONAL RESOURCES AVAILABLE ON:

- *www.wbdg.org/design/midg*
- *www.insulation.org*
- *www.insulators.org*

The Mechanical Insulation Education & Awareness Campaign (MIC) is a program offered by the Department of Energy (DOE) in conjunction with the National Insulation Association (NIA) and the International Association of Heat and Frost Insulators and Allied Workers (International). The MIC program goals are to increase awareness of the energy efficiency, emission reduction, economic stimulus, and convey benefits of mechanical insulation in the industrial and commercial markets.

In addition to the E-Learning Modules, the MIC facilitated the formation of the simple calculators (including the mobile app) and data development projects. The calculators are useful for beginners to experienced professionals in the construction, design, specification, maintenance, and management fields and can be found on the MIDG website at *http://tinyurl.com/micalculators*.

The smartphone app is the Mechanical Insulation Financial Calculator, which allows you to calculate the cost savings of installing/maintaining insulation on mechanical systems. The data development projects assessed the commercial and industrial markets to determine how much energy and money mechanical insulation can save, while creating jobs and reducing greenhouse gases.

The Power of Insulation

Listed below are the organizations that were instrumental in the development of this resource.
We encourage you to visit these sites and learn more about each organization.

National Insulation Association
www.insulation.org

National Institute of Building Sciences (Mechanical Insulation Design Guide)
www.wbdg.org/midg

U.S. Department of Energy
www1.eere.energy.gov/manufacturing

The International Association of Heat and Frost Insulators and Allied Workers
www.insulators.org