



NIA's 63rd Annual Convention
April 18–20, 2018



Introducing the

Thermal Insulation Inspector Program



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Thermal Insulation Inspector Program

The Thermal Insulation Inspector Program course is being designed with two objectives in mind:

1. To serve as a thorough introduction to those seeking knowledge, or simply an enhancement of current knowledge levels pertaining to mechanical insulation (industrial and commercial markets) and to the inspection process for mechanical insulation systems in new construction, retrofit, and/or maintenance applications; and
2. For those individuals seeking professional mechanical insulation system inspection certification credentials.



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Thermal Insulation Inspector Program

Why is the Thermal Insulation Inspector Program needed?

- Mechanical insulation knowledge base within the engineering and facility owner communities, and directly within the industry itself, is slowly dwindling to that of only basic knowledge with little actual experience.
- Individuals within engineering and design firms are spending less time monitoring field/project site practices.
- In some cases insulation “systems” are getting more complex with more options and alternatives than ever before.
- The shortage of experienced and qualified workers continues to be problematic.



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Why is the Thermal Insulation Inspector Program needed?

- Construction schedules and modularization are complicating installation.
- Companies that specialize only in mechanical insulation are becoming fewer.
- Consequences of improper installation and lack of timely and proper maintenance of mechanical insulation systems are widely known and expensive, but not always identified or acknowledged until a problem occurs.
- The old concern that some contractors take installation shortcuts and do not comply with specifications.



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The Thermal Insulation Inspector Program will not resolve all of these concerns, but it will provide a process:

- To verify specification/contract compliance;
- To identify potential areas of concern during initial installation or ongoing operations;
- From a industry perspective, it will raise the bar over time; and
- It is a great addition to a contractor's QA/QC program or a good starting point to begin a QA/QC program.



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Target Audiences

- **Code officials** (commercial or residential market)
- **CUI—NACE and other educational extensions**
- **Engineering/design firms**
- **Facility owners and managers**
- **General and mechanical contractors**
- **Government (federal, state, and local agencies and facilities)**
- **Independent inspection—QA/QC firms**
- **Mechanical insulation contractors, distributors/fabricators, and manufacturers**
- **Other**



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Role and Responsibility of an Inspector

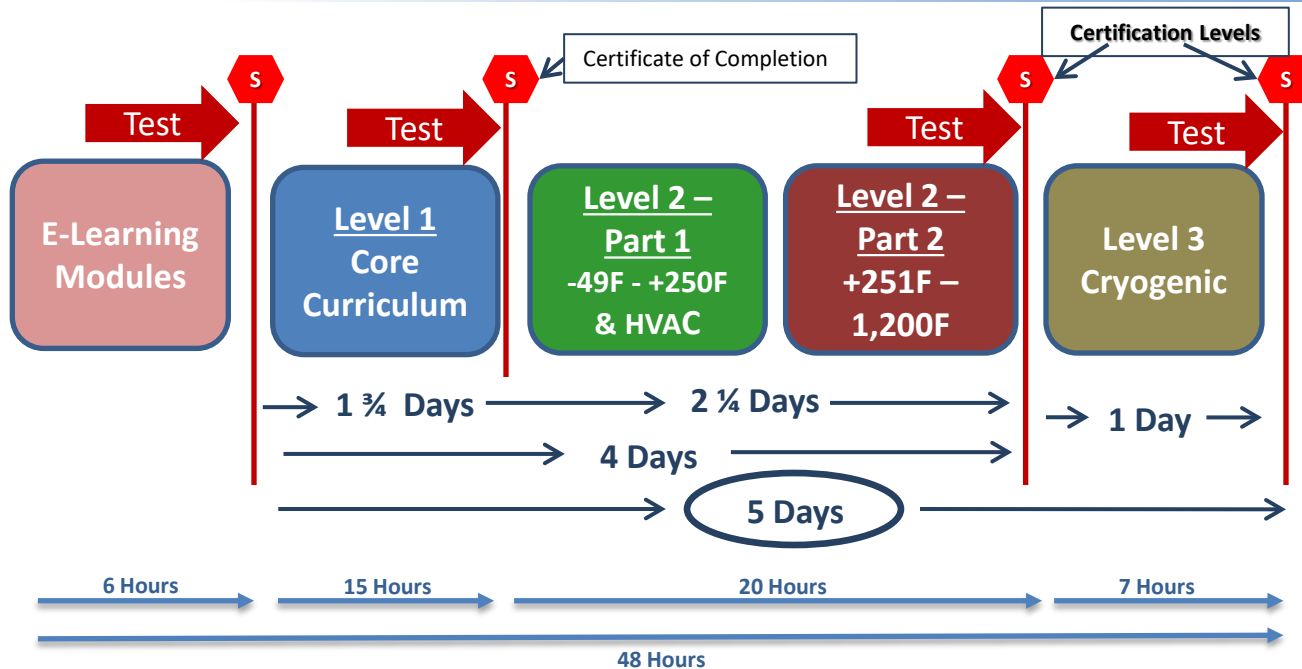
The role and responsibility of a Certified Insulation Inspector is simply to inspect and report, or, said another way, verify and document compliance.

An inspector is not a design engineer, a mechanical or insulation contractor, or a facility owner—regardless of who they work for. Their job is to inspect/verify, document, and report.



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Program Overview





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E-Learning Modules



E-Learning Modules

**Pre-Class
Prerequisite**

Module 1: Series Overview & Defining Mechanical Insulation

Module 2: Benefits of Mechanical Insulation

Module 3: Mechanical Insulation Science & Technology

Module 4: Mechanical Insulation Design & Considerations

Module 5: Mechanical Insulation Maintenance

**Upon completion of the modules, an
electronic test is available.**

The Mechanical Insulation Design Guide (MIDG) is part of the National Institute of Building Sciences' (NIBS') Whole Building Design Guide (WBDG) website (www.wbdg.org/midg).



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Level 1 Core Curriculum



Level 1 Core Curriculum

1 ¾ Days

- Role and responsibility of an inspector
- Defining the scope of inspection
- Why insulate and why that is important to the inspection process
- Why a protective covering
- Types and review of core insulating materials
- Types and review of protective covering materials
- How to read a specification
- Safety requirements during inspection
- Inspection tools
- Basis and timing of inspection (new construction, retrofit, and maintenance)
- Reporting process
- Resources available



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Level 2—Parts 1 & 2



Level 2 –

Part 1

-49F - +250F
& HVAC

Commercial -
Light Industrial
Market
Segment

Level 2 –

Part 2

+251F –
1,200F

Industrial
Market
Segment

- Mechanical insulation system materials and applications
 - Piping and equipment insulation materials and securement methods, including fabrication (single, multi-layer, and composite applications)
 - Piping and equipment insulation finish or jacketing systems and securement methods (single, multiple, or composite applications)
 - HVAC (duct) systems—material finishes and securement methods
 - Underground insulation systems
 - What to expect when examining insulation and finishing, jacketing materials that have been in service and exposed to operating temperatures and environmental elements



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April 18–20, 2018

Level 2—Parts 1 & 2



Level 2 –

Part 1

-49F - +250F
& HVAC

Commercial -
Light Industrial
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Segment

Level 2 –

Part 2

+251F –
1,200F

Industrial
Market
Segment

- Specialty mechanical insulation applications
 - Supports, shoes, hangers, and inserts
 - Protrusions in the insulation system
 - Wall or ceiling penetrations
 - Heat tracing
 - Vapor stops
 - Inspection plugs
 - Expansion joints (hot and cold)
- Mechanical insulation systems—common occurrences (Examples of potential problem areas/common occurrences by core material system)



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Level 3—Cryogenic



Level 3
Cryogenic

-50F & Below

- Revisit “Why insulate?” (core curriculum)
- Piping and equipment insulation materials and securement methods, including fabrication (single, multi-layer, and composite applications)
- Piping and equipment insulation finish or jacketing systems and securement methods (single, multiple, or composite applications)
- Specialty mechanical insulation applications
- Common occurrences (examples of potential problem areas/common occurrences by core material system)



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Class Overview

- Presentations, demonstrations, class and individual exercises
- Student notebook and resource information
- Pictures (good/bad/ugly)
- Illustrations (exhibiting good and bad occurrences)
- Product samples (all types and variations)
- Inspection aids (takeaways)
- Help—Certified Insulation Inspector call line



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Program Status

- Currently in development
- Mock class—target third quarter 2018
- Initial class location—Lone Star Community College/
Conference Center in Houston

We need your help in identifying common problem areas. Common problems are those that you see with the installation or products individually, products in general, or as part of overall insulation system. No company or product names will be used in the course, only generic references. Accordingly, any and all information you provide will not be identified by your company or product name.

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Association[®]

THE VOICE OF THE INSULATION INDUSTRY™



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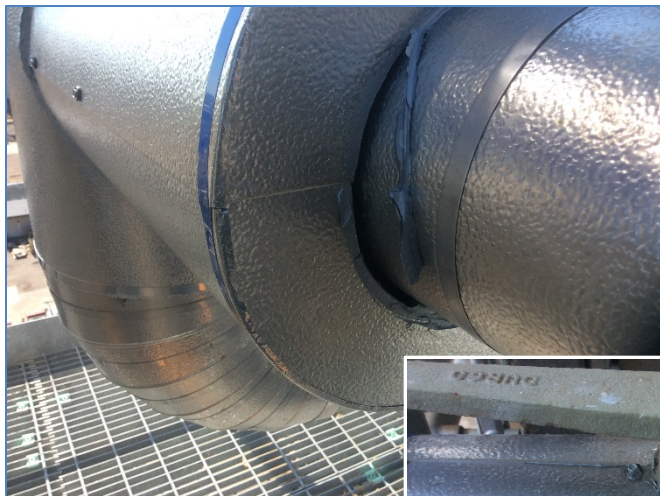


Questions?
Comments?
Suggestions?



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Why Is the Thermal Insulation Inspector Program Needed?





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*Stay tuned! More information
will become available as
program develops.*

Thank You!

