

# Training & Education Catalog



CARLISLE SYNTEC SYSTEMS  
**C.R.E.W.**  
CONTINUING ROOFING  
EDUCATION & WORKSHOPS



**CCM**   
**UNIVERSITY**



## Carlisle SynTec Systems Training and Education Opportunities

Carlisle believes strongly in the value of education and provides many training opportunities throughout the year – both in person and online – for our Authorized Applicators, Manufacturer's Representatives, Distributors, and design professionals.

### State-of-the-Art Training & Education Center

Carlisle's 68,000-square-foot Training & Education Center (TEC), located in Carlisle, Pennsylvania, is the commercial roofing industry's first and only dedicated training facility and features:

- » A 135-seat theater-style auditorium
- » A combination of meeting, training, and administrative spaces
- » State-of-the-art audio and video equipment
- » An interactive touchscreen video wall
- » Five indoor mock-up training areas for hands-on learning in a comfortable setting



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## CARLISLE SYNTEC SYSTEMS TRAINING OPPORTUNITIES

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### Continuing Roofing Education & Workshops (C.R.E.W.)

Carlisle's Continuing Roofing Education & Workshops (C.R.E.W.) program provides Authorized Applicators with innovative, world-class, hands-on training opportunities focused on the installation of Carlisle-warranted roofing systems and best field practices.

#### Benefits:

- » Gain a comprehensive understanding of Carlisle SynTec Systems' products and applications
- » Learn the installation of a roofing system from start to finish under Carlisle supervision
- » Proper training results in a reduced number of repair for warranty (RFW)/punch list items on final inspections and fewer claims on installed roof systems
- » Roofing consultants and specifiers increasingly prefer trained contractors
- » Carlisle's experienced trainers translate complex information in a stimulating, interactive, hands-on learning environment



#### Class Format:

Hands-on, in-person courses with the option for a virtual livestream experience

#### Who Should Attend?

Roofing contractors, installers, foremen, distributors, architects, specifiers

For more information and class schedules, [visit our website](#):

<https://www.carlisesyntec.com/en/Education/Training>

### CCM University

CCM University offers live and on-demand e-Learning courses, many of which are accredited for AIA, IIBEC, and/or GBCI continuing education credits. CCM University courses are available to any industry professional looking to increase their knowledge of single-ply and building envelope systems.

#### Features:

- » Free AIA/IIBEC continuing education courses
- » On-demand e-Learning courses
- » Instant access to certificates
- » Live interactive webinars featuring industry experts
- » Ability to request and schedule a free in-office Lunch & Learn



#### Class Format:

Online with the option to request in-person presentations

#### Who Should Participate?

Architects, specifiers, consultants, distributors, roofing contractors, or industry professionals looking to increase their knowledge of single-ply and building envelope systems

To get started, just log in or create a new account. Visit CCM University by [clicking here](#) or at the link below:

[www.ccm-university.com/account/syntec/register](http://www.ccm-university.com/account/syntec/register)

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## COURSE AVAILABILITY

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### Continuing Roofing Education & Workshops (C.R.E.W.)

Innovative, world-class, hands-on training opportunities focusing on the installation of Carlisle warranted roofing systems and best field practices.



### C.R.E.W. Virtual Training Experience

Carlisle SynTec Systems offers a livestreamed version of its comprehensive C.R.E.W. training program that includes customized training courses for Authorized Applicators. The C.R.E.W. Virtual Training Experience includes highly interactive, half-day training sessions with two-way communication between you and Carlisle's Technical Training Team. Please email [traininginfo@carlisleccm.com](mailto:traininginfo@carlisleccm.com) or call 717-245-7337 for more information or to book your virtual training course. To view class schedules and book a training course, [visit our website: www.carlisesyntec.com/Education/Training](http://www.carlisesyntec.com/Education/Training)



### Lunch & Learn

Schedule a free in-office Lunch & Learn and a Carlisle SynTec representative will bring in lunch and deliver an AIA-registered continuing education course. To find an AIA course, browse the catalog and look for the icon shown to the left.

When you're ready to book your Lunch & Learn, [click here](#) or visit the link below:  
[www.ccm-university.com/syntec/syntec/event\\_requests](http://www.ccm-university.com/syntec/syntec/event_requests)



### CCM University

Designed for busy professionals, our free online AIA/IIBEC approved courses give you the continuing education you need — no matter where you are. After completing a short quiz, you'll have instant access to your certificate, and we'll submit your credits to the AIA. Browse the catalog and look for the icon below to identify the e-Learning courses.

To get started, just log in or create a new account. Visit CCM University by [clicking here](#) or at the link below:  
[www.ccm-university.com/account/syntec/register](http://www.ccm-university.com/account/syntec/register)

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## COURSE LEVELS

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**Beginner Courses** - For individuals seeking to learn the fundamentals about a subject area

**Intermediate Courses** - For individuals seeking to build on, apply or enhance knowledge in subject area

**Advanced Courses** - For individuals with greatly developed knowledge and seeking to heighten their skill level

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## COURSE ACCREDITATION

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Course approved for 1 American Institute of Architects (AIA) Learning Unit



Course approved for 1 IIBEC CEH hour



Course approved for 1 GBCI CE hour



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# Continuing Roofing Education & Workshops (C.R.E.W.)

## INTERMEDIATE

### APPLICATOR CERTIFICATION SEMINAR

**Description:** The Applicator Certification Seminar is a prerequisite to becoming a Carlisle certified applicator. The class is also open to Carlisle-recognized sales representatives, distributors, and manufacturers who would like to gain an overall understanding of roofing installations and best field practices. This course is a requirement to become a certified applicator to install Carlisle-warranted roof systems. The attending applicator's company must be in the onboarding process with the Carlisle SynTec sales team. If you would like to learn more about becoming a Carlisle SynTec certified applicator, contact your local Carlisle Manufacturer's Representative.

**Learning Objectives:**

1. Overview of EPDM, TPO, and PVC bareback membrane systems, including insulation and cover boards and their associated components.
2. Overview and general understanding of Carlisle's Specifications and Details.
3. Classroom and hands-on training: How to complete common single-ply membrane details for warranty.
4. Introduction into specialty products and systems, including vapor barriers, induction welding, and FleeceBACK® membrane systems.

**Educational Content:** Intermediate

**Duration:** 2.5 days

**Recommended Prerequisites:** Class is best suited for individuals with a basic understanding of the installation techniques and components of single-ply roofing systems. Ideally 1-2 years minimum experience installing single-ply roofing systems.

**Training Locations:** Carlisle, PA, Kennesaw, GA, Tooele, UT, Terrell, TX, Montgomery, NY

**Course Availability:**





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## FOREMAN'S WORKSHOP

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**Description:** Foreman's Workshop is intended for individuals who already have the skills to install single-ply systems but need a better understanding of inspection guidelines, customer relations, and labor-saving techniques. Instructions and guidance are provided by Carlisle's seasoned and trained Field Service Representatives. This course is not a requirement to become a certified applicator.

**Learning Objectives:**

1. Comprehensive overview of insulations, fasteners, and cover boards, as well as Carlisle's EPDM, TPO, and PVC single-ply membrane systems.
2. Additional focus on specialty products and systems including induction welding, FleeceBACK, RapidLock™, Self-Adhering Technology (SAT) EPDM and TPO, and vapor barriers.
3. Attendees will utilize Carlisle's Training Center mock-up roof deck to participate in the installation of the above referenced systems, as well as common roof details.
4. Overview of inspection process, as well as repair procedures.

**Educational Content:** Advanced

**Duration:** 5 days

**Recommended Prerequisites:** Minimum 3 years of single-ply installation experience, or completion of the 101- and 201-level courses, or completion of the Applicator Certification Seminar.

**Training Locations:** Carlisle, PA, Kennesaw, GA, Tooele, UT, Terrell, TX, Montgomery, NY

**Course Availability:**



ADVANCED

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## EPDM, TPO, AND PVC 101

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**Description:** This one-day class introduces attendees to various roofing membranes and systems, concentrating on products needed for installation and how they are applied. This course is a perfect way for roofing industry newcomers to develop a basic understanding of the products that Carlisle manufactures. This course is not a requirement to become a certified applicator.

**Learning Objectives:**

1. Common single-ply roofing terminology.
2. Overview of the different types of bareback EPDM, TPO, and PVC membranes.
3. Classroom and hands-on training (hands-on training to be led by the trainer, but attendee participation is encouraged):
  - » Understand the basic products necessary when installing EPDM, TPO, and PVC membranes.
  - » How to complete seams on EPDM, TPO, and PVC, as well as a brief overview of how to complete several common roof details.

**Educational Content:** Beginner

**Duration:** 1 day

**Recommended Prerequisites:** None

**Training Location:** Carlisle, PA

**Course Availability:**




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## INSULATION AND TAPERED 101

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**Description:** This class introduces attendees to common insulation types and the basics of tapered insulation, concentrating on key industry terms and how the products are used. This course is a perfect way for roofing industry newcomers to develop a basic understanding of insulation products and get a hands-on experience. This course is not a requirement to become a certified applicator.

**Learning Objectives:**

1. Common terminology and basic understanding of Carlisle's different insulation and cover board products and their intended uses.
2. Classroom overview and hands-on securement of insulation and cover boards via polyurethane adhesive, and mechanical securement via fasteners and plates.
3. Basic understanding of how to interpret Carlisle's specification as it pertains to insulation securement.
4. Basic understanding of tapered insulation and design methods.

**Educational Content:** Beginner

**Duration:** 1 day

**Recommended Prerequisites:** None

**Training Location:** Carlisle, PA

**Course Availability:**





## EPDM, TPO, AND PVC 201

**Description:** This hands-on class provides attendees with additional knowledge about the details and applications of Carlisle's products and systems. This course is ideal for those who would like a deeper dive into the membrane-specific details. As a prerequisite, attendees should have a basic understanding of Carlisle's products, systems, and equipment. This course is not a requirement to become a certified applicator.

### Learning Objectives:

1. Overview of EPDM, TPO, and PVC bareback membrane systems, including insulation and cover board components.
2. Overview and general understanding of Carlisle's Specifications and Details.
3. Classroom and hands-on training: How to complete common single-ply membrane details.

**Educational Content:** Intermediate

**Duration:** 1 day

**Recommended Prerequisites:** EPDM, TPO, and PVC 101; Insulation and Tapered 101

**Training Location:** Carlisle, PA

**Course Availability:**



INTERMEDIATE



## SPECIALTY AND PREMIUM PRODUCTS, NEW PRODUCTS, AND BOOSTING PRODUCTIVITY 301

**Description:** This course covers premium product lines and new products through a combination of classroom time and hands-on demonstrations. Attendees will learn about specialty systems and materials and the labor-saving features of Carlisle's products. As a prerequisite to this course, attendees should have a good understanding of Carlisle's basic products, systems, and applications. This course is not a requirement to become a certified applicator.

**Learning Objectives:**

1. Understand Carlisle's specialty systems, their associated products, and labor-saving features: Topics include vapor barriers, induction welding, FleeceBACK systems, metal retrofit, roof gardens, leak detection, SAT EPDM and TPO, LIQUISEAL<sup>®</sup>, and VacuSeal<sup>™</sup>.
2. Understand the newest and most revolutionary products and systems Carlisle offers.
3. Classroom and hands-on training: How to install the featured systems and products.

**Educational Content:** Intermediate

**Duration:** 1 day

**Recommended Prerequisites:** EPDM, TPO, and PVC 101; Insulation and Tapered 101; EPDM, TPO, and PVC 201

**Training Location:** Carlisle, PA

**Course Availability:**



## INTRO TO UNDERSTANDING DESIGN CRITERIA 302

**Description:** This webinar discusses how the materials (single-ply, insulation, adhesive, fasteners/plates, etc.) and assembly (adhered, ballasted, mechanically attached, vegetated, etc.) can qualify to meet the building code (International Building Code [IBC]). This introduction to the process offers a general overview of common code criteria and is geared toward estimators, new consultants/architects, and new sales representatives who have a good knowledge of single-ply roofing installation and products. This course is not a requirement to become a certified applicator.

**Learning Objectives:**

1. A general understanding of the IBC and the reason why we have a building code.
2. Learn how materials and assemblies are tested to qualify for the building code.
3. Discuss practical examples based on lessons from 101- to 301-level courses, which could be different based on codes.
4. Understand how warranties could impact installations beyond the code.

**Educational Content:** Intermediate

**Duration:** Half-day

**Recommended Prerequisites:** EPDM, TPO, and PVC 101; EPDM, TPO, and PVC 201; Insulation and Tapered 101; Specialty and Premium Products, New Products, and Boosting Productivity 301

**Course Availability:**



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## UNDERSTANDING DESIGN CRITERIA 401

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**Description:** In this advanced class, attendees will learn about common design standards to help select the best roofing system materials to meet specification requirements. As a prerequisite to this course, attendees should have advanced knowledge of Carlisle's roofing systems, applications, and warranties. This course is not a requirement to become a certified applicator.

**Learning Objectives:**

1. Walk through the relationship between the architectural specification and building code to focus on performance, sustainability, and resilience of the roofing installation.
2. Understand which ASTM standards, testing, and warranty coverages are important to the project at hand.
3. Discuss case examples of real-world projects that show how confusion and misinterpretation can increase overall costs and cause other issues for the building owner.
4. Offer a checklist on what to review within an architectural specification to assist the designer, contractor, and owner to achieve the goals of performance and safety.

**Educational Content:** Advanced

**Duration:** 1 day

**Recommended Prerequisites:** EPDM, TPO, and PVC 101; EPDM, TPO, and PVC 201; Insulation and Tapered 101; Specialty and Premium Products, New Products, and Boosting Productivity 301; Intro to Understanding Design Criteria 302

**Training Location:** Carlisle, PA

**Course Availability:**



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## INDUSTRY CHALLENGES 501

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**Description:** In this advanced class, attendees will learn the differences in versions of industry standards, moisture in concrete, reflectivity, LEED®, ES-1, and energy codes related to single-ply roofing. As a prerequisite to this course, attendees should have advanced knowledge of Carlisle's roofing systems, products, and applications, as well as a basic understanding of design aspects. This course is not a requirement to become a certified applicator.

**Learning Objectives:**

1. Learn how to identify causes of roofing system issues and the possible results.
2. Understand the importance of these concerns and know how they should be addressed.
3. Learn methods to enhance the long-term performance of single-ply membrane systems.
4. Recognize the importance of pre-construction meetings to provide a successful installation.

**Educational Content:** Advanced

**Duration:** 1 day

**Recommended Prerequisites:** EPDM, TPO, and PVC 101; EPDM, TPO, and PVC 201; Insulation and Tapered 101; Specialty and Premium Products, New Products, and Boosting Productivity 301; Intro to Understanding Design Criteria 302

**Training Location:** Carlisle, PA

**Course Availability:**



# Building Envelope Design and Implementation

## THE BUILDING ENVELOPE SOLUTION

**Description:** The building envelope consists of all exterior components of a building –roof, walls, below-grade waterproofing, windows, skylights, and so on. When looking at these components, it is important that each is taken into consideration to prevent moisture or air from migrating into the building. The envelope is a complicated and integral part of any high-performance building; however, it is often the most neglected portion. This presentation aims to educate the participants on the importance of the building envelope and how the individual components within the system must be designed and constructed to ensure a long-lasting, energy-efficient building.

### Learning Objectives:

1. Recognize the importance of building envelope systems.
2. Identify and select performance-based products for foundations, walls, and roofing systems that ensure a proper physical barrier between the inside conditioned space and the outside elements.
3. Learn about proper design, best practices and installation techniques of key building envelope components and systems.
4. Explore basic tie-in detailing for roof to wall, wall to below grade, and below grade to blindside systems.

**Educational Content:** Beginner

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) LU/HSW Course Number: BE101-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH  
U.S. Green Building Council (USGBC): Course Number: 0920021704

**AIA**  
Continuing  
Education  
Provider



## Solutions From the Ground Up







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## PUSHING THE ENVELOPE - GOING BEYOND CONCEPTUAL DESIGN

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**Description:** Over the past several years, the building envelope concept has been well promoted and established as a means for energy efficiency and building performance. With the vast array of products available today comes confusion and misinformation. Building designers are often left guessing about product compatibility and proper design, leading to the potential of costly failures. The focus of this presentation is to dive deeper, beyond the concept, and into proper building envelope design. The presentation aims to educate attendees on proper product selection and performance characteristics, codes and testing, and proper tie-in detailing to ensure a continuous air seal.

**Learning Objectives:**

1. Recognize what is at stake with improper building envelope design and discuss the building types that benefit the most from building envelope systems. In addition, we will discuss the codes requiring proper building envelope design and what is being required.
2. Learn how to select and properly install functional air and vapor barriers for roof, wall, and below-grade applications.
3. How to use a holistic approach for examining and selecting exterior continuous insulation options for rainscreen wall assemblies. We will analyze popular exterior continuous insulation options with an emphasis on selecting a material that functions well during all weather conditions.
4. Identify several common material and system tests required to meet building energy and safety codes.

**Educational Content:** Intermediate

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW | Course Number: BE301-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

**AIA**  
**Continuing**  
**Education**  
**Provider**





## BUILDING ENVELOPE DESIGN: UNDERSTANDING CODES, BEST PRACTICES, AND TIE-INS

**Description:** Building envelope systems and continuous air barriers have gained prevalence in the marketplace with inclusion into building and energy codes over the last decade. This presentation aims to bring awareness of code requirements as they relate to building envelope components and systems and shed light on common material misconceptions. Additionally, this presentation will focus on the all-important tie-in junctions which have been known to cause confusion resulting in leaky buildings and system failure. We will discuss tie-in design considerations, known product incompatibilities, as well as tie-in installation best practices.

### Learning Objectives:

1. Gain an understanding of building and energy code requirements as they relate to the building envelope.
2. Explore material and installation best practices for below-grade waterproofing, above-grade walls, and roofing systems.
3. Address myths and common misconceptions about certain building envelope components.
4. Analyze best practices for tie-in design and installation.

**Educational Content:** Advanced

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: BE601-CST

International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

**AIA**  
Continuing  
Education  
Provider



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## BUILDING ENVELOPE TIE-IN DESIGN

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**Description:** Tie-ins between dissimilar materials and systems are unavoidable when designing a building envelope system. As important as tie-ins are, there is very little information on material compatibility and proper design. This nano course provides some best practices for tie-in design and shows how costly tie-in failures can be avoided by proper planning and sequencing.

**Learning Objective:**

1. Explore several industry-wide best practices for building envelope tie-in design.

**Educational Content:** Intermediate

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | 0.5 AIA LU/HSW Course Number: BE302-CSTe  
International Institute of Building Enclosure Consultants (IIBEC) – 0.5 CEH

**AIA  
Continuing  
Education  
Provider**



INTERMEDIATE

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## AIR AND VAPOR BARRIERS: ARE YOU COMPLETING YOUR BUILDING ENVELOPE?

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**Description:** This presentation is an introduction to the evolution of the roofing system and understanding the various material options for rooftop air and vapor barriers. This course will review the importance of completing the building envelope to control moisture, vapor, air, and thermal. Not controlling air movement within the roofing system can cause condensation issues and reduce the building's energy efficiency.

**Learning Objectives:**

1. Learn about the evolution of roofing systems and how past assumptions don't meet today's needs.
2. Understand how air can carry moisture into the roofing system and reduce energy efficiency.
3. Understand the various material options for air and vapor barriers.
4. Review the importance of a complete air and vapor barrier "system".

**Educational Content:** Intermediate

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: AVB301-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

**AIA  
Continuing  
Education  
Provider**



INTERMEDIATE

# Single-Ply Roofing Systems

BEGINNER

## SINGLE-PLY ROOFING TECHNOLOGY

**Description:** This one-hour session will include topics ranging from industry issues such as enhanced roofing system design options to market trends including ANSI/SPRI ES-1 for metal edging, ASCE 7, and the International Building Code, as well as roof system warranties. This presentation will focus on the role single-ply membrane plays in today's roofing market and its impact on tomorrow's roof system performance.

**Learning Objectives:**

1. Learn the basic roof components including insulation, fasteners, adhesives, and typical and nonstandard roofing assemblies.
2. Recognize differences in warranty language to benefit the building owner.
3. Understand the differences between EPDM, TPO, and PVC.
4. Understand the need for proper uplift design in respect to certification, roof assembly, and perimeter edge.

**Educational Content:** Beginner

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: RFG101-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

**AIA  
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BEGINNER

## TOP 10 REASONS TO CHOOSE AN EPDM ROOF

**Description:** This presentation is designed to help architects, specifiers, consultants, and building owners understand the primary reasons why they may want to upgrade to an EPDM rubber roof. A basic understanding of available commercial roofing options is helpful but not absolutely necessary to gain insight from this program.

**Learning Objectives:**

1. Learn about the time-tested, superior weathering and hail resistance characteristics of EPDM.
2. Understand that not all 60-mil membrane options are created equal when it comes to the amount of weathering material.
3. Understand how selection of roof color can impact energy efficiency, rooftop safety, and the potential for condensation problems.
4. Learn about significant differences between seaming EPDM and thermoplastic membranes.

**Educational Content:** Beginner

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: EPDM101-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH  
U.S. Green Building Council (USGBC): Course Number: 0920021723

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## BLACK OR WHITE MEMBRANE, WHAT IS THE SUSTAINABLE AND ENERGY EFFICIENT CHOICE?

**Description:** The one-hour session will cover the energy impact of roof color based on various geographic regions along with a review of the performance trade-offs and other considerations that go into a sustainable roofing system design.

### Learning Objectives:

1. Learn about which geographic regions are best suited for “cool” or highly reflective roofs from an energy perspective.
2. Learn about the heating penalty associated with cool roofs and how that impacts energy consumption/costs.
3. Learn about differences in the weatherability and hail resistance of various roofing membranes.
4. Learn about potential unintended consequences associated with using cool roofing in heating-dominated central and northern climates.

**Educational Content:** Intermediate

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: EPDM301-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

**AIA**  
Continuing  
Education  
Provider



**INTERMEDIATE**

EVOLUTION OF WHITE EPDM

**Description:** Since the introduction of white EPDM roofs in 1987, numerous enhancements have been made to the membrane and system components, making today’s white EPDM systems far more robust and a greater value than ever before. There are four main areas in which major enhancements have been made to white EPDM system technology, improving performance and increasing value. With 34 years of evolution based on field experience, white EPDM is time-tested and built to last.

**Learning Objectives:**

1. Improvements to the membrane – Learn about the significant improvements in UV resistance for white EPDM and the expansion of width options to improve productivity.
2. Improvements to seams – Seaming technology is another area of evolution where we will learn about the transition from liquid-applied seam adhesives to peel & stick tapes and then pre-applied seam tapes.
3. Improvements to puncture resistance – Learn about new sheet options that offer added puncture resistance, among other important attributes.
4. Improvements to flashing details – Details are an extremely important part of any roofing system and we will learn about the numerous enhancements made to white EPDM flashing products.

**Educational Content:** Beginner

**Course Availability:**

**Course Accreditation:**



American Institute of Architects (AIA) | 1 AIA LU/HSW | Course Number: EPDM103-CST  
International Institute of Building Enclosure Consultants (IIBEC) | 1 CEH

**AIA**  
Continuing  
Education  
Provider



TPO TECHNOLOGY: UNDERSTANDING PROVEN PERFORMANCE AND THE MOST RECENT DEVELOPMENTS

**Description:** This course reviews the basics of TPO roofing systems and discusses the latest in TPO roofing technology and performance improvements. TPO membrane is the most widely used low-slope roofing material in North America, accounting for more than half of all low-slope roofs installed each year. Thus it is of utmost importance that designers are familiar with TPO membranes and roofing systems. The course also discusses new products, systems, and accessories that have been developed to enhance the securement, longevity, and speed of application of these roof systems. Finally, the course discusses how to specify TPO roof systems to meet building codes, life safety requirements, environmental and sustainability goals, and building owner protection requirements.

**Learning Objectives:**

1. Learn about the attributes of TPO roofing.
2. Explore the weathering and performance characteristics of TPO roofing systems.
3. Understand how to design a TPO roofing system with various attachment methods to ensure performance.
4. Understand product selection and solutions to increase reflectivity, recycle TPO, and maximize the environmental benefits of a TPO roof.

**Educational Content:** Beginner

**Continuing Education Units:** 1

**Course Availability:**

**Course Accreditation:**



American Institute of Architects (AIA) | LU/HSW Course Number: TPO101-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

**AIA**  
Continuing  
Education  
Provider





**Description:** This course will describe the many benefits of using a white reflective PVC roofing membrane, including saving energy and reducing the use of fossil fuels. The question of which buildings should consider PVC roofs will also be discussed.

### Learning Objectives:

1. Learn the history of PVC and its benefits to the environment and building occupants.
2. Understand how PVC membranes fit within building codes for fire resistance and within industry energy programs promoting sustainability. Review studies on the material's service life so the designer is more prepared to discuss PVC options with the building owner.
3. Learn how the characteristics of PVC roofing membranes can help prevent the spread of fire and how PVC membranes use less fossil fuels than other thermoplastics.
4. Learn how decisions about different roofing components, such as the thickness, scrim choice, and formula in the manufacturing of PVC roofing membranes can affect buildings and their occupants.

**Educational Content:** Intermediate

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: PVC301-CST

International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

U.S. Green Building Council (USGBC): Course Number: 0920021724

**AIA**  
Continuing  
Education  
Provider







## UNDERSTANDING PVC & KEE MEMBRANE ASTM STANDARDS

**Description:** This course will outline PVC & KEE Membrane ASTM standards D4434 and D6754. It will explain the key aspects of each standard, describe the notable requirements, and help specifiers make more informed decisions when specifying PVC or KEE-based roofing membrane.

**Learning Objective:**

1. Understand the key features of, and differences between, PVC-based membrane standards ASTM D4434 and ASTM D6754.

**Educational Content:** Beginner

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | 0.5 AIA LU/HSW | Course Number: PVC302-CSTe

International Institute of Building Enclosure Consultants (IIBEC) – 0.5 CEH

**AIA  
Continuing  
Education  
Provider**



**BEGINNER**



## FLEECE MEMBRANES AND URETHANE ADHESIVES – INDUSTRY-LEADING PERFORMANCE

**Description:** In this program the participants will learn about the physical characteristics of different types of fleece-backed single-ply membranes, including EPDM, TPO, PVC, and KEE HP, as well as the benefits of the addition of fleece to the membranes. Benefits of two-part urethane adhesives will be discussed, including reducing VOCs and adhesive odor risks, product performance, different methods of application, and packaging. We will review case studies on new construction and re-roofing options, then discuss the benefits to the building owner as well as the sustainability and durability of the roofing assembly.

### Learning Objectives:

1. Learn the physical properties and uses of fleece-backed membranes.
2. Understand the benefits of urethane adhesives and how they can be environmentally friendly.
3. Recognize the options that could assist building owners with unique concerns, including re-roofing or odor infiltrations.
4. Understand the potential for a durable and sustainable roof assembly by combining proper components with correct design considerations.

**Educational Content:** Intermediate

**Continuing Education Units:** 1

**Course Availability:**



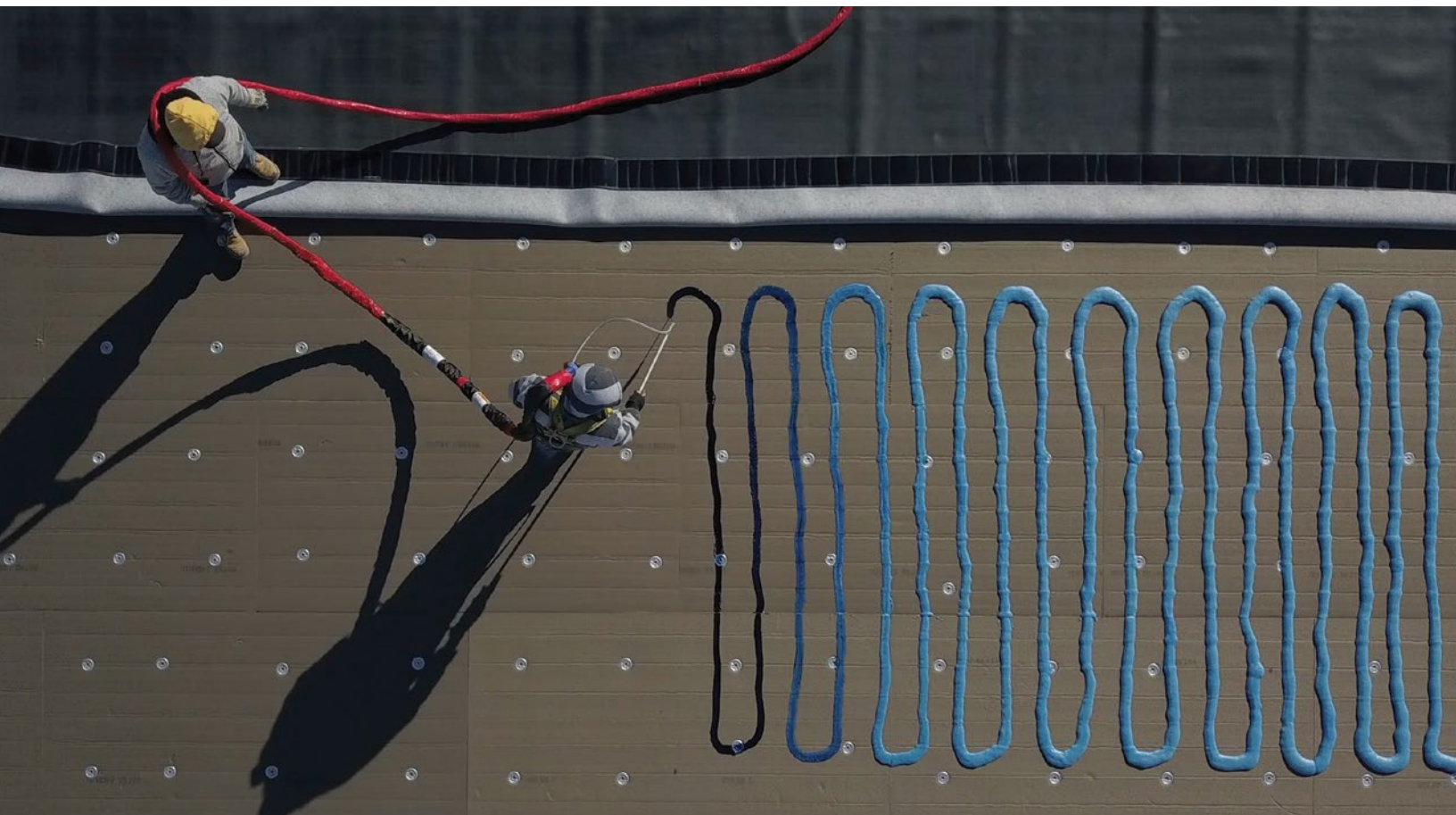
**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: FB301-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

**AIA**  
Continuing  
Education  
Provider



INTERMEDIATE



TAPERED POLYISO INSULATION: COMMERCIAL ROOF SYSTEMS

**Description:** The goal of tapered roof insulation systems is to reduce or eliminate the amount of ponding/standing water on the finished membrane when the roof deck does not provide adequate slope. Draining the water in a timely and efficient manner minimizes the adverse effects that ponding/standing water can have on roof membranes. A properly designed tapered roof insulation system not only provides the positive drainage needed, it also helps extend the life of the roof membrane and provides thermal value, reducing the heating and cooling expenses of the building owner.

**Learning Objectives:**

1. Understand the features and benefits of tapered polyisocyanurate insulation.
2. Identify and understand key terms in a tapered insulation system: panel, profile, and slope.
3. Identify specific design questions to consider when comparing tapered quotes: minimum R-value, slope, squares of fill, 2-way or 4-way design.
4. Accurately compare different tapered designs and quotes.

**Educational Content:** Intermediate

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: ISO302-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

**AIA  
Continuing  
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Provider**



INSULATION CHARACTERISTICS IN LOW-SLOPE ROOFING APPLICATIONS

**Description:** Course will describe insulation and its associated applications in commercial low-slope roofing related to energy-efficient design, fire resistance, code compliance, and enhancing building resiliency.

**Learning Objectives:**

1. Explain insulation's attributes related to its use in energy-efficient roof systems.
2. Understand thermal resistance values and design best practices for providing long-term thermal efficiency of the building envelope.
3. Design a roof system's thermal envelope to ensure the safety and well-being of its occupants through effective environmental separation.
4. Discuss application solutions to meet building code requirements for energy efficiency and fire resistance.

**Educational Content:** Intermediate

**Continuing Education Units:** 1

**Course Availability:**

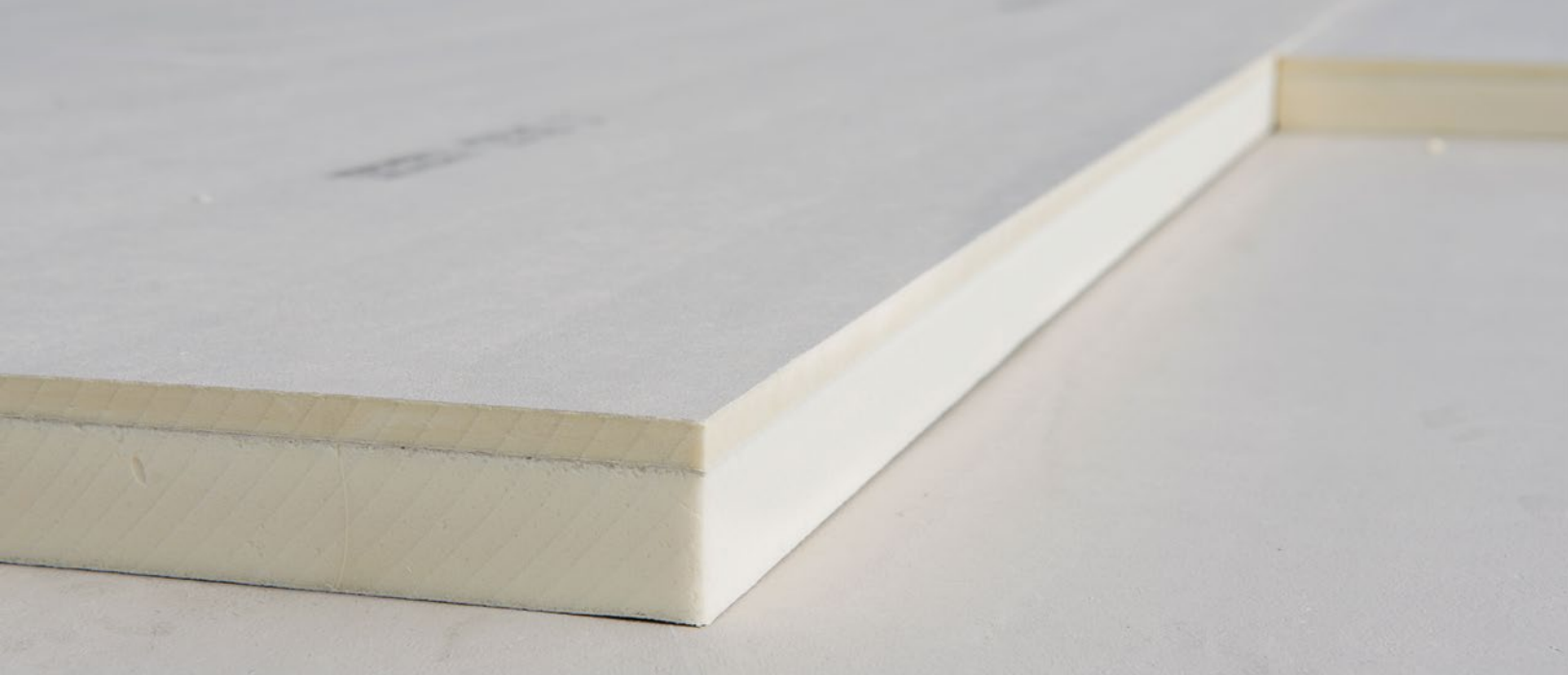


**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: ISO301-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

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## THE ROLE OF COVER BOARDS IN ROOFING

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**Description:** The use of cover boards in low-slope single-ply roofing has drastically increased over the past five to ten years. As their popularity has grown, so has the cover board product offering. This nano course will highlight the role of a cover board and the options available.

**Learning Objective:**

1. Learn about the different types of cover boards used in low-slope roofing and their impact on system performance.

**Educational Content:** Beginner

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | 0.25 AIA LU/Elective | Course Number: ISO102-CSTe

International Institute of Building Enclosure Consultants (IIBEC) – 0.25 CEH

**AIA  
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Provider**



**BEGINNER**

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## ADDING INSULATION ON HEIGHT-RESTRICTED ROOFS

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**Description:** Adding insulation (R-value) in re-roofing applications can be challenging due to insulation height constraints. Low parapet and curb heights, through-wall scuppers, and penthouse doors and windows close to the roof's surface can make it nearly impossible to add insulation without making significant modifications to the building.

**Learning Objectives:**

1. Attendees will learn how to add code-required or building owner-desired insulation during re-roofing.

**Educational Content:** Beginner

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | 0.25 AIA LU/HSW | Course Number: ISO101-CSTe

International Institute of Building Enclosure Consultants (IIBEC) – 0.25 CEH

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**BEGINNER**



# Roofing System Performance and Resiliency

INTERMEDIATE

## DESIGNING FOR PERFORMANCE – SINGLE-PLY ROOFING LESSONS LEARNED

**Description:** Designing for performance is based on single-ply roofing installation conditions that provide the best practice approaches, including case studies and slides showing conditions and remedies. The presentation provides an overview of areas of single-ply roof system design, including but not limited to: industry concerns, metal edging, air infiltration, flashings, membrane securement, insulation adhesion, membrane adhesion, insulation options, and membrane details.

**Learning Objectives:**

1. Understand the importance of perimeter securement and edge metal systems.
2. Recognize the importance of pre-construction meetings and installation monitoring for a successful installation.
3. Learn how to identify causes and possible results of air infiltration into roofing systems.
4. Learn methods to enhance the long-term performance of single-ply membrane systems.

**Educational Content:** Intermediate

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) LU/HSW Course Number: RFG301-CST

International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

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## MOISTURE MIGRATION: CAUSES AND CURES

**Description:** Advances in product technology and building codes/standards have created unforeseen consequences, with moisture migration from different sources entering into the roof assembly and affecting its long-term performance. How the moisture moved into the assembly, the results, and the overlooked details shall be reviewed, as well as how to mitigate or correct these concerns prior to installation.

### Learning Objectives:

1. Learn how moisture migrates through vapor drive and results in possible condensation.
2. Understand the sources of vapor moisture and how to control them.
3. Comprehend the concerns of modifying the use of a building without considering the roofing assembly.
4. Understand the issues about moisture in concrete, drying times, field testing, and roofing installation options

**Educational Content:** Advanced

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: RFG603-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

**AIA**  
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Provider



**ADVANCED**

PERFORMANCE INFLUENCE: ROOFING ASSEMBLIES' INTERFACE WITH DECKS

**Description:** With all the outside forces affecting building construction, such as the International Code Council, economic changes, and green standards to name a few, it is no wonder some decking materials have conflicted in interfacing with the roofing assemblies. Though these products are permitted by the building code, the weakness of the material to hold a fastener or adhesive for roofing jeopardizes the expected performance of the roofing assembly. To avoid concerns about long-term performance, it is important to understand the types of decking materials, their limitations, and how to improve architectural specification wording to meet code and long-term performance.

**Learning Objectives:**

1. Identify the difference between standard and non-standard decking materials.
2. Learn about the limitations of specific materials and interface issues with roofing materials.
3. Understand the industry positioning about these conditions.
4. Realize how to avoid this potential concern at the detail and design stage and not at the jobsite.

**Educational Content:** Advanced

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: RFG604-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

**AIA  
Continuing  
Education  
Provider**



ROOFING WIND SPEEDS: ASCE 7, UPLIFT RATINGS, AND WARRANTIES

**Description:** In the industry there is a need to sort out the confusion between building codes, uplift rated assemblies, and warranties by explaining what each offers and how they should be considered. To understand the building code, we need to review how uplift is determined and the industry's accepted rating method of roofing assemblies for comparison. After understanding the code criteria, discussion will focus on how roofing warranty wind speed coverage is regarded by the industry and building code will be reviewed for clarity.

**Learning Objectives:**

1. Review the changes within the latest version of ASCE 7.
2. Understand the differences in how warranty winds speeds are handled by roofing manufacturers and what to watch out for so the building owner receives the most comprehensive coverage.
3. Learn the basic design process for choosing the correct roofing assembly.
4. Understand how roof assemblies are tested and rated for uplift pressures.

**Educational Content:** Advanced

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: RFG601-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH  
U.S. Green Building Council (USGBC): Course Number: 0920004824

**AIA  
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## NEW CONCRETE ROOF DECKS

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**Description:** Roof installations over new concrete roof decks can be challenging because the concrete is still wet beyond its structural cure time. General contractors want roofing to begin as soon as possible once the roof deck has hit its structural cure, but they don't realize that moisture can compromise the integrity of a roof system.

**Learning Objective:**

1. Understand the challenges associated with new concrete roof decks and the solution(s).

**Educational Content:** Beginner

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | 0.25 AIA LU/Elective | Course Number: ISO103-CSTe

International Institute of Building Enclosure Consultants (IIBEC) – 0.25 CEH

**AIA  
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Provider**



**BEGINNER**

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## FM 4474 WIND UPLIFT TESTING: ACHIEVING HIGHER UPLIFT RATINGS

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**Description:** This session will cover the requirements of wind uplift testing for roofs using FM 4474 and will explain how to achieve higher wind uplift ratings through roof assembly design.

**Learning Objectives:**

1. Learn about the various FM ratings (1-60, 1-90, etc.) and examine the differences in roof assemblies with greater uplift performance by comparing different rates of fasteners and materials.

**Educational Content:** Intermediate

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | 0.25 AIA LU/HSW | Course Number: RFG303-CSTe

International Institute of Building Enclosure Consultants (IIBEC) – 0.25 CEH

**AIA  
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Provider**



**INTERMEDIATE**

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## ROOF ASSEMBLY FIRE TESTING FOR CODE COMPLIANCE

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**Description:** The course will cover a general review of IBC roofing requirements, standards governing fire testing and an overview of flame spread, intermittent flame, burning brand, and the different code testing in place to protect the occupants of a building in the event of a fire.

**Learning Objectives:**

1. Understand how external fire testing is performed
2. Explore the criteria for passing fire testing
3. Review of below-deck fire testing – Chapter 26

**Educational Content:** Intermediate

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | 0.25 AIA LU/HSW | Course Number: RFG607-CSTe

International Institute of Building Enclosure Consultants (IIBEC) – 0.25 CEH

**AIA  
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Provider**



**INTERMEDIATE**



# Specialty Roofing Accessories and Systems

BEGINNER

## DAYLIGHTING: BENEFITS, BASICS, AND NEW SOLUTIONS

**Description:** This presentation will detail the benefits provided by daylighting, discuss where skylighting fits in a world of LEDs, describe the basics of how to evaluate daylighting potential in a building, review various types of units and glazings, and discuss accessory options available to meet standards such as VSH and fall protection.

**Learning Objectives:**

1. Understand the benefits of daylighting and skylights.
2. Explore the tools that are available to evaluate the daylighting potential in a building.
3. Understand fall protection and code requirements involved with skylights.
4. Understand what types of skylights are available and how to select the best option for your building.

**Educational Content:** Beginner

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: MTL101-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH  
U.S. Green Building Council (USGBC): Course Number: 0920021819

**AIA  
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Education  
Provider**



INTERMEDIATE

## ALL ABOUT THE EDGE

**Description:** An introduction to the design, testing, and performance of edge metal systems for low-slope roofs. This presentation will go over the basics of edge metal, describe the importance of the perimeter edge in relation to the total roof system, explain the history behind metal roof edge standards such as ANSI/SPRI/ES-1, discuss detail updates to roof edge standards, and explain performance and test ratings/protocol.

**Learning Objectives:**

1. Understand the importance of a quality perimeter roof edge.
2. Understand the ANSI/SPRI/FM-4435 ES-1 standard.
3. Understand test protocols that are followed and how performance ratings are established.
4. Understand how to specify certified edge metal and how to ensure it meets the IBC standards.

**Educational Content:** Intermediate

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: MTL301-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH  
U.S. Green Building Council (USGBC): Course Number: 0920021728

**AIA  
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Education  
Provider**





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## VEGETATED ROOFING SYSTEMS

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**Description:** Vegetated roofing systems provide many benefits to the man-made built environment. This presentation will explain these benefits while exploring the different design considerations, components, and guidelines that need to be followed for a successful installation that will perform as intended.

**Learning Objectives:**

1. Understand the benefits of roof garden systems.
2. Discover the different roof garden types and the components needed for different systems.
3. Explore design considerations as they relate to the roof garden system and the underlying roof system.
4. Learn proper sequencing needed for a successful and error-free roof garden installation.

**Educational Content:** Beginner

**Continuing Education Units:** 1

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | LU/HSW Course Number: GR101-CST  
International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

**AIA  
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Education  
Provider**



**BEGINNER**

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## ELECTRONIC LEAK DETECTION TESTING, STANDARDS, SCIENCE, AND PRACTICAL APPLICATIONS

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**Description:** This course will cover Electronic Leak Detection (ELD) testing methods used for quality assurance. Participants will learn about the principles outlined in the ASTM Standard Guide D7877 and ASTM Standard Practice D8231 and will be able to identify which assemblies are compatible with electronic testing.

**Learning Objectives:**

1. Recognize the differences between the four electronic testing methods for roofing and waterproofing membranes.
2. Understand the capabilities and limitations of electronic leak detection as outlined in ASTM Guide D7877 and ASTM Practice D8231.
3. Identify potential future design and construction failures based on analyzed data from real-time construction monitoring.
4. Distinguish different applications for fully monitored embedded leak detection systems and how they function.

**Educational Content:** Beginner

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | 1.5 AIA LU/HSW | Course Number:  
RFG102-CSTe  
International Institute of Building Enclosure Consultants (IIBEC) | 1.5 IIBEC CEH

**AIA  
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Education  
Provider**



**BEGINNER**

ROOFTOP AMENITY SPACE

**Description:** Historically, rooftops were a place rarely thought about, visited, or utilized by building owners and their tenants. However, with the scarcity and extremely high cost of land in urban environments, building owners and designers have begun to recognize this once overlooked space. Over the last several decades, rooftop amenity space designs have been on the rise due to their ability to maximize useable space while staying within the building’s footprint. This nano course provides a brief introduction on rooftop amenity space systems, proper design of the underlying roof system, amenity space trends, and overburden options.

**Learning Objectives:**

1. Understand best practices in roof system design for overburden applications.
2. Discover industry trends for rooftop amenity space designs.
3. Learn about several rooftop overburden options and installation types.

**Educational Content:** Beginner

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | 0.5 AIA LU/HSW | Course Number: GR102-CSTe

International Institute of Building Enclosure Consultants (IIBEC) – 0.5 CEH

**AIA  
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Education  
Provider**



COLD STORAGE ROOF SYSTEM CONSIDERATIONS

**Description:** This presentation will bring knowledge of roof system design considerations when dealing with cold storage applications. The presenter will discuss various types of cold storage application techniques and provide insight on the importance of understanding internal climate zones and how they may impact design considerations for the roof system assembly. The presenter will discuss considerations for vapor barrier placement based on internal operation conditions as well as selection of insulation requirements. Focus on various insulation types, R value recommendations, and attachment options will also be discussed. The presenter will then discuss various types of single ply membranes as well as attachment options and considerations. The final and most critical segment will focus on detail considerations of the thermal envelope transitions. This will include wall to roof, roof to wall, internal climate transitions as well as roof penetrations. The presentation will end with a Q&A session and key takeaway points.

**Learning Objectives:**

1. The importance of understanding internal operations and condition.
2. ASHRAE recommended insulation R values & types.
3. Understanding of typical cold storage construction methods.
4. Vapor barrier consideration and proper placement.

**Educational Content:** Advanced

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | 1 AIA LU/HSW | Course Number: RFG608-CST

International Institute of Building Enclosure Consultants (IIBEC) – 1 CEH

**AIA  
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Education  
Provider**



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## THE PERIMETER ROOF EDGE

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**Description:** This presentation will address current IBC code requirements and various metal edge designs and their wind uplift performance. Various options will be discussed, along with examples of selecting appropriate metal edge systems.

**Learning Objectives:**

1. Preview of old requirements vs. today's code mandates.
2. Standards and testing methods covering metal edge performance.
3. Examples of best practices and edge details.

**Educational Content:** Beginner

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | 0.5 AIA LU/HSW | Course Number:  
MTL102-CSTe

International Institute of Building Enclosure Consultants (IIBEC) – 0.5 CEH

**AIA  
Continuing  
Education  
Provider**



**BEGINNER**

## Industry Topics

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## LEVERAGING RESOURCES: MAKING GREAT PROCUREMENT DECISIONS

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**Description:** Public agencies have several legal procurement avenues to help them secure products and services. The traditional bid system is not preferred by many agencies due to the inability to control the bidders. Many agencies have turned to cooperative contracts, which, when used properly, can help these agencies obtain the best materials, best services, and fair market pricing. However, some of these cooperative contracts exclude independent design professionals from helping public agencies develop the scope of work. These are the same contracts that have pricing that is significantly higher than most of the market.

This presentation will show you the differences between each procurement method and how they work. There is one avenue that empowers public entities to control their outcomes by working with design professionals and obtaining fair market pricing as well as the best products and contractors.

**Learning Objectives:**

1. Differentiate between the various public procurement options
2. Explain why TIPS-USA is the superior solution for public procurement
3. Recognize who to contact to learn more about TIPS-USA

**Educational Content:** Beginner

**Continuing Education Units:** 50

**Course Availability:**



**Course Accreditation:**

American Institute of Architects (AIA) | 0.5 AIA LU/Elective | Course Number:  
IND101-CST

International Institute of Building Enclosure Consultants (IIBEC) – 0.5 CEH

**AIA  
Continuing  
Education  
Provider**



**BEGINNER**

### ADHESIVE PULL TESTS: THE WHAT, WHY, AND HOW

**Description:** This course is intended to educate reps, consultants, and roofing professionals on CCM's procedures for requesting and administering adhesive pull tests.

**Learning Objectives:**

1. Understand what an adhesive pull test is.
2. Understand why an adhesive pull test is used.
3. Understand how to properly administer an adhesive pull test.

**Educational Content:** Beginner

**Course Availability:**



**Course Accreditation:**

No accreditation provided for this course.

### COMMERCIAL ROOFING TERMINOLOGY

**Description:** Single-ply membranes are among the most popular commercial roofing systems. This presentation provides a basic understanding of common terminology as it relates to single-ply roofing systems. The terminology covered throughout this presentation establishes a foundation essential for participants to understand and decipher roofing shop drawings and specifications.

**Learning Objectives:**

1. Explore basic roofing terminology as it relates to commercial single-ply roof systems.
2. Learn to visually identify many common rooftop conditions and products.
3. Gain a basic understanding of how and why certain rooftop products and conditions are implemented on commercial roofing projects.

**Educational Content:** Beginner

**Course Availability:**



**Course Accreditation:**

No accreditation provided for this course.





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## FLEXIBLE FAST RIG SPLATTER

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**Description:** This course is intended to educate reps, consultants, and roofing professionals on Carlisle SynTec's innovative application technique for two-part, low-rise adhesives. In this session, we will discuss potential business opportunities, application benefits, and approved equipment options. The short-term and long-term performance of an adhered roofing system are reliant on the consistency and uniformity of the adhesive. Without this consistency, performance issues can occur, compromising the health, safety, and welfare of the occupants. Rig Splatter application of Carlisle SynTec's flexible urethane adhesive greatly increases the consistency of the adhesive throughout the roofing system, allowing for greater confidence and peace of mind for the building's occupants.

**Learning Objectives:**

1. Understand the features and benefits of Rig Splatter with flexible urethane adhesive and how they relate to performance and efficiency.
2. Determine how Rig Splatter differs from other application techniques when specifying, bidding, or installing a project.
3. Identify the approved pieces of equipment to achieve Rig Splatter.

**Educational Content:** Intermediate

**Course Availability:**



**Course Accreditation:**

No accreditation provided for this course.



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## INSULATION AND COVER BOARDS

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**Description:** Course will describe Polyisocyanurate Insulation and its associated applications in commercial low-slope roofing related to energy efficient design, fire resistance, and code compliance.

**Learning Objectives:**

1. Explore the attributes of polyisocyanurate insulation in energy efficient roof systems.
2. Understanding thermal resistance values and design best practices for providing long-term thermal efficiency of the building envelope.
3. Learn how to design a roof system's thermal barrier to ensure the safety and well-being of the building's occupants through effective environmental separation.
4. Understanding product solutions for maintaining building code requirements for energy efficiency and fire resistance.

**Educational Content:** Beginner

**Course Availability:**



**Course Accreditation:**

No accreditation provided for this course.

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## OVERBURDEN SYSTEMS: ROOF GARDENS, PAVERS, AND LEAK DETECTION

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**Description:** Over the last several decades, green roofing and rooftop amenity space designs have been on the rise due to their ability to provide environmental benefits and maximize useable space while staying within the building's footprint. This presentation will provide participants with an introductory overview of the overburden options available from Carlisle as well as pertinent warranty information. Electronic leak detection (ELD) testing, which is critically important for determining the waterproof integrity of the roof prior to overburden installation, will also be discussed.

**Learning Objectives:**

1. Gain a basic understanding of Roof Garden system types and installation methods.
2. Explore the Roof Garden products and systems available from Carlisle as well as the related warranty information.
3. Learn about the available rooftop paver products available from Carlisle and the related warranty information.
4. Gain a basic understanding of electronic leak detection (ELD) systems as well as Carlisle's preferred ELD technology.

**Educational Content:** Beginner

**Course Availability:**



**Course Accreditation:**

No accreditation provided for this course.

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## PVC-KEE HP

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**Description:** An introduction into Carlisle SynTec's PVC and KEE HP membranes and system offerings. This session will review some of the basics of PVC and KEE HP, discuss key differentiators of Carlisle's PVC and KEE HP products, and review basic product offerings and industry-leading innovations.

**Learning Objectives:**

1. Understand what makes Carlisle PVC and KEE HP products unique.
2. Become familiar with the basic product offerings.
3. Learn about the latest and greatest PVC products.

**Educational Content:** Beginner

**Course Availability:**



**Course Accreditation:**

No accreditation provided for this course.

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