



Offered in: Arizona, California, Hawaii, Nevada, North Carolina, Oklahoma, Oregon, Texas, Virginia, Washington



ROOFING PROGRAMS

Roofs Can Last in Excess of 30+ Years But Most Do Not

- Examples - 30+ year sustainable traditional BUR
- Visual essay - bad roof construction vs. proper details and methodology, including forensic evaluation
- Forensic evaluation - 18 year old PVC
- Evaluation - 12 year old SBS roof membrane premature failure
- Case Study - 12 year old copper roof; failure and repair

Architectural Sheet Metal Roofing & Flashings

- Review the major types of sheet metal and see how they differ in corrosion resistance, finishing, joining, and where to use
- Cross compare the various types of sheet metal
- Review how common components such as parapets, gutters, flashings, stops and edge material are incorporated

Avoiding Condensation in Low Slope Roofing Assemblies

- Understand the science behind vented and unvented compact roof assemblies
- Review how common Learn the differences between vapor barriers and vapor retarders
- Demonstrate forensic case studies of condensation related roofing failures
- Learn specific design considerations for avoiding condensations

Understanding Metal Roofing Systems

- Review difference between hydrokinetic and hydrostatic metal roofing
- Describe the 3 basic types of metal roofs
- Review requirements for each roof system
- Understand metal roofing underlayment
- Learn from several metal roofing forensic case studies

Proper Selection of Roof Types: 12 Roof Types Considered

- Deciding which roof type is best for your project
- How geography affects roof type
- Design issues
- How roof type affects materials selection
- Aesthetics vs. Durability

Understanding and Design of Garden Roofs

- Review examples of intensive and extensive roof garden systems
- Provide examples of structural and drainage components
- Understand examples of fluid applied and sheet membrane systems and examples of insulation and protection

Waterproofing for Garden Roofs

- Overview and history of Garden Roofs
- Extensive vs. Intensive
- Systems & components overview
- Best type for roof garden
- Systems selection for waterproofing protection and roof insulation

ABOUT ABB

Allana Buick & Bers, Inc. (ABB) offers seminars and training classes in a variety of formats. From 60 minute 'lunch and learns' to half day seminars. All ABB courses provide AIA Continuing Education learning Units. This flyer provides a summary of our most popular classes.

ABB is dedicated to providing comprehensive and innovative consulting services with award-winning expertise in building envelope design, architectural engineering, mechanical optimization, and construction management. ABB is customer-focused, providing expert advice using advanced technologies for enduring solutions.

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MECHANICAL SOLUTIONS / CONSTRUCTION MANAGEMENT / LITIGATION SUPPORT SOLUTIONS

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Roof Coating 2018: What, When, and How to Use

- What a roof coating system is
- The types of roof coatings
- Understand when roof coating vs. replacement is appropriate.
- Basics of a roof recoating projects

EXTERIOR WALL AND WINDOW PROGRAMS

Understanding Wall Assemblies

- Learn issues unique to cement plaster construction for light gauge steel framed buildings
- Discuss moisture movement in typical cement plaster assembly, the physical forces at play, managing water in all its forms, air movement through the building, forces related to building usage, issues with high humidity, condensation and ventilation
- Discussion for more robust rainscreen cement plaster systems.

Understanding Exterior Walls and Code Changes

- Overview of code changes from the 1997 Universal Building Code (UBC) to the 2006 International Building Code (IBC).
- Emphasis is how the changes apply to the exterior facade and roofing systems.
- New Building Code and Construction Document Requirement
- Differences in exterior wall types and systems. Three Basic Exterior Wall Systems: Barrier Wall Systems, Drainable Wall Assemblies, Rain Screen Principal.

Introduction to Curtain Wall and Window Wall System Issues

- Understand performance issues and forensic analysis
- Review case studies of the causes behind glazing, frame-joint, drainage pathways, mullied windows and other structural fenestration failures
- History and manufacturing process

Curtain Wall Failures - Design or Products

- New modes of failures in curtain walls and window walls, including glazing seals, Kynar coatings, thermal break issues, and design and installation issues.
- Common modes of failure within 5-10 years
- Examples of ABB forensic studies demonstrating failure prone systems
- Learn how to reduce your risk and what to look for in glazing failures.

IGUs and You: Benefits of Insulating Glazing Units

- Learn the history of architectural glazing
- Understand the manufacturing process of float glass
- Learn about various post production processes such as thermal treatments, applied coatings, and manufactured glazing.
- Pros and cons of insulating glazing units.

Insulating Glazing Units: Fabrication, Missile Resistance, and Common Failure Modes

- Review IGU fabrication process from float glass facility to final assembly
- Learn various production processes, including thermal treatments and applied coatings
- Understand window missile resistance requirements
- Understand common IGU failure modes as encountered by ABB

Manufacture and Post Production Processing of Float Glass

- Discuss the history, current manufacturing technology, and applications for float glass production in the US.
- Review the history of plate glass production
- Understand post production processes prior to architectural use
- Appreciate steps required to assemble a modern insulating glazing unit (IG)

The Durability and Sustainability of Windows and Curtain Walls

- Review the different Kynar/paint finishes available today, the longevity of the available options, and how to combat the increasing failure rate we're observing.
- Review the different types of different anodized finishes, pros and cons of each type, and their durability.
- Understand the longevity of various types of glass and IGU systems, factors that impact their longevity such as edge deletion, and how to mitigate common modes of failure.
- Understand the durability of various primary and secondary sealants, and how they contribute to or detract from system longevity.
- Understand life expectancy and durability of vinyl and EPDM gaskets and how to improve them.

WATERPROOFING PROGRAMS

Waterproofing Basics

- Overview of thermal and moisture protection issues
- Review ground water control, dampproofing, waterproofing, precipitation control and roofing materials
- Review condensation control, thermal control, flashing and expansion joints

Below Grade Waterproofing - Design Considerations and Common Failures

- Positive Side Waterproofing: Waterproofing applied to the outside or "wet" face of the foundation wall
- Design Considerations of Positive vs. Negative Side Waterproofing
- Blindside construction procedures and their impact on bentonite-based waterproofing systems
- Case study of failed blindside waterproofing system with review of repair procedures

Design of Plaza Deck Waterproofing

- Discussion of Plaza Deck types: Protected Membrane, Split Slab, Traffic Bearing, Surface Applied, Roof Garden
- Geotechnical Report, Plaza Deck Configurations, Structural Considerations, Waterproof Membranes, Drainage, Protection and Root Barriers, Insulation Warranties
- Review of Plaza Deck design. We will illustrate the importance of plaza deck design and how it integrates into other systems.

Waterproofing is Not Skin Deep Lath and Plaster Systems

- Understanding moisture management in stucco wall assembly
- Suitable substrates for stucco in Type III and Type V buildings
- Proper lathing and flashing techniques
- Understanding scratch, brown and finish coats for 1 and 3 coat plaster systems

Horizontal Above Grade Waterproofing

- Learn about various configurations, considerations, protections, insulations, and warranty questions regarding plaza deck waterproofing
- Learn about the different types of plaza decks and the pros and cons of each
- Learn how to protect your plaza/podium from water, root, and thermal damage.
- Understand the structural substrates and pros and cons of each.

Advanced Hygrothermal Analysis

- Understand material properties, exterior environment and interior environment approach in Advanced Hygrothermal Analysis.
- Understanding a traditional approach to assembling building materials, determining condensation point from psychometric chart, and calculating the thermal drop across the materials.

- Understand where to use ASHRAE Standard 160 "Criteria for Moisture-Control Design Analysis in Buildings"
- Understand how Fraunhofer WUFI hygrothermal analysis software tool is perform ASHRAE Standard 160 analysis

BUILDING ENVELOPE PROGRAMS

Design, Material, Installation: The 3 Facets of an Integrated Weather Barrier

- Define and develop a better understanding of the Building Envelope concept
- Define and develop a better understanding of the Integrated Weather Barrier concept and how it impacts the performance and sustainability of buildings.
- Define and develop a better understanding of the Design, Material & Installation concept and how they are related.
- Explore the process of proactively creating coordination between Design, Material and Installation to achieve an Integrated Weather Barrier

Building Enclosure Commissioning (BECx) - What's the Big Deal?

- Learn about and examine the Building Enclosure Commissioning (BECx) Process.
- Contrast and compare traditional Building Envelope Consulting with Building Enclosure Commissioning (BECx).
- Examine and compare differences in Building Enclosure Commissioning Standards (NIBS, ASTM E2813 & E2947 & LEED v4.).
- Explore Benefits derived from implementing Building Enclosure Commissioning (BECx) Program.

Air Barrier Assemblies and Continuous Insulation

- Air Management vs. Moisture Management.
- Air Barrier Principles and Design Considerations.
- Why the Need for

- Continuous Insulation?
 - Continuous Insulation Design Considerations and Local Code Requirements

Recommendations on How to Design, Specify, and Test Common Window Types

- Learn common window assembly types seen in multi-family, commercial, or retail building types
- Learn common window assembly and component failure issues (seals, coatings, sealants, etc.)
- Review window assembly performance requirements
- Learn key recommendations on designing and specifying window systems to mitigate the risk of failure
- Learn the procedures and benefits of window assembly performance testing during construction

Recommendations for Air Barrier Design and Testing for Type II Construction

- Brief overview of the role of an air barrier system, including new requirements in state and national building codes
- Outline of building materials that meet air barrier requirements in Type II Construction Wall and Roof assemblies.
- Our recommendations regarding designing air barrier systems in Type II Construction Wall and Roof assemblies
- Review ASTM E779 (whole building air barrier testing) standard

Life Expectancy & Longevity of Building Envelope Systems

- Review the significant lifespan variation for similar building assemblies
- Review qualities that impact lifespan and maintenance
- Understand the cost-savings, ROI analysis of higher quality building envelope systems
- Coordinating between an optimized building lifespan and owner's objectives
- Impact of maintenance

and operating cost on lifespan

Mitigating Risk in Design

- Understand the nature of common building envelope/waterproofing design defects
- Understand how conscientious system design can mitigate risk and how to identify potential defects early on.
- Understand how proper system and material selection can mitigate risk of premature system failure
- Understand the importance of quality control and commissioning to ensure system performance and longevity.

Mitigating Risk in Construction

- Learn how pre-construction meetings can set quality control measures at the onset of construction.
- Demonstrate through examples how mock-up construction allows an opportunity to make design and construction changes in the field.
- Learn the test standards of air barrier testing, water testing, and horizontal waterproofing and how these tests can identify failures, design defects, and manufacturing failures.
- Learn how conductive substrates can be built-in during construction to mitigate costly repairs and precisely pinpoint roof leakage before there is underlying damage.

Common Construction Defects in High-Rise Buildings

- Learn about the top contributing factors to construction failures in high-rise building assemblies
- Examine the components and structure of curtain wall and window walls
- Learn about the new failure mechanisms facing curtain wall assemblies today
- Examine common mechanical and piping failures and how to identify them.
- Examine the importance of fire-resistive

construction in high-rise buildings.

Prevention of Concrete Spalling

- Understanding causation of concrete spalling
- Preventative measures for preventing spalling
- Provide a review of what items to include in cost estimating for the reserve study
- Review repair techniques
- Review the types of other repairs that should be done at the same time as spall repairs, and the implication for cost estimating

Forensic Analysis of High-Rise Buildings

- Learn the top three contributing factors to extend the longevity of high-rise building assemblies: 1) good construction, 2) superior design, and 3) system/material selection.
- Learn how hot applied built up roofing (BUR) systems are field applied and how quality control is essential for performance and longevity. When properly applied, BUR's can last up to 50 years
- Examine and learn the components and structure of curtain and window wall assemblies used in construction projects today.
- Learn about the new failures mechanisms facing curtain wall assemblies today and know what to look out for to avoid future failing systems.
- Examine the importance fire-resistive construction and its contribution to building performance and longevity

Preformed Metal Edges for Elevated Wood Framed Pedestrian Decks

- Review damage to wood framed pedestrian deck structures caused by the use of the prefabricated concrete edge form - cause by improper waterproofing
- Providing clear drainage path
- Proper securing of the deck flange
- Integrating waterproofing with the deck flange
- Proper way to provide weep

10-Year Implied Warranty on Public Bond Project Construction

- Understand the 10-year implied warranty for major items and statute of limitations for defect litigation. Show examples of easily accessible plumbing components and the more expensive components hidden behind walls.
- Understand the 10-year implied warranty for major items and statute of limitations for defect litigation.
- Understand how to recognize common issues in new construction including: Windows fogging, noise, leaking, finish and other glazing issues, Air conditioning system issues, Roofing and waterproofing issues, Stucco/façade related issues, Fire suppression system issues, Plumbing issues like hot water delivery.
- Learn how to conduct your own inspections to recognize and document issues (and what is involved in a third-party building inspection).
- Learn how to approach the developer/builder to resolve problems.

CA Senate Bill 326: New Requirements for Condominiums and DIY Inspection

- Learn about common balcony failure modes – and recognize which ones can have serious life-safety implications.
- Understand the specifics of the CA SB 326 Bill, the fiduciary duties of the Board, and the responsibility of individual homeowners and property managers.
- Learn about “DIY” inspections and how to properly photograph and document of the undersides of balconies and landings, and what visible signs to look for.
- Learn about our professional photo review services by our building experts and how it can help identify immediate life safety concerns and help prioritize repair projects.

EIFS Fundamentals and Lessons Learnt Through Forensic Studies

- Learn the history and types of EIFS systems
- Learn how to properly install EIFS systems
- Learn common failure modes as exhibited through real world forensic case studies
- Learn how to mitigate the risk of EIFS failure through proper design, construction, and maintenance

MECHANICAL PROGRAMS

How to Know When Plumbing Systems Go Bad... And How to Plan For It.

- Plumbing 101 – understanding basic plumbing components and what can cause reserve under funding
- Show examples of easily accessible plumbing components and the more expensive components hidden behind walls
- Show examples of plumbing problems hidden within the pipes themselves
- Look at a case study of a recent HOA/AOAO projects
- Describe the remaining useful life of plumbing systems per most reserve studies, and according to some recent experiences

Get Rid of Deferred Maintenance in HVAC: Commercial Building Owner Savings

- The exponential, negative effects of deferred maintenance in HVAC in commercial buildings.
- How to identify deferred maintenance in HVAC
- Getting past lowest first cost on HVAC and Energy projects - How financial analysis wins the case for higher first cost projects
- How lower energy costs contribute to a higher asset value

Optimize Building Ventilation to Mitigate Virus-Spread

- Understand the most recent evidence surrounding the mass

- spread of COVID-19 through commercial ventilation systems and review the modes of COVID-19 transmission through HVAC systems.
- Understand the current CDC recommendations to reduce disease transmission, specifically increasing ventilation to reduce contaminated air.
- Understand specific requirements for ventilation as it relates to hospital rooms nursing care facilities and assisted living centers.
- Understand the functionality of HVAC systems, outside air ventilation requirements, and best design practices.
- Understand the importance of making sure HVAC system filters are inspected, exhaust systems are operational, and outside air sources are maximized.

Methods to Combat COVID in Assisted Care & Healthcare Facilities

- Understand the most recent evidence surrounding the mass spread of COVID-19 through ventilation systems in healthcare and assist living type facilities and review specific modes of transmission through HVAC systems.
- Understand the current CDC recommendations to reduce disease transmission - specifically increasing ventilation to reduce contaminated air.
- Understand the functionality of HVAC systems, outside air ventilation requirements, the importance of pressurization zones, and best design practices.
- Understand the importance of making sure HVAC system filters are inspected, exhaust systems are operational, and outside air sources are maximized.
- Understand the process of augmenting HVAC systems with ionization and ultraviolet (UV) technology, and how to implement them.

HVAC Modifications to Combat COVID-19 in Education Facilities

- Review the evidence of COVID-19 spread through ventilation systems.
- Understand the CDC recommendations

- to reduce disease transmission.
- Understand the functionality of HVAC systems.
- Recognize the importance of making sure HVAC system filters are inspected.
- Identify the process of augmenting HVAC systems with ionization and ultraviolet (UV) technology.

INTEGRITY TESTING

Building Performance Testing

- Learn about the differences in AAMA and ASTM testing methods.
- Learn the pros and cons of the four types of Electronic Leak Detection (ELD) and test techniques.
- Learn how to specify building envelope testing including, glazing and curtain wall testing; facade testing; and electronic leak detection for waterproofing and roofing systems.
- Diagnosing air and water leakage through assemblies

Electronic Leak Detection (ELD) Technology & It's Uses

- This presentation covers ELD integrity testing protocol, traditional leak testing methods, and today's advanced ELD circuitry.
- Embellished test proficiencies and limitations of EFVM are discussed, along with how to fabricate proper specifications for proposed waterproofing system assemblies related to ELD.
- Overview of how to ready your structure for ELD testing, including conductive primer.

Whole Building Air Barrier Testing Logistics and Planning

- Review the ASTM standards that govern air barrier testing
- Review the common industry practices in designing and constructing air barrier systems
- Overview of the project status, personnel involvements, and Contractor compliance,

- and calculations required before an air barrier test
- Explanation of the equipment and labor required
- Examining the recorded field data, and how our diagnoses and recommendations are produced into reports

Construction Testing to Mitigate Leaks

- Learn about at which stage the testing needs to be performed, the proper substrate preparation for the test and how to communicate with the testing company.
- Learn the test standards for air barrier testing, water testing, and horizontal waterproofing and how these tests can identify failures, design defects, and manufacturing failures.
- Learn about putting a check list together for building envelope testing

Strategies for Passing a Whole Building Air Barrier Test

- Review critical aspects of air barrier design
- Determine the keys to passing a Whole Building Air Barrier Test
- Outline successful construction QA/QC protocols for air barriers
- Review ABBT past examples of whole building testing