CEIR Update
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Center for Environmental Innovation in Roofing
SPFA Convention & Expo
Palm Springs, CA
January 28, 2014

Today’s Topics
• The Center, Staff, Members
• CEIR’s Research Committee
• CEIR’s Policy Committee
• Green Trends
• CEIR’s PV Taskforce
• Insulator and Air Barrier Documents
• The new SFC guidance document

THE CENTER
• Public Advocacy
• Codes and standards
• Government policy
• Roofing Research
• International Outreach
• Sustainability
• Insulation; Building Envelope
• Codes and Standards
• Member Support
• Education and training

MISSION
• Leading information resource for roofing, energy and the environment
• Central industry forum for energy and environmental research
• Unified industry voice for energy and environmental policy

STAFF
• Craig Silvertooth, President
• Dr. Jim Hoff, VP of Research
• James Kirby, AIA, VP of Sustainability
• Justin Koscher, VP of Public Policy and Staff Council

CENTER MEMBERS
• Chairman: John Geary, Firestone
• Vice Chair: David Workman, RoofConnect
• Secretary: Bob Seeley, Derbigum
• Treasurer: Todd Kaska, D.C. Taylor Co.
• 12 additional board members
• Full and Supporting Membership Levels available

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Research Committee
• RoofPointTM
• Rating Systems
• Product Disclosure
• SPC, EPD, Red Lists
• Codes and Standards
RoofPoint Dashboard
RoofPoint Excellence in Design Awards
RoofPoint Registered Professional
RoofPointCM
www.roofpoint.org

Five (5) Functional areas
• Energy Management
• Materials Management
• Water Management
• Durability/Life Cycle Management
• Environmental Innovation in Roofing

OBJECTIVE RESULTS
TO DATE
ACTIVE PARTICIPATION OVER 270 PROJECTS
CERTIFIED FROM 100+
SubmitterS
GEOGRAPHIC DIVERSITY 42 U.S. STATES + CANADA & MEXICO
SYSTEM DIVERSITY BUR, EPDM, TPO, PVC, SBS, APP, SPF, COATINGS, METAL
NEW / REROOF BALANCE 45%
NEW / 55%
MINIMUM 12 POINTS CURRENT AVERAGE IS OVER 20 POINTS
RELEVANT CREDITS EVERY CREDIT USED FREQUENTLY

Energy and Carbon Calculator
• Comparative; input 2 roof systems
• Roof energy load
• Net energy savings for RoofPoint roof
• Net energy savings during peak load reduction
• CO2 energy offset

Thank You to the Alliance for your financial support over the past 4 years!
Thank You to SPFA for including RoofPoint in the Industry Excellence Awards

What is Product Disclosure?
A process that has or will be adopted in every major green building standard and code:
- LEED v4: Three new material disclosure credits
- ASHRAE 189.1: Proposed Addendum 9 adds disclosure requirements
- IgCC: Numerous disclosure requirements will be proposed during 2015 code hearings
For more information on Product Disclosure see the references for Product Disclosure

What is Product Disclosure?
- A critical step to support transparency in the design and manufacture of building products
- A necessary prerequisite for optimization of the economic, environmental, and health benefits of building products

New in Energy Codes
- New and more consistent roof R-values
- Improved insulating language and requirements
- New research to address air barrier requirements
- Ongoing discussion of roof reflectivity and climate

Thank You
Policy Topics

- **FEDERAL POLICY**
  - Big government spending about to slow where
  - Energy efficiency legislation
  - Federal Research Programs (Science 2013)
  - CEIR (rating systems), DOE (resiliency) and EPA (ghg and tox)
- **INTERNATIONAL POLICY**
  - Euros, budget, international priorities
  - Energy and geopolitics
  - UN Climate Treaty (2015 + 2020) US plan is due 2014
- **ENERGY CODE INITIATIVE**
  - 2012 IECC is a gain in energy efficiency
  - Adoption, education, enforcement and defense

Green Trends

- **What is The Center Advocating?**
  - Energy Management*
  - High R-value
  - Best Thermal Practices
  - Roof Surface
  - Air Barrier
  - (Roof Top Energy Production)
  - (Daylighting)
  - A well insulated building envelope that is air sealed should be in place before adding energy production devices on a building.
* All topics from RoofPoint, the only roof rating system.

Thermal Design of the Roof Landscape

- IECC 2012: Skylight curbs shall be insulated to the level of roofs with insulation entirely above deck or R-5, whichever is less.
- The insulation layer should be designed as a system: include all areas that reduce R-value.
- Skylights, drain sumps, roof hatches, HVAC units.
- The mechanical system in the building should be sized appropriately based on the actual R-value of the rooftop.
- If 95% of the roof is R-20, and 5% is R-5, the overall R-value is 19.25.
- If 90% of the roof is R-20, and 10% is R-5, the overall R-value is 18.5.
- Account for thermal bridges and single layer insulation.

Air Leakage

- In a warm climate (e.g., Atlanta)
  - 1.5 pints of water will diffuse through gypsum board without a vapor retarder
  - 14 pints of water will pass through a small hole
  - ~10x more water will pass through a 1"x1" hole than through a 4’x8’ gypsum wall board
- Exterior: 74°F dewpoint
- Interior: 75°F with 50% RH

IECC Exclusion Not Needed!


Considerations for Long-term Performance

- Durability and Life Cycle Management*
  - Durable Roof Insulation/Coverboard
  - Ridge Coverage
  - Unweathered, Wind Resistance
  - Hydraulic Analysis
  - Construction Minimum Management
  - Durability Enhancements
  - Roof Maintenance Program
  - Insulation Quality
* All topics from RoofPoint, the only roof rating system.

ASTM D08

- ASTM D08.24, Sustainability of Roof Systems
  - D08.24.01 Guidelines for Sustainable Design
  - D08.24.03 Recycling Practices and Reporting Methodology
  - D08.24.05 Quality
  - D08.24.06 Expansion Criteria: Vegetative Roof Membranes
- Articles in Roofing magazine (formerly Carolina Roofing magazine), Winter: "ASTM and Sustainable Roofing"

Roof System Energy Efficiency

- Energy Management*
- High R-value
- Best Thermal Practices
- Roof Surface
- Air Barrier
- (Roof Top Energy Production)
- (Daylighting)
IRE 2013
February 6, 2013

Spreading The Word
- Roofing Contractor Magazine
- Buildings magazine
- Pitch magazine
- RCI
- Annual and regional meetings (Boston, Chicago)
- Member magazine articles
- VAPR
- Annual Presentation
- Presenters:
  - RoofPoint
  - Solar Rating
  - Green-building

Buildings & Retrofit & RCI & RCI

Spreading The Word
- Interface magazine article
- NFMT
- Annual Presentation
- Presenters:
  - RoofPoint
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CEIR PV Taskforce

CEIR’s PV Taskforce

Currently developing:
- PV Racking and Attachment Criteria for Effective Asphalt Shingle Roof System Integration
- Development by the PV TF:
  - Public Comment Period #1 is now ongoing (Jan/Feb 2014)
  - Public Comment Period #2 will be in April/May 2014
  - The final document will be complete in July 2014

CEIR PV Taskforce

Fraunhofer Center for Sustainable Energy
- Solar Energy International
  - Two 2-hour classes for NABCEP credit (fee-based)
  - Codes and Standards for PV on rooftops
  - Solar Power International (MOOCs)
  - Two 1-hour presentations (free)
  - Solar Power International
  - Solar Power International Convention and Trade Show
  - Solar Power International: Oct 2013: Recent Advancements for Long Term Success
  - InterSolar NA

Rooftop PV and Fire Classification
- Solar Power Generation
  - O+M for rooftop PVs
  - San Diego: Feb 3, 2014
  - NERCA
  - Rooftop PVs for the roofing industry
  - Atlantic City: March 26, 2014

Insulation and Air Barrier Documents