

# Technical Committee Update

Membership Meeting  
June 18, 2015



# Committee Roster Changes

## 2014 - 2015 Technical Committee Roster with Alternates

Voting Member	Company	Alternate	Company
<b>Tim McQuillen</b>	Firestone Building Products	<b>Steve Heinje</b>	Quest Construction Products
<b>Ronnen Levinson</b>	Lawrence Berkeley National Laboratory	<b>Hashem Akbari</b>	Concordia University
<b>Andre Desjarlais</b>	Oak Ridge National Laboratory	<b>Chad Fisher</b>	UL
<b>Gary Whittemore</b>	Sika Sarnafil, Inc.	<b>Mike Ennis</b>	Single-Ply Roofing Industry (SPRI)
<b>Bill Morgan</b>	Malarkey Roofing	<b>Marcin Pazera</b>	Owens Corning Roofing and Asphalt, LLC
<b>Scott Kriner</b>	Metal Construction Association	<b>Dan Walker</b>	Metal Building Manufacturer's Association
<b>Richard Slomko, Chair</b>	Atlas Material Testing Solutions	<b>Matthew Friday</b>	Q-Lab Weather Research Service
<b>Ted Best</b>	Valspar	<b>Mark Thimons</b>	American Iron & Steel Institute
<b>Wade Shepherd</b>	Boral Roofing	<b>Rick Olson</b>	Tile Roofing Institute
<b>Kurt Shickman</b>	Global Cool Cities Alliance	<b>Payam Bozorgchami</b>	California Energy Commission
<b>David Roodvoets</b>	DLR Consultants	<b>Cindy Campbell</b>	Momentum Technologies
<b>Dan Rardon</b>	Specialty Granules, Inc.	<b>Diana Fisler</b>	Johns Manville
<b>Kurt Sosinski</b>	Tremco, Inc.	<b>Paul Riesebieter</b>	Tremco, Inc.
<b>Annette Sindar, Vice Chair</b>	Eagle Roofing Products	<b>Yoshi Suzuki</b>	MCA Clay Tile
<b>Hal Leland</b>	Western Colloid	<b>Frank Klink</b>	3M
<b>Dave Yarbrough</b>	R&D Services, Inc.	<b>Tyler Westerling</b>	Architectural Testing, Inc.

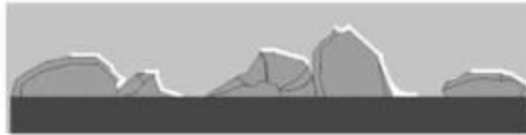


# Test Methods and Standard Practices

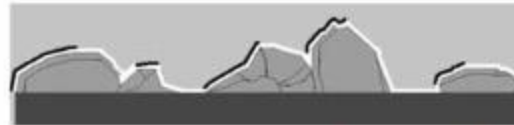
# Directionally Reflective Materials (DRM)



• Cool Angle™ Shingles  
White Coating on Dark Granules



Dark Coating on White Coating





# Directionally Reflective Materials (continued)

2012-2013

- CRRC funded study (H. Akbari)
- Board approved solar reflectance rating method

Image: Akbari 2013

2014

- Technical Committee working group developed test procedure for measuring solar reflectance of DRM

2015

- Jan to June - round robin study of draft test procedure
- August - Technical Committee to receive results of round robin
- Fall 2015 – Board will consider adoption

# Laboratory Aging Practice

## 1. Weathering-apparatus exposure before soiling

- 24 h total (2 cycles)
- 1 cycle = 8 h UVA-340 at  $0.89 \text{ W/m}^2/\text{nm}$  and  $60 \text{ }^\circ\text{C}$ ,  
4 h water condensation at  $50 \text{ }^\circ\text{C}$
- Air dry

## 2. Soiling

- Spray aqueous mix of dust, salts, organic matter, and soot
- Deposit wet mass of  $8 \pm 1 \text{ mg/cm}^2$
- Dry under infrared lamp

## 3. Weathering-apparatus exposure after soiling

- 24 h total (2 cycles)
- 1 cycle = 8 h UVA-340 at  $0.89 \text{ W/m}^2/\text{nm}$  and  $60 \text{ }^\circ\text{C}$ ,  
4 h water condensation at  $50 \text{ }^\circ\text{C}$
- Dry under infrared lamp

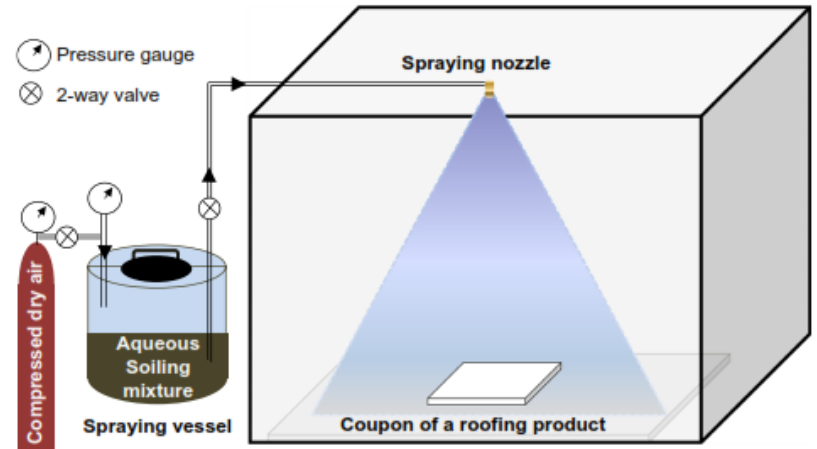


Fig. 1. Laboratory apparatus used for accelerated soiling of roofing materials.

Image: Sleiman et al. 2014 Lawrence Berkeley National Laboratory



# Working Groups



# Methods & Instruments Subcommittee

- Methods & Instruments (M&I) subcommittee established in October 2014 at the direction of the TC
- Subcommittee Scope
  - Discuss and undertake the technical evaluation of new or modified methods or instruments for radiative measurement
  - Report results of discussions and evaluations to the TC
- Current topics of focus:
  1. Emittance Traceability
  2. Aggregate Test Method
  3. C1549 Update





# Methods & Instruments Subcommittee (cont.)

## 1. Emittance Traceability Objectives:

- To develop a traceable standard for measuring thermal emittance
- Required for ISO 17025 accreditation
- Increases accuracy and credibility of CRRC product ratings
- Subcommittee is evaluating multiple pathways based on technical feasibility and cost
- Make recommendation to Board by end of 2015



# Methods & Instruments Subcommittee (cont.)

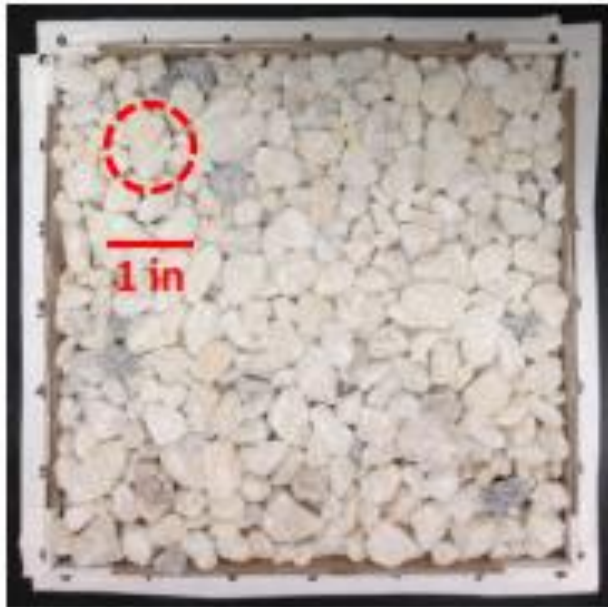


Image: Levinson and Chen 2014

## 2. Aggregate Test Method Objectives:

- Finalizing specification for assembling test samples
- Addressing question of how AITLs will take aged measurements without disturbing product samples
- Getting input of aggregate manufacturers
- Making recommendation to TC

# Methods & Instruments Subcommittee (cont.)

## 3. ASTM C1549 Update Objectives:

- Evaluate impact of adding new instrument to CRRC test method specifications
  - Include specification to CRRC-1 Program Manual
- Recommendation to Technical Committee by end of 2015

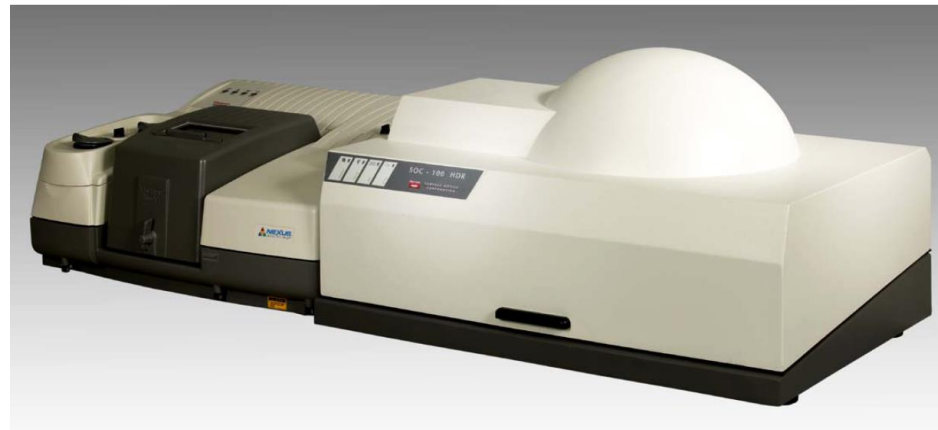


Image: Surface Optics



# Rough Substrates Working Group

2012

- RRCI and RCMA studies find solar reflectance lower for coatings on rough substrates

2013

- Technical Committee voted for dual ratings for coatings
- Draft test procedure developed

2015

- Working group designed round robin procedure
- CRRC working with RCMA to identify manufacturer participants

# Rough Substrates Working Group (cont.)

## Next Steps:

- Conduct round robin testing to verify technical procedure
- Develop product listing approach





# ASTM E408 Working Group

Revisions to  
E408  
(complete)

ASTM  
Approval  
(complete)

Design  
Round  
Robin Study

Run study &  
analyze  
results





# Method Evaluation Working Group

2013-2015

- Studying data from C1371 - Slide Method round robin to develop statistical approach to adopt for other proposed test method changes

June 2015

- ARMA has completed analysis and proposal. Analysis will provide guidance on methods to be used in future test method updates

August  
2015

- Findings and recommendation presented to Technical Committee in August



# Upcoming Meetings

- August 13 – Conference call
  - 2 hours (10 a.m. – 12 p.m. Pacific)
- October 22 – In-person
  - Denver, Colorado
  - All day
- Contact [sarah@coolroofs.org](mailto:sarah@coolroofs.org)



# Questions

