Technical Committee Update

Membership Meeting
June 19, 2014

Image courtesy of DECRA Roofing Systems
# Committee Roster

## 2014 Technical Committee Roster with Alternates

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

- Oct 2013 – TC approved
- DRM reflectance is a function of the solar position (time, date, location), surface orientation, and surface tilt
- CRRC Study conducted by Dr. Hashem Akbari
- Board approved rating method
  - Report one value for annual performance
- Task group developing standard test method
Mono-Color Blend Aged Rating Calculation

- Oct 2013 - TC approved ratings calculation for aged solar reflectance for:
  - Variegated shingles
  - Granule-surfaced roll products – *Pending BOD approval*

\[
\left( \sum_{i=1}^{n} r_i u_i \right) = R
\]

- \( r_i \) = Solar reflectance of granule color \( i \)
- \( u_i \) = Percent usage of granule color \( i \)
- \( n \) = Number of granule colors
- \( R \) = Solar reflectance of shingle

Example

\[
\left( \text{Black Granule Reflectance} \right) \times \left( \text{Black Granule Percent Usage} \right) + \left( \text{White Granule Reflectance} \right) \times \left( \text{White Granule Percent Usage} \right) = \text{Overall Shingle Reflectance}
\]

\[
0.01 \times \frac{30}{100} + 0.50 \times \frac{20}{100} = 0.11
\]
Accelerated Aging Protocol

- May 2014 – TC approved
- LBNL study developed method that mimics soiling and weathering in 3 days
- Simulates aged solar reflectance ratings
- Involves spraying mixture of dust, dirt, salts, etc.
- **Pending BOD approval**

![Image: Sleiman et al. 2014 Lawrence Berkeley National Laboratory](image-url)
Aggregate Test Method

• Oct. 2013 – TC approved “Box of rocks” test method. “Mock shingle” to be tested alongside to confirm performance

• Developing test spec with industry
Rough Substrates for Coatings

- April 2013 – Board approves testing of coating products on rough substrates
- Working Group develops draft procedure
- Next steps: R&R study evaluation
Working Groups
NIST Traceable Standard

• National Institute of Standards & Technology

• Development of traceable standard for measuring thermal emittance
  – C1371 and E408

• Working group garnering support
E1918 Precision & Bias

- Laboratory testing (complete)
- Analyze data (complete)
- Develop P&B statement
- Update E1918 standard
E408 Consideration

- Revisions to E408 (complete)
- ASTM Approval (complete)
- Design Round Robin Study
- Run study & analyze results
Method Evaluation

• Working group to evaluate technical basis for retesting of CRRC products
• Conducted round robin study of Slide Method impacts
• Will determine technical requirements of retesting if needed
CRRC-1 Test Method 1

Precision Statement

• Conducting precision study for CRRC-1 Test Method 1
• Will evaluate repeatability and reproducibility
• Study is currently on hold until other studies are complete
Upcoming Meetings

- August 14 – Conference call
  - 2 hours (10 a.m. – 12 p.m. Pacific)
- October 21 – In-person
  - New Orleans, LA
  - All day
- Contact sarah@coolroofs.org
Questions