TECHNICAL COMMITTEE UPDATE

Annual Membership Meeting
June 15, 2016
• Charged with understanding and resolving core science and technical issues

• Serves an advisory committee to the Board
  – Makes non-binding recommendations

• Comprised of 32 members (16 voting)
  – Wide representation of CRRC membership (Class A and B)

• Meets 4 times per year
  – Working groups meet more frequently
<table>
<thead>
<tr>
<th>Voting Member</th>
<th>Company</th>
<th>Alternate</th>
<th>Company</th>
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<tr>
<td>Tim McQuillen</td>
<td>Firestone Building Products</td>
<td>Steve Heinje</td>
<td>Quest Construction Products</td>
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<td>Ronnen Levinson</td>
<td>Lawrence Berkeley National Laboratory</td>
<td>Hashem Akbari</td>
<td>Concordia University</td>
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<td>Andre Desjarlais</td>
<td>Oak Ridge National Laboratory</td>
<td>Chad Fisher</td>
<td>UL</td>
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<td>Gary Whittemore</td>
<td>Sika Sarnafil, Inc.</td>
<td>Mike Ennis</td>
<td>Single-Ply Roofing Industry (SPRI)</td>
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<td>Bill Morgan</td>
<td>Malarkey Roofing</td>
<td>Marcin Pazera</td>
<td>Owens Corning Roofing and Asphalt</td>
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<td>Scott Kriner</td>
<td>Metal Construction Association</td>
<td>Dan Walker</td>
<td>Metal Building Manufacturer's Association</td>
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<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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<td>Ted Best</td>
<td>Valspar</td>
<td>Mark Thimons</td>
<td>American Iron &amp; Steel Institute</td>
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<td>Wade Shepherd</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, Vice</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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<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 AND STANDARD PRACTICES
DIRECTIONALLY REFLECTIVE MATERIALS TEST METHOD

2013
- CRRC helped fund study on measuring solar reflectance of DRM
- Board adopted product rating method in November based on study
- DRM incorporated rating method into CRRC-1 Program Manual

2014
- Technical Committee working group developed test method for measuring solar reflectance of DRM

2015
- Round robin study of draft test method completed
- Technical Committee approved the test method in October
- Board approved adoption of test method in November
- CRRC-1 Program Manual updated to include test method

2016
- CRRC pursuing a standalone ASTM standard for DRM test method
• Technical Committee approved procedure preparing and measuring the radiative properties of variegated shingle specimens for the CRRC Rapid Ratings Program (also known as the Variegated Shingle Template Method)

• Developed by shingle manufacturer with input from CRRC Methods & Instruments subcommittee

• Procedure can be found in appendix of CRRC-1 Program Manual
• Approved by Technical Committee in Oct. 2015

• Developed by Method Evaluation Working Group

• Serves as an internal document to assist the Committee with the technical evaluation of a proposed test method

• Provides CRRC with guidance when evaluating whether products should be re-tested under a new test method

• Some key criteria:
  − Proposed method should be as accurate as current method
  − Round robin study of proposed test method
  − Evaluate benefits of switching to proposed method
E1918 PRECISION AND BIAS STATEMENT


• CRRC conducted Interlaboratory study (ILS) and developed precision and bias (P&B) statement

• CRRC submitted draft P&B statement to ASTM committee for approval

• ASTM will be publishing the P&B statement

• Additional ILS may be requested on granule-surfaced products per request of committee member
• Emittance traceability – CRRC supporting Devices & Standards in development of traceable standard
• Technical Committee evaluation of potential research projects
• 20+ project ideas being considered
• Methods & Instruments (M&I) subcommittee established in October 2014 at the direction of the Technical Committee

• 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 Technical Committee

• 2015-2016 topics of focus:
  1. Emittance traceability (completed)
  2. Aggregate test method (completed)
  3. Rapid Ratings shingle procedure (completed)
  4. Potential C1549 Update (ongoing)
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

2016
- Round robin conducted
- Results to be presented to Technical Committee in August
- Board to develop product listing approach later this year
2014
• Studying data from C1371/Slide Method round robin to develop statistical approach to adopt for other proposed test method changes

2015
• ARMA completed analysis and proposal. Analysis will provide guidance on methods to be used in future test method updates
• Findings presented to Technical Committee in August
• Developed guide for evaluating new test methods that has been approved by Technical Committee

2016
• ARMA will present analysis to Technical Committee in October
Revisions to E408 (complete)
ASTM Approval (complete)
Development of emittance traceable standard
Design Round Robin Study
Run study & analyze results
UPCOMING MEETINGS

• August 18, 2016 – Conference call
  – 2 hours

• October 19, 2016 – In-person meeting
  – Kansas City, Missouri
  – All day

• Contact sarah@coolroofs.org or Vanessa@coolroofs.org
QUESTIONS?