



# ANSI, Codes & Programs Update

Membership Meeting  
June 27, 2012



# CRRC-1 Standard Background

The reason for developing a CRRC “standard” was in response to critics of the CRRC for not having a consensus developed independent document. In layman's terms, that meant a document that was developed under a consensus process, written in mandatory language, and which does not prescribe a proprietary policies, products or actions. (i.e.. Independent of the CRRC Product Rating Program)



# CRRC-1 Standard

- CRRC-1 Standard approved November 16, 2010
  - Can be used by the national model codes and standards developers
- CRRC-1 Program Manual now references the CRRC-1 Standard





# Markets

- International Code Council:
  - International Energy Conservation Code
  - International Residential Code
  - International Green Construction Code



## Markets

- American Society of Heating Refrigerating and Air-conditioning Engineers (ASHRAE)
  - Standard 90.1 (Commercial Energy),
  - Standard 90.2 (Residential Energy),
  - Standard 189.1 (Green Standard)



## Markets

- Jurisdictions, US and foreign
- Government agencies
- Voluntary green, sustainable and/or high performance programs (e.g. LEED, GBI, ULE, ICC-ES, IAPMO, etc.)



## Impacts

The following entities are able to retain their current reference to the CRRC-1 “Roof Product Program”:

- US EPA Energy Star Roof Program
- California Energy Commission
- City of Philadelphia, Cool Roof Provisions



## Current Status

- Standard has undergone another public review and ANSI review.
- We are aiming for ANSI approval by the end of 2012.
- This revision is intended to be ready for inclusion/updating in the upcoming editions of ICC codes and ASHRAE standards.





# Consensus Body Members

<b>First</b>	<b>Last</b>	<b>Company</b>	<b>Member Type</b>
Rick	Olson	Tile Roofing Institute	Producer
Richard	Snyder	CertainTeed Corporation	Producer
Dwayne	Wacenske	Firestone Building Products LLC	Producer
Joseph	Schwetz	Sika Sarnafil	Producer
Jonathan	Humble	American Iron and Steel Institute	Producer
Chris	Salazar	Karnak Corporation	Producer
Steve	Thorsell	ICC-ES	User
David	Yarbrough	R&D Services	User
Peyton	Collie	Sheet Metal and Air Conditioning Contractors' National Association	User
Mark	Graham	National Roofing Contractors Association	User
Stewart	Relyea	Intertek - Middleton	User
Ted	Michelsen	Michelsen Technologies, LLC	User
Mike	Ennis	SPRI	User
Hugo	Destailats	Lawrence Berkeley National Laboratory	General interest
Andre	Desjarlais	Oak Ridge National Laboratory	General interest
Phillip	Smith	FM Approvals	General interest



## Next Steps

- Updating of new editions of the CRRC-1 Standard in national model codes and standards, as necessary.
- Will require oversight of national model codes and standards developers calendar.
- If other organizations adopt or incorporate the CRRC-1 Standard will require oversight to update, as necessary.



# For More Info

Visit the ANSI webpage on the CRRC site

**CRRC**  
COOL ROOF  
RATING COUNCIL

**CRRC Standards Development**  
Last update: May 19, 2011

View the [CRRC-1 Standard](#).

**2011-2012 ANSI Consensus Body Review Process**

**Current Status**  
First Public Comment Period: May 13 - July 12, 2011:  
The CRRC-1 Standard is open to public comments from May 13, 2011 to July 12, 2011.

All members of the public have the opportunity to propose changes to the CRRC-1 Standard. Comments must be submitted to CRRC staff in writing (either by email or letter) and received by the end of the designated public comment period in order to be considered. Comments must be submitted using the public comment form. Submission instructions are included in the public comment form.

**All Public Comments Must Be Received by 11:59 PM Pacific Standard Time on July 12, 2011**

**Key Documents**

- [CRRC-1 Standard](#)
- [Public Comment Form](#)
- [Procedures for the Development, Revision, and Withdrawal of CRRC Standards](#)

**Consensus Body Roster**

- [2011-2012 ANSI Consensus Body Roster for the Review of the CRRC-1 Standard](#)

**Abbreviated Schedule**

Date	Action
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<http://coolroofs.org/StandardReview.html>



# ASHRAE Standard 90.1 (Commercial Energy)

- ASHRAE 90.1-2010 was published in November 2010
- CRRC-1 Product Rating Program is referenced.
  - CRRC-1 Standard is included in the 2011 Addenda
- Mandatory prescriptive cool roof requirements:

<b>Minimum 3-year aged SR</b>	<b>Minimum 3-year aged TE</b>	<b>Minimum 3-year aged SRI</b>
0.55	0.75	64



# ASHRAE Standard 189.1 (High Perform. Green)

- Published in January 2011
- 75% of roof surface of buildings in climate zones 1-3 = covered with cool roofing
  - Surfaces covered in renewable energy systems or green roofs do not count towards total.

<b>Roof Slope</b>	<b>Minimum Initial SRI</b>	<b>Or</b>
≤ 2:12	78	ENERGY STAR
>2:12	29	



# ASHRAE Standard 189.1 (High Perform. Green)

- Exceptions
  - A non-cool roof can be used if simulation shows that the roof demonstrates at least 2% less annual energy cost and CO<sub>2</sub> production than a qualifying cool roof
  - Roofs over parking or semi-heated spaces must have minimum SRI of 29
    - New concrete without added pigment can assume and SRI of 35 without measurement



# ASHRAE Standard 189.1 (High Perform. Green)

- 2011 edition only references individual ASTM test methods.
- Standard 189.1 committee is working on updating to recognize CRRC-1 Standard for future edition.



# International Energy Conservation Code

- 2012 version published April 20, 2011
- Contain cool roof provisions, but only ASTM test methods.
- Focus will be 2013 code cycle to introduce CRRC-1 Standard.
- See [www.iccsafe.org](http://www.iccsafe.org).





# International Green Construction Code

- 2012 IgCC published March 27, 2012
- The language references the CRRC-1 Standard, and also the ASTM test methods.
- See [www.iccsafe.org](http://www.iccsafe.org) for more info.



# International Green Construction Code

- 75% of roof surface of buildings in climate zones 1-3 are to be covered with green or cool roofing
  - Surfaces covered in solar thermal collectors or PV systems do not count towards total.

<b>Roof Slope</b>	<b>Minimum Aged SR</b>	<b>Minimum Aged TE</b>	<b>Minimum Aged SRI</b>
≤ 2:12	0.55	0.75	60
> 2:12	0.30	0.75	25



# CALGreen Building Standards Code

- 2010 CALGreen Code requirements effective January 1, 2011.
- Applicable to all building types.
- State jurisdictions can adopt
  - Tier 1 (SBD requirements), or
  - Tier 2 (15% > than SBD)



# CALGreen Building Standards Code

## Tier 1 Cool Roof Requirements

Roof Slope	Roof Weight	Climate Zone	Minimum 3-year SR	Thermal Emittance	SRI
≤ 2:12	N.A.	13 & 15	0.55	0.75	64
> 2:12	< 5 lbs./ft <sup>2</sup>	10-15	0.2	0.75	16
	≥ 5 lbs./ft <sup>2</sup>	1-16	0.15	0.75	10



# CALGreen Building Standards Code

## Tier 2 Cool Roof Requirements

<b>Roof Slope</b>	<b>Roof Weight</b>	<b>Climate Zone</b>	<b>Minimum 3-year SR</b>	<b>Thermal Emittance</b>	<b>SRI</b>
≤ 2:12	N.A.	2, 4, 6-15	0.65	0.85	78
> 2:12	N.A.	2, 4, 6-15	0.23	0.85	20



# CALGreen Building Standards Code

- Exceptions for thermal mass construction projects of 25 lb/ft<sup>2</sup>.
- Roofing Products not certified with the CRRC are provided default values
  - Asphalt shingles = (SR) 0.08 (TE) 0.75
  - All other products = (SR) 0.10 (TE) 0.75



# CA Title 24 Energy Code

- 2013 Version approved May 31, 2012
- Effective January 1, 2014
- New prescriptive standards
- New insulation tradeoff for prescriptive



# CA Title 24 Energy Code

- Prescriptive standard for **low-slope** products
  - Non-residential buildings in all CZ
  - High-rise residential buildings and hotels and motels in CZ 2-15

<b>Title 24 Version</b>	<b>Minimum 3 year Aged SR</b>	<b>Minimum TE</b>	<b>Minimum SRI</b>
<b>2008</b>	0.55	0.75	64
<b>2013</b>	0.63	0.75	75





# CA Title 24 Energy Code

- Prescriptive standard for **steep-slope** products
  - Non-residential buildings in all CZ
  - High-rise residential buildings and hotels and motels in CZ 2-15

Title 24 Version	Minimum 3 year Aged SR	Minimum TE	Minimum SRI
2013	0.20	0.75	16



## Future Work

- When the CRRC-1 Standard is updated, we will also submit comments to update:
  - ASHRAE Standard 90.1 (Commercial Energy Code)
  - ASHRAE Standard 189.1 (High Performance Green Standard)
  - ICC-International Green Constr. Code



## Future Work

- Obtain recognition in:
  - ICC International Energy Conservation Code (IECC) 2015 edition
  - ICC International Residential Code-Energy Provisions (IRC-Energy) 2015 edition
  - Other state or jurisdictional code adoptions



# Existing References

- In 2012 the CRRC-1 Product Rating Program and the CRRC-1 Standard will be coordinated so that there will not be a need for existing jurisdictions, who reference the CRRC-1 Product Rating Program, to modify the technical provisions of their adopted code.



## Existing References

- The Program will reference the Standard.
- However, the Standard will NOT reference the Program. The Standard will remain independent from the Program.
- The reference date of the Program by the jurisdiction may need to be updated when appropriate.



# Questions

