

Solar America Board for Codes and Standards

Collaborate • Contribute • Transform



New System Fire Class Rating Test in UL Standards

Presented by

Bill Brooks, PE

Brooks Engineering

SolarABCs Code Official Panel Lead



Solar ABCs Research Project

Investigate whether and how the presence of standoff-mounted PV arrays may affect the fire class rating of common roof covering materials.





Finding

The fire classification rating of the PV module is NOT a good predictor of the fire class rating of the PV module and roof as a system.

Solar America Board for Codes and Standards

Collaborate • Contribute • Transform



Summary and Results to date

FLAMMABILITY TESTING OF STANDARD ROOFING PRODUCTS

In the Presence of Standoff-mounted
Photovoltaic Modules

A Solar ABCs Interim Report

Solar America Board for Codes and Standards

www.solarabcs.org



Flammability Testing of Standard Roofing Products In the Presence of Standoff-mounted Photovoltaic Modules

Report is available at:

<http://www.solarabcs.org/flammability/>



Current Work

- UL 1703 Standards Technical Panel is considering a *system* fire classification rating to replace the current module fire classification rating.
- UL is conducting PV and roof material and component tests to begin the development of the new PV system fire classification rating



UL 1703 Fire Rating Task Group

- Fire Rating Task Group established at STP meeting in December 2010.
- Proposal was drafted for group to review in March 2011.
- Proposal is shifting the UL 1703 standard from module test to system test to address 2012 IBC requirement. IBC does not apply to residential one- and two-family dwellings.



UL 1703 Fire Rating Proposal Highlights

- Create type classification of modules so that one test can represent all similar modules.
- Define typical roofs for tests: one for sloped roof tests and one for flat roof tests.
- Use critical radiant flux of PV module laminate and roofing materials to prove the characterizing tests are valid.
- Exempt systems with perimeter protection from burning brand test.



Status of Proposal

- Two Task Group meetings have been held this year.
- Proposal has been modified based on comments from Task Group and UL testing.
- Proposal will be presented to STP next week.
- If approved, UL 1703 will be updated in early 2012 so that manufacturers can begin testing to the new requirement.