



ASTM G197 Task Group

Chair: Joe Hayden/Pella Corporation

Status Update

September 22, 2014



Current TG Objective

Develop an implementation plan/schedule for updating to ASTM G197 spectral weighting function

Current weighting function (ASTM E891/ISO 9845-1) was developed in early 1980s

Task Group resurrected at Fall 2013 Conference in Tempe



Task Group Members

Joe Hayden (chair)

Dennis Anderson

Mike Buchanan

Dave Cooper

Charlie Curcija

Willie duPont

Chris Gueymard

Scott Hanlon

Jacob Jonsson

Jim Larsen

Roger LeBrun

Christian Kohler

Una Money Penny

Bipin Shah

Tim Singel

Jason Theois

Mike Thoman

Dan Wacek



Activities & Summary since March 2014

- Conducted 5 conference calls
- Agreement that E891/ISO 9845-1 is outdated and should be phased out of NFRC procedures
- Extensive discussion about appropriateness of G197 for NFRC
- Agreement that G197 in its current form may not be optimal for NFRC
- Agreement to recommend to OPS that the TG be “re-invented”



G197 Discussion

- Atmospheric data for G197 comes from ASTM G173
- Developed by ASTM Committee G03
 - Weathering and Durability to represent materials testing and PV solar power generation stations



G197 Discussion

- Atmospheric data is based on
 - 15 western states with an average altitude of 4600 ft.
 - Aerosol Optical Depth (AOD) of 0.084 (very clear air)
 - Conditions more typical of winter than summer



G197 Discussion

➤ Conclusion

- ASTM G197 in its current form does not represent an appropriate average for the majority of North America



Task Group Recommendation

- Re-invent this task group
- Change TG name to:

NFRC Solar Spectrum Task Group



Task Group Recommendation

➤ Change TG scope:

This task group shall analyze the use of a standard solar spectrum/spectra for NFRC use, which affects simulated Solar Transmittance and SHGC ratings.

This includes the following four tasks:



Task Group Recommendation

- 1) *Create a documented advantage-disadvantage assessment of changing spectra, including an assessment of the effect on stability in NFRC programs*
 - *Document any issues with the current spectrum and how the proposed changes would address these issues.*



Task Group Recommendation

- 2) *Investigate new/existing standard solar spectra for NFRC use based on current best knowledge of solar energy and selected environmental conditions and comparing the new spectra to the current spectrum*
- *Document how any new/existing spectra is better or more accurate than the current spectrum for NFRC programs*



Task Group Recommendation

- 3) *Strive to have any new/existing spectra adopted by a standards organization (ASTM, ISO, etc.), if applicable.*
- *A documented effort should be made for international harmonization both on the spectra and its use.*

Task Group Recommendation

- 4) *Create a documented assessment (including pros and cons) of changing calculation methodology from*
- *direct solar spectra at normal incidence to a new methodology of*
 - *an updated direct solar spectra at normal incidence combined with diffuse solar spectra at hemispherical angle of incidence.*
- *Include implications of the new methodology being out of alignment with ISO 15099 and/or the need to update ISO 15099.*



Questions ???

