

AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS, INC.
1791 Tullie Circle, NE / Atlanta, GA 30329
(404) 636-8400

TC/TG/TRG MINUTES COVER SHEET

(Minutes of all TC/TG/TRG Meetings are to be distributed to all persons listed below within 60 days following the meeting.)

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|------------------|----------------------|------------------|---|
| TC/TG/TRG NO.: | 4.5 | TC/TG/TRG TITLE: | Fenestration |
| DATE OF MEETING: | June 24, 2022 | LOCATION: | Virtual (Webex) |
| DATE ISSUED: | | RECORDED BY: | Niraj Kunwar on behalf of Thanos Tzempelikos |

| Name | Affiliation | E-Mail | Member (VM, CM, Guest) | Present |
|--|--------------------------------|--|-------------------------------|----------------|
| <i>Sagar Rao (Research)</i> | AEI | sagar.rao@outlook.com | VM | Y |
| <i>Mahabir Bhandari (Chair)</i> | Oak Ridge National Lab | bhandarims@ornl.gov | VM | Y |
| Christian Kohler | LBNL | cjkohler@lbl.gov | VM | Y |
| <i>Aziz Laouadi</i> | NRC Canada | Aziz.laouadi@nrc.ca | VM | N |
| <i>Iason Konstantzos (Vice/Program Subc)</i> | University of Nebraska Lincoln | iason.konstantzos@unl.edu | VM | Y |
| <i>Thanos Tzempelikos (Secretary)</i> | Purdue University | ttzempel@purdue.edu | VM | N |
| <i>Gordon Thomas</i> | DASMA | gthomas@thomasamc.com | VM | N |
| <i>Bipin Shah</i> | WinBuild Inc | Winbuild.usa@gmail.com | VM | Y |
| <i>Anil Parekh</i> | Natural Resources Canada | Anil.Parekh@NRCan.gc.ca | CM | Y |
| <i>Charlie Curcija (Calculation Methods)</i> | Lawrence Berkeley National Lab | dccurcija@lbl.gov | CM | N |
| <i>Peter Lyons</i> | Peter Lyons and Associates | peter.lyons@fenestralia.com | CM | Y |
| <i>Samuel Taylor</i> | | Samuel.taylor.sr@gmail.com | CM | Y |
| <i>Ravi Srinivasan (Handbook)</i> | University of Florida | sravi@ufl.edu | CM | Y |
| <i>Ratnesh Tiwari</i> | University of Maryland | ratnesht@gmail.com | Guest | Y |
| <i>Maureen Grasso</i> | NC State University | mgrasso@ncsu.edu | CM | Y |
| <i>Niraj Kunwar</i> | Oak Ridge National Lab | Kunwarn1@ornl.gov | CM | Y |
| <i>Alliston Watts</i> | NREL | alliston.watts@nrel.gov | Guest | Y |
| <i>Won Hee Ko</i> | NJIT | wonhee.ko@njit.edu | PCM | Y |
| <i>Simon Vidanovic</i> | LBNL | DVVidanovic@lbl.gov | Guest | Y |
| <i>Mike Rhoden</i> | VELUX AMERICA LLC | Mike.rhoden@velux.com | PCM | Y |
| <i>Vance Payne</i> | NIST | Vance.payne@nist.gov | Guest | Y |
| Total voting members: 8 Voting members present: 5 | | | | |

Meeting started: 3:30 pm EST

SCOPE:

TC 4.5 is concerned with the identification and evaluation of all physical properties of (1) glasses and other glazing materials, (2) shading and shielding materials and devices, and (3) control devices and strategies which influence the radiant, conduction, and convection transfer of both heat and light through fenestration systems. It is also concerned with the development of procedures for calculating and measuring solar heat gain, daylight admission, and heat transfer through fenestration systems.

COMMITTEE AND MEETING INFORMATION

TC Web Site: <http://tc0405.ashraetcs.org>

Basecamp: <https://3.basecamp.com/3106353/projects>

INTRODUCTIONS AND ROSTER CHECK

- 5 VMs present, quorum was achieved.

APPROVE MEETING AGENDA

Agenda was approved unanimously.

APPROVE MINUTES FROM PREVIOUS MEETING

ANNOUNCEMENTS (TC Chair)

TC LEADERSHIP

LIAISON REPORTS

Technical Activities Committee (TAC) – Vance Payne

- TAC and Board of directors are trying to make ASHRAE move faster and publish faster
- TAC is trying to get activities sheet/form , maybe a beta version in next three meetings

Research Activities Committee (RAC)

- No liaison present.
- Contact: RL4@ashrae.net

RBC Liaison

- No update provided

Conferences and Expositions Committee (CEC)

No liaison present.

Handbook Committee

No liaison present.

Chapter Technology Transfer Committee

No liaison present.

ASHRAE Learning Institute (ALI) / Professional Development Committee (PDC) –

No liaison present.

Special Publications
No liaison present.

Standards
No liaison present.

SUBCOMMITTEE REPORTS

Research (Sagar Rao)

WS 1926:

Vote - 4 yes ; 0 No ; Abstention 0

Motion passed to send this document with the comments/answer to RAC

Evaluation of PES (1789-RP)

Two proposal received

State of art review-optical model-thermal model- validating the optimal and thermal model-putting the components together

University of North Texas : 82.1

Doesn't have experience on optical properties measurement of fenestration

They have experience on measurement of other optical properties

University of Atmajay , Indonesia : 88.9- They will use public domain software

-PI has experience in optical properties measurement

Anil, Aziz, Iason, Sagar and Charlie provided the review

University of Atmajay proposal is the winner in this one

Vote: Yes 4; No 0; Abstentee 0;

Long-Range Research Plan:

Characterizing Thermal Performance of VIG

Need to discuss what is the priority and what are the things that are already done

Development of an Online Tool.....not a priority right now

Dynamic window shades and glass to support decarbonization of buildings

Long term performance and durability of dynamic window of interest

Embodied carbon- need significant industry involvement

Program (Iason Konstantzos)

Proposed Seminars

Few items for Atlanta 2023- 3 seminar as program items

- Deadline for seminar submission is August 9th- Contact Iason before that

Emerging fenestration technologies- Ratnesh will chair this

Potential seminar topics:

Windows and decarbonization (seminar)

Life cycle cost of windows and embodied carbon

Proposed Forum

Emerging Technologies- Robert Tenent might want to chair that

Iason looking to handover some responsibility to anyone interested

Calculation Methods (Charlie Curcija)

No action item

Handbook (Ravi Srinivasan)

- Ravi provided update on different task being carried out on handbook update
- Sam Taylor might send some bibliography to update the handbook

Standards (Chris Mathis)

Not attending

TC 4.5 Website (Niraj Kunwar)

Needs access to the website due to new login procedure

OLD BUSINESS

None.

NEW BUSINESS

None.

ADJOURN

5:30 pm EST

Prepared by Niraj Kunwar on behalf of Thanos Tzempelikos