

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING  
ENGINEERS, INC.  
1791 Tullie Circle, N.E.  
Atlanta, GA 30329  
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TC MINUTES COVER SHEET

TC/TG/TRG NO. TC 5.2 DATE June 27, 2023

TC/TG/TRG TITLE Duct Design

DATE OF MEETING June 27, 2023 3:36 PM Eastern Time LOCATION Tampa (Hybrid)

MEMBERS PRESENT	TERM TO	MEMBERS ABSENT	Y E A	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
John Constantinide, Chair	6/30/23			Dr. Jamie Fine, Handbook, CM
Cindy Bittel, Vice Chair	6/30/25			Ralph Koerber, Code Interaction, CM
Akshay Bhargava, Secretary	6/30/23		X	Christopher Ruch, Webmaster, CM
Robert Reid, Programs	6/30/23			
Kevin Gebke, Research	6/30/23			
	6/30/25	Patrick Brooks, DFDB		
Dr. Stephen Idem, Endowment	6/30/23			
Vikram Murthy *	6/30/23			
Randy Young, Membership	6/30/23			

\* Member Non-Quorum  
**CM = Corresponding Member**  
**PCM = Provisional Corresponding Member**  
**G = Guest**

## DISTRIBUTION

All Members of TC plus the following:	
TAC Section Head	Kevin Marple
TAC Chair	Craig Messmer
2021 Handbook Liaison (Fundamentals)	Satesh Iyengar
2020 Handbook Liaison (Systems & Equipment)	
Research Liaison	Douglas C Scott
Standards Liaison	William F Walter
Staff Liaison	Steven J Hammerling

**ASHRAE 2023 WinterConference  
ASHRAE TC 5.2 Duct Design  
FULL COMMITTEE MEETING**

**AGENDA**

**Tuesday, June 27, 2023  
Time: 3:30 PM – 5:30 PM Eastern Time  
Location: Tampa Marriott Waterside, Florida Salon IV (2)  
Tampa, Florida, USA  
and  
Virtual Meeting**

Virtual meeting access information is available at the TC 5.2 website, located at <https://tc0502.ashraetcs.org/>.

- 1) **Call to Order**
- 2) **ASHRAE Code of Ethics Commitment** – John Constantinide  
“In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, inclusiveness and respect for others, which exemplify our core values of excellence, commitment, integrity, collaboration, volunteerism and diversity, and we shall avoid all real or perceived conflicts of interests.”
  - a) ASHRAE Code of Ethics: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>
  - b) ASHRAE Core Values: <https://www.ashrae.org/about/ashrae-s-core-values>
- 3) **Introductions and Attendance**
  - a) Recognize attendees
  - b) Quorum reached. 8 out of 9 voting members attending (Requires 5 present)
  - c) Corrections/additions and approve agenda. Randy Motion and Vikram second.
- 4) **2023 Atlanta and Spring Interim Meeting Minutes**
  - a) The DRAFT minutes have been posted to Basecamp in the Files > Minutes folder for Voting Members to review.
  - b) Approval of Minutes – Vikram motion, Bob Reid second. Motion moved.
  - c) Interim meeting minutes will be voted by Online letter ballot.
- 5) **Reminders – John Constantinide**
  - a) ASHRAE Mission: To serve humanity by advancing the arts and science of heating, ventilation, air conditioning, refrigeration and their allied fields.
  - b) ASHRAE Vision: A healthy and sustainable built environmental for all.
  - c) TC 5.2 Scope: TC 5.2 is concerned with the design, characteristics and construction of all types of ductwork for the handling of air and other gases, but does not include chimneys.
  - d) Virtual Meeting Protocols
  - e) TC 5.2 MBOs are reflected by our Strategic Plan and referenced on the agenda with asterisk symbols (\*\*)
- 6) **Section 5 Report** – Kevin Marple
  - a) Kevin requested all members to update the Bio.

b) TC Activity form is due Tuesday, June 27, 2023.

7) **Herman and Dorothy Behls Endowment** – Dr. Stephen Idem

a) No updates. Application will be coming in fall.

8) **Subcommittee Reports**

a) **Membership** – Randy Young

- i) Recognize new Provisional Corresponding Members (PCMs) since February 2023.
  - 1. 5 new members since Atlanta.
    - a. Jarrett Deschenes
    - b. Aaron Lowe
    - c. Zach Johnson
    - d. David Taritay
    - e. Matthew Dillon
- ii) Outreach plan to meet Strategic Plan goal to recruit at least two (2) TC members from the following industry segments\*\*:
  - a) Duct Design Engineers
  - b) Academics and Researchers Focused on Duct Design
  - c) Code Authorities/Authorities Having Jurisdiction
  - d) Building Owners/Managers and Owner Authorized Representatives
  - e) General Contractors, Mechanical/Sheet Metal (including SMACNA) Contractors, and Associated Technicians
- iii) Additional recruitment needed in categories c and d.\*\*

b) **Handbook** – Dr. Jamie Fine

- i) Status report on 2024 Handbook Revision (Duct Construction Chapter)
  - a) Comments were received and in process of being reviewed.

c) **Programs** – Robert Reid

- i) Status Report
  - a) TC 7.4 Energy Analysis asked us today to co-sponsor a workshop.
- ii) Grassroots Outreach Update\*\*: Aim for Strategic Plan goal of having at least one (1) ASHRAE Chapter seminar every six (6) months addressing a topic within the scope of TC 5.2.
  - a) Update from Chris Ruch and Randy Young on chapter program about ducted return –
  - b) Update from Larry Smith and Kevin Gebke about a possible seminar on DDG and DFDB to chapters
    - a. **Action Item** – John C. to reach out to CTTC for having RVCs to chapter ctcc chairs to schedule chapter presentation/meeting about DFDB. Also, create a Tech hour for Duct Fitting Data base.
    - b. Dr. Fine will be speaker for DFDB. Vikram, Kevin will be speaker for Duct Design Guide.
    - c. **Action Item** – Aakash (Program Chair) to assemble presentation for both DFDB and DDG. To assist.
- iii) Distinguished Lecturer Nominations\*\*: Aim for Strategic Plan goal of nominating DL candidates to CTTC to address one or more topics on duct systems leakage.

- a) Completed. Pat Brooks was nominated and selected for the DL Program.
- d) **Duct Design Guide (DDG)** – Larry Smith
  - a) Create an education program utilizing content from the Duct Design Guide.\*\*
  - ii) Create a plan to publicize the Duct Design Guide education program to ASHRAE and non-ASHRAE members.\*\*
    - a) Status on DDG/DFDB program at the AHRI Expo coinciding with the Atlanta Winter Conference
  - iii) Status of SI Version of DDG – No update.
- e) **Duct Fitting Database\*\* (DFDB)** – Jamie Fine
  - i) Subcommittee Report
    - a) Ongoing maintenance and updates.
    - b) **Action Item** – Bob and Kevin Gebke to review previous/historical CFD research study (RP1493, 1682) and provide summary on Basecamp. Dr. Fine will followup with TC 4.10 about CFD modelling. Dr. Idem, Steve Rogers, Kevin Gebke, Bob Reid and Dr. Fine will define scope for new project and develop and RTAR.
  - ii) Create a user guide assisting practitioners with utilizing the Duct Fitting Database, with a timeline for publication of the user guide.\*\*
    - a) Update on completion.
  - iii) Organize at least one (1) conference workshop or a TC-sponsored session that trains professionals on the Duct Fitting Database and accompanying user guide.\*\*
    - b) Completed Refer to update in 8d(ii)(a).
- f) **Research** – Kevin Gebke
  - i) Status of RTAR 1941
  - ii) Bob Reid – RTAR Proposal: “Duct Take-offs, Taps”
    - a) In progress.
  - iii) Brandon Cudequest – WS 1919 Overview
    - a) No Update
- g) **Codes & Standards Interaction** - Ralph Koerber
  - i) See Appendix A
  - ii) **SSPC 90.1 Liaison** – Ian Cavanaugh
    - a) Eli was present at the 90.1 subcommittee meeting.
- h) **Webmaster** – Chris Ruch
  - i) TC 5.2 Website: <https://TC0502.ashraetcs.org/>
  - ii) Talk to Chris about joining TC 5.2 Basecamp.
- i) **Historian** - Bob Reid
  - i) Status on Herman Behls Library.
    - a) All available documents are on Basecamp.
- j) **YEA** – Ian Cavanaugh
  - i) No updates.

**9) Deadlines**

**10) Notifications**

**11) Action Items**

TC 5.2 Duct Design Action Items			
Number	Description	Assigned to	Status
1	Feedback for Duct Construction handbook chapter will be solicited. – Completed.	Jamie Fine	Closed.
2	Create an ASHRAE chapter seminar on ducted returns – Transformed to research.	Chris Ruch & Randy Young	Closed.

**12) New Business**

- a) ASHRAE/SMACNA Standard 126-2020
  - i) John initiated motion in revision of the standard.– Voting: 7-0-0-1 CNV
  - ii) Craig, Bob, Kevin, Ralph, John will be the committee member. Kevin will be identified as chair.

**13) Adjournment**

Randy motion. Bob second.

Information about upcoming ASHRAE Conference Meetings are available at <https://www.ashrae.org/conferences/ashrae-conferences>.

## Appendix A

### Codes & Standards Update

#### 1. Underwriters Laboratories

- UL181 Standards
  - UL181, UL181A, & UL181B
    - No new standards activity to report at this time.
    - UL USA / UL Canada - harmonization survey to members discussing future potential harmonization of US and Canada versions.
- UL2518 Air Dispersion Systems Standard
  - UL 181 TC voted to expand the scope for UL2518 to allow testing and listing of air dispersion systems for use under negative pressure conditions.
  - UL 181 TC voted against expanding the scope of UL 2518 to allow use of air dispersion systems within raised floor plenums.
- UL2158A Dryer Vent Transition Duct Standard
  - 2021 revision to the standard included new pass/fail criteria. Instead of complete penetration, ducts fail if the inner or outer surface is ruptured during the testing.
    - Manufacturers with products approved to UL2158A received notice from UL regarding a retest and re-approval of their ducts to the revised puncture test requirements. Final effective date for retest and approval is 6/30/23.
  - A proposal was submitted to the TC to change the standard back to the original wording.
    - The proposal was successfully balloted and the standard revised in April per the proposal.
    - Manufacturers should receive a notice from UL regarding the revision and withdrawal of the retesting and re-approval requirement.
- S110 Air Duct Standard (Canada)
  - 3<sup>rd</sup> Edition reaffirmed for ANSI continuation in April 2023.
- S102, & S102.2 Surface Burn Characteristics Standards (Canada)
  - No activity to report.

## 2. NFPA 90A & 90B Standards

- 2024 Edition revision cycle continues in process.
  - Second Draft reports posted on February 1, 2023.
    - 90A standard was reorganized bringing Air Ducts & Air Connector requirements all together in a separate Chapter 6.
    - 90B had no substantive proposed changes or TC decisions affecting ducts.
  - Public comments received until February 28, 2023.
  - Notice of Intent to Make a Motions (NITMAMs) accepted until March 28, 2023.
    - No NITMAMs received.
  - Appeals accepted up to April 13, 2023.
- Inputs for the 2027 editions closed in May 2024.

## 3. International Code Council

- The IECC and IRC-Ch 11 were developed by the ICC Standards Development Process and not included in the Group A and Group B format.
  - Residential and Commercial Development Committees created
    - Subcommittees created as needed.
- The overall ICC format is changing for future code development.
- 2027 Cycle Timeline
  - Application for Code Development Committees - 6/1/23
  - Group A
    - Open for proposals - 10/16/23 to 1/8/24
    - Posting of proposed changes - 2/26/24
    - Committee Action Hearing #1 - 4/7 to 4/16/24
    - Posting of CAH #1 - 5/16/24
    - Open for comments to CAH #1 - 5/16/24 to 7/8/24
    - Posting of comments to CAH #1 - 9/5/24
    - Committee Action Hearing #2 - 10/23 to 10/31/24
    - Posting of CAH #2 - 12/2/24
    - Open for comments to CAH #2 - 1/20/25 to 3/14/25
    - Post public comments - 3/5/26
    - Public comment hearings - 4/19 to 4/28/26
  - Group B
    - Open for proposals - 10/15/24 to 1/10/25

- Posting of proposed changes - 3/13/25
- Committee Action Hearing #1 - 4/27 to 5/6/25
- Posting of CAH #1 - 6/3/25
- Open for comments to CAH #1 - 6/3/25 to 7/8/25
- Posting of comments to CAH #1 - 8/27/25
- Committee Action Hearing #2 - 10/8 to 10/16/25
- Posting of CAH #2 - 11/13/25
- Open for comments to CAH #2 - 11/13/25 to 1/5/26
- Post public comments - 3/5/26
- Public comment hearings - 4/19 to 4/28/26

#### 4. IAPMO - UMC 2024 Revision Cycle

- 2024 Cycle is complete
  - 2027 Cycle has started with the selection of TC members and an initial TC meeting held on 4/19/23.
- Call for proposals - 7/3/23 to 1/2/24
  - Distribute proposals to TC - 4/1/24
  - TC meeting - 5/9 to 5/10/24
  - Report on proposals - 8/9/24

#### 5. Canada National Model Codes

- The Canadian Board for Harmonized Construction Codes (CBHCC) is seeking input from stakeholders, experts, code users, and the public on the Wave 2 draft policy recommendations for developing and implementing greenhouse gas emissions provisions in the National Model Codes before finalizing the policy framework.
  - Consultation on Wave 1 policy recommendations began on February 6, 2023 and ended on March 30, 2023
  - Consultation on Wave 2 policy recommendations begins on May 1st, 2023 and ends on June 15, 2023

#### 6. State Building Codes

- Georgia - Provision for residential R-Value reduction for flexible duct from 9/1/22 to 6/30/23. Checking if the revision expires still on 6/30.
- North Carolina - Duct R-Value requirement reduction to R-4.2 for two years in response to duct availability issues.
- California Title 24 – noted there was potential confusion on duct R-value requirements in the new wording.