

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING  
ENGINEERS, INC.

180 Technology Parkway NW,  
Peachtree Corners, GA 30092  
404-636-8400

TC MINUTES COVER SHEET

TC/TG/TRG NO \_\_\_\_\_ TC 5.2 \_\_\_\_\_ DATE January 23, 2024

TC/TG/TRG TITLE Duct Design

DATE OF MEETING January 23rd, 2024 3:30 PM CST LOCATION Chicago, Illinois (Hybrid)  
[Click Here for "Join by Video" Instructions](#)

MEMBERS PRESENT	TERM TO	MEMBERS ABSENT	Y E A	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Cindy Bittel, Chair (Voting)	6/30/25			Dr. Jamie Fine, Duct Fitting Database Subcommittee Chair
Akshay Bhargava, Vice Chair (Voting)	6/30/25			John Constantinide, Handbook Subcommittee Chair
Christpher Ruch, Secretary/Webmaster (Voting)	6/30/25			Aakash Patel, Program Subcommittee Chair
Ralph Koerber, Code Interaction (Voting)	6/30/25			Kevin Gebke, Research
Dr. Stephen Idem, Endowment Subcommittee Chair (Voting)	6/30/25			Randy Young, Membership
Vikram Murthy* (Voting)	6/30/25			

\* 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, January 23, 2024  
Time: 3:30 PM – 6:00 PM CST  
Location: McCormick Place West, W176A (1)  
Chicago, Illinois, 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 – Cindy Bittel**

“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?      out of 6 voting members attending (Requires \_ present)
- c) Corrections/additions and approve agenda

**4) 2023 June Interim Meeting Minutes**

- a) The DRAFT minutes have been posted to on the [TC 5.2 Webpage](#) and [Basecamp](#) in the Files > Minutes folder for Voting Members to review. (*TC0502 Tampa Full Committee Minutes 20230627*)
- b) Approval of Minutes

**5) Reminders – Cindy Bittel**

- 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) Update

- b) TC Activity Form is due January 24<sup>th</sup>, 2024

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

- a) Travel ScholarshipFall
  - i) Introduce our scholarship winner Mostafa Saad
- b) Update to HVAC Designer Certification Award

**8) Subcommittee Reports**

**a) Membership – Randy Young**

- i) Recognize new Provisional Corresponding Members (PCMs) since June 2023.
- ii) Outreach to create 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 (*Additional recruitment needed*)
  - d) Building Owners/Managers and Owner Authorized Representatives
  - e) General Contractors, Mechanical/Sheet Metal (including SMACNA) (*Additional recruitment needed*)
  - f) Contractors, and Associated Technicians
- iii) Ask for volunteer to shadow Membership chair or become the next membership chair when Randy Young rolls off.

**b) Handbook – John Constantinide**

- i) Fundamentals Handbook, Chapter 21, Duct Design is being reviewed. The draft was posted on Basecamp on November 5, 2023, with distribution to the TC seeking comments at I-P and SI Ch21 Handbook.docx - ASHRAE TC 5.2 for ASHRAE. All Chapter revisions for the first round of revisions were due on December 15, 2023, as identified in the notice.
- ii) Comment review discussions are available for viewing on Basecamp at this folder: 2026 Revision - ASHRAE TC 5.2 for ASHRAE.

**c) Programs – Aakash Patel**

- i) Status Report
- ii) 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) Action Items Identified in Tampa 2023
    - i. **Action Item** – John Constantinide 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.
    - ii. **Action Item** – Aakash Patel (Program Chair) to assemble presentation for both DFDB and DDG. To assist.

**d) Duct Design Guide (DDG) – Larry Smith**

- i) 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.\*\*

- iii) Status of SI Version of DDG
- e) **Duct Fitting Database\*\* (DFDB) – Jamie Fine**
  - i) Subcommittee Report
  - ii) Ongoing Maintenance and Updates
    - a) Action Item Identified in Tampa 2023
      - i. **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.
  - iii) Create a user guide assisting practitioners with utilizing the Duct Fitting Database, with a timeline for publication of the user guide.\*\*
    - a) Update
- f) **Research – Kevin Gebke**
  - i) Status of RTAR 1941
  - ii) Bob Reid – RTAR Proposal: “Duct Take-offs, Taps”
    - a) Update
  - iii) Brandon Cudequest – RP-1919, The effects of duct size and aspect ratio on flow noise in elbows; Responsible Committee: TC 2.6 (Sound and Vibration); Co-Sponsors: TC 5.2 (Duct Design)
    - a) Update
- g) **Codes & Standards Interaction - Ralph Koerber**
  - i) **See Addendum A**
  - ii) **SSPC 90.1 Liaison** – Ian Cavanaugh
- h) **Webmaster** – Christopher 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.
- j) **YEA** – Ian Cavanaugh
  - i) Update

## 9) Deadlines

- a) Research deadlines
  - i) The next submission date for RTARs, PTARs and WSs is March 15, 2024.
  - ii) The standing RAC submission dates for new and revised RTARs and WSs are as follows each year:
  - iii) March 15 – RAC Spring meeting consideration in April
  - iv) May 15 – RAC Annual meeting consideration in June
  - v) August 15 – RAC Fall meeting consideration in Sept. or Oct.
  - vi) December 15 – RAC Winter meeting consideration in January

## 10) Notification



## 11) Action Items

TC 5.2 Duct Design Action Items			
Number	Description	Assigned to	Status
1	Programs - John Constantinide 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	John Constantinide	Assigned Tampa 2023
2	Programs - Aakash Patel (Program Chair) to assemble presentation for both DFDB and DDG. To assist	Aakash Patel	Assigned Tampa 2023
3	Duct Fitting Database (DFDB) - 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.	Bob and Kevin Gebke	Assigned Tampa 2023

## 12) New Business

## 13) Adjournment

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

## Addendum A

### 1. Underwriters Laboratories

- UL181 Standards
  - UL181, UL181A, & UL181B
    - UL181B proposal for two-week review and comment (10/6 to 10/20)
    - Consistency for Temperature Aging test requirements across Part I, Part II, and Part III (212°F/60days).
    - UL181B TC vote to approve proposal has been extended to 1/30/24 to allow members to review more details as to why UL set a different temperature requirement for mastic than for tape and plastic straps.
    - UL USA / UL Canada - harmonization survey to members discussing future potential harmonization of US and Canada versions.

### 2. NFPA 90A & 90B Standards

- 2024 Edition
  - 2024 edition is complete and published.
    - 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.
- 2027 Edition
  - NFPA is now accepting proposals for 2027 edition.
    - Proposal closing date is June 4, 2024.
    - Technical Committee meets to review proposals with First Draft Report posting date of March 25, 2025.
    - Public comments to First Draft accepted up to June 3, 2025.
    - Technical Committee meets to review comments with Second Draft Report posting date of March 3, 2026.
    - NITMAM closing date of March 31, 2026.
    - NITMAM posting date of May 12, 2026

### 3. International Code Council

- 2024 Edition
  - IPC & IMC
    - Released 8/31/2023
  - IECC & IRC
    - Expecting release in Q1 2024
    - Appeals process has been extended to 1/30/24 to answer substantial AHRI Appeal.
    - Meeting scheduled for 1/26/24 to review the appeal.
  - New format includes alignment of the digital, PDF, and printed versions, streamlined lists, modernized fonts, single-line text, revised content grouping strategy, and inclusion of QR codes in the margins to identify the changes.
- 2027 Edition Timeline
  - Group A (IBC-E, IBC-FS, IFC, IFGC, IMC, IPC, IPSDC, IRC-M, IRC-P, ISPSC, IWUIC)
    - 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 results - 5/16/24
    - Open for comments to CAH #1 action - 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 results - 12/2/24
- Open for comments to CAH #2 action - 1/20/25 to 3/14/25
- Posting of public comments to CAH #2 - 3/5/26
- Public comment hearings - 4/19 to 4/28/26
- Group B (Admin, IBC-G, IBC-S, IEBC, IgCC (Ch. 1 & App M), IPMC, IRC-B, IZC)
  - 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
- Energy Code (IECC & IRC-E)
  - The IECC and IRC Chapter 11 will be revised by two Development Committees (Residential and Commercial) and applicable sub-committees using the Standards Development process. Committee members will be appointed solely by the ICC Board of Directors.

#### 4. IAPMO - UMC Revision Cycle

- 2024 is complete and printed.
- 2027 Cycle is ongoing
  - Selection of TC members and initial TC meeting held on 4/19/23.
  - Call for proposals - 7/3/23 to 1/12/24
    - Chapter 6 Working Group reviewed proposals from staff and developed 21 proposals to present to the TC along with public proposals received. These proposals were designed to clean up issues without making substantive changes to the UMC.
  - Distribution of proposals to TC - 4/1/24
  - Next TC meeting - 5/9 to 5/10/24
  - Report on proposals (ROP) - 8/9/24

#### 5. State Building Codes

- Georgia - Provision for residential R-Value reduction for flexible duct from 9/1/22 to 6/30/23. It does not appear that the provision was extended beyond the end date.
  - North Carolina - Duct R-Value requirement reduction to R-4.2 for two years in response to duct availability issues.
    - This should expire on March 17, 2024.
6. ACCA revising Manual D – in process with Task Group meeting regularly and completing the draft and presenting it to a select committee for review.