

ASHRAE Winter '07 Meeting Minutes
T.C. 5.2 Duct Design
Tuesday, January 30, 2007
3:30 – 6:00 p.m.
Dallas (Room Lone Star A1(C2))

1. Call to Order (Chairman Bass Abushakra)

- The meeting was called to order.

2. Introduction/Attendance

- Introductions and Attendance: Sign-up sheet was passed around for attendance. Five voting members present (others arrived later to total 7).
- Bass noted that he would not be in attendance in Long Beach and asked Vice-Chair Brad Thomas to preside for him. Brad Thomas accepted.

No.	Name	Present	Absent
1	Bass Abushakra	P	
2	Kevin Gebke	P	
3	Herman Behls	P	
4	Pat Brooks	P	
5	Tom Ponder	P	
6	Johnny Andersson		A
7	Rich Evans	P	
8	Ricardo Gamboa	P	
9	Eli Howard		A
10	Walter Ziemann		A

3. Accept Agenda and Approve Minutes of Chicago (Chair Bass Abushakra)

- Corrections:
 1. Page 1: ASHRAE spelling.
 2. Page 5: Section 11.ii. Pat Brooks is not a voting member.
- MOTION: by Rich Evans to approve the minutes with noted changes
 SECOND: Pat Brooks
 PASSED: 5-0-0(CNV)

4. Section Head report (Bass Abushakra)

- Changes in the registration charges (or gratis registration) for presenters, session chairs, forum moderators, and the like were discussed.
- Rich Evans motioned, Steve Idem seconded the following text:
 1. TC5.2 recommends to restore deleted text of Rules of the Board, Vol. 2 section 2.104.015 regarding Meeting Registration Fees.
 2. Motion carried: 6-0-0 (CNV)
- **Commentary:** ASHRAE Board of Directors rescinded the change in registration fees.

5. Handbook Committee (Vernon Peppers)

- i. Duct Construction Chapter
 1. Reported on changes for the 2008 HVAC Systems and Equipment Handbook, Duct Construction chapter.
 2. Rich Evans made a motion and Herman Behls seconded to accept chapter revisions.
 3. Motion carried 5-0-0 (CNV)
- ii. Comments on the Duct Design Chapter in 2009 Fundamentals Handbook are to be submitted to Vernon Peppers by April 1st 2007.
- iii. Vernon Peppers requested a volunteer to take over as chair of the handbook subcommittee. Pat Brooks volunteered and will start July 1st.

6. Membership (Steve Idem/Bass Abushakra reporting)

- After June 2007 meeting Bass Abushakra and Herman Behls roll off as voting members
- Brad Thomas was recommended for the chair position of 5.2 to start after the June meeting
- Brad Thomas, Vernon Peppers and Steve Idem will become voting members after the June meeting.
- Todd Talbott and Bill Elosh will become corresponding members.
- Herman Behls will continue on as Research subcommittee chair
- Steve Idem will continue on as Program subcommittee chair

7. Program (Steve Idem/Bass Abushakra reporting)

- i. Report was given on poster session RP-1333
- ii. Proposed forum for Long Beach for 5.2 to co-sponsor
 1. "What is Needed to Commission Air Distribution Systems for Small Commercial Buildings?"
 2. Craig Wray will be forum session chair
- iii. Proposed seminar on current results from RP-1333 and RP-1319
- iv. Nothing for New York at this time
- v. Vote on Long Beach program
 1. #1 priority: Seminar covering the current research projects RP-1333 (HVAC Duct Pressure Loss Measurements) and RP-1319 (Laboratory Testing of Duct Fittings (Flat Oval Elbows) to Determine Loss Coefficients)
 2. Motion by Pat Brooks to accept above proposed seminar and place it as #1 priority, second by Rich Evans 5-0-0 (CNV)
 3. Steve Idem volunteered to chair this Seminar

8. Publications (Herman Behls reporting)

- i. ASHRAE Duct Fitting Database (DFDB):
 - No updates at this time. Latest version is 4.0.0.
- ii. T-Duct: Herman Behls, Chair
 - T-Duct is operational
 - Testing is currently being completed by Herman Behls and Pat Brooks

9. Research (Herman Behls)

- i. Discussion of a CFD competition was pursued.
 1. TC 6.1 Hydronic & Steam Heating Equipment and Systems, TC 1.5 Computer Application, and TC 4.10 Indoor Environment Modeling may be interested in this as well

2. Vernon Peppers will write an RTAR. We can approve this RTAR by letter or email ballot. Our liaison (Fred Kohloss) should look at the RTAR before it's submitted to the MOR (Michael Vaughn). We need to submit this RTAR by May 15th.
- ii. RP-1422 (Control Dampers: loss Coefficient and Modulating Characteristics" is dead. All bids were rejected
- iii. RP1180 Action item for chair of 5.2 to form a committee to complete the Duct Design Guide at no cost to ASHRAE.
- iv. Steve Idem reported on progress with RP-1319, "Laboratory Testing of Duct Fittings (Flat Oval Elbows) to Determine Loss Coefficients"
 1. Testing challenges (induced vibrations) were discussed for the largest span size. Vibrations were eliminated by having the minor axis parallel to the floor.
- v. David Cantrill reported on 1333-RP, "HVAC Duct Pressure Loss Measurements"
 1. Testing challenges were reported
 2. Motion by Rich Evans to run remaining two larger duct sizes, 14" and 16", in sagging scenario and 90 degree test. Second by Herman Behls. 6-0-0 (CNV)
- vi. Herman Behls reported on work statement 01/07-WS.
 1. Herman Behls will write a work statement for flat oval diverging and converging junctions. **Commentary:** Work Statement written and sent to Fred Kohloss, RAC Liaison, for review.
 2. Motion by Herman Behls to accept work statement with reported changes. Second by Rich Evans. 6-0-0 (CNV)
 3. The changes were the fittings and sizes to be tested per ASHRAE Standard 120. The agreed upon fittings and sizes are as listed in Tables 1 & 2.

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Table 1 Fittings to be Tested				
No.	Fitting	Geometry	Fitting Sizes	Number of Setups
1	EF5-1	Tee, Straight Body (Fig. 1)	See Table 2	11 Setups Total for Fitting Nos. 1, 2, 3 & 4 (see Table 2)
2	EF5-3	Lateral, 45°, Straight Body (Fig. 2)	See Table 2	
3	SF5-1	Tee, Straight Body (Fig. 1)	See Table 2	
4	SF5-3	Lateral, 45°, Straight Body (Fig. 2)	See Table 2	

Table 2 Sizes To Be Tested					
Main Aspect Ratio	Size	Main	Branch		
2.21	31 x 14	31 x 14	22 x10		
			22 x 6		
			14 x 6		
			15 x 4		
3.80	38 x 10	38 x 10		22 x10	
				22 x 6	
				14 x 6	
				15 x 4	

Table 2 Sizes To Be Tested					
Main Aspect Ratio	Size	Main	Branch		
2.20	22 x 10	22 x 10			22 x 6 14 x 6 15 x 4

- vii. Herman Behls will follow-up on RTAR-1369, "Design Guideline to Prevent Snow Causing Shutdown of HVAC Systems"
- viii. Herman Behls will circulate research wish list.

Commentary: At the June meeting the TC should put together the 2007-2008 Research Plan.

- For sure the following items should be on the research plan.
 - 1) Laboratory Testing of Duct Fittings to Determine HVAC Duct Fitting Loss Coefficients.
- Other Research Plan items could be
 - 1) Use of CFD to Determine HVAC Duct Fitting Loss Coefficients
- To assist in the development of our Research Plan the following topical areas are on the ASHRAE strategic research plan developed two years ago.
 1. TOOLS and APPLICATIONS
 - Develop a comprehensive population of common ductwork fittings to enhance the ASHRAE DFDB
 - Develop duct simulation computer programs to assist (1) TAB contractors and (2) building owners
 - Develop duct design programs
 2. EQUIPMENT, COMPONENTS, and MATERIALS
 - Develop design data and design criteria for duct fabric systems
 - Develop standard specifications for control strategies for all types of HVAC systems (air, hydronic, chilled water, hot water & steam)
 - Standardize piping details
 - Standardize engineered smoke management systems

10. Standards (Tom Ponder)

- i. SPC 120 - Method of Test to Determine Flow Resistance of HVAC Air Ducts and Fittings. Herman Behls, Chair
 - Voting members are:
 - Herman Behls, Chair
 - Bass Abushakra
 - Pat Brooks
 - Kevin Gebke
 - Jason King
 - Tom Ponder
 - Meeting held January 29, 2007 with the following voting members present: Herman Behls, Bass Abushakra, Pat Brooks & Kevin Gebke (4 of 6).
 - Herman Behls reported results of the subcommittee meeting

- ii. SPC 126, Method of Testing HVAC Ducts. Rich Evans, Chair
 - Voting members are:
 - Rich Evans, Chair
 - Brad Thomas
 - Kevin Gebke
 - Jason King
 - Tom Ponder
 - Eli Howard
 - Meeting held January 29, 2007 with the following voting members present:
Rich Evans, Brad Thomas, and Tom Ponder (3 of 6).
 - Rich Evans reported results of the subcommittee meeting

11. Webmaster

- i. Todd Talbott accepted position of webmaster. Vernon Peppers will assist Todd as necessary.
- ii. Herman Behls will be FAQ's (Frequently Asked Questions). **Commentary:** Completed and sent to ASHRAE.

13. Unfinished Business (Chairman Bass Abushakra)

- None

14. Honors and Awards (Steve Idem)

- i. Steve Idem will reactivate our old nomination for the Hightower Technical Achievement Award by ASHRAE.

15. Move to adjourn by Ricardo Gamboa

SECOND: Tom Ponder
PASSED: 7-0-0(CNV)