

ASHRAE, INC.
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TC/TG/TRG MINUTES COVER SHEET

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

TC/TG/TRG NO.: **TC 1.12**

TC/TG/TRG TITLE: **Moisture Management in Buildings**

DATE OF MEETING: **June 23, 2012, 1pm to 3pm.**

LOCATION: **Convention Center, San Antonio, TX, room 007D**

MEMBERS PRESENT	TERM EXPIRES 6-30	MEMBERS ABSENT	TERM EXPIRES 6-30	EX-OFFICIO MEMBERS
Lew Harriman III	2013	Alex McGowan	2015	Victor Penar
Anton TenWolde	2012	Paul Shipp	2013	
Jeff Traylor	2012	Lan Chi Nguyen	2015	
Raoul Webb	2014	Andreas Holm	2012	
Steven Cornick	2013			
Louis Kelter	2012			
Hugo Hens	2013			
Achilles Karagiozis	2013			
CORRESPONDING MEMBERS PRESENT		CORRESPONDING MEMBERS ABSENT (CONTINUED)		ADDITIONAL ATTENDANCE
Sam Glass		Andre Desjarlais		Norm Nelson
Gordon Hart		Larry Elkin		George Dubose
Stan Gatland		Diana Fisler		Florian Antreter
Rodney Lewis		Wahid Maref		John G. Davis
		Manfred Gerber		Manfred Kehrer
		Michael Hayes		Ali Fallahi
		Dale Herron		Art Giesler
CORRESPONDING MEMBERS ABSENT				
Fitsum Tariku (provis. CM)		Hartwig Künzel		Dane Christensen
Mark M. Anderson		Carl Lawson		
Davidge Warfield		Mark Lawton		
Bede Welford		Neil Leslie		ADDITIONAL DISTRIBUTION
Ron Bailey		Him Ly	Section head	Victor Penar
Joseph Griner, III (prov. CM)		John Murphy	TAC Chair	Charles H Culp, III
Fiona Aldous		Ray Patenaude	Liaisons	
Gil Avery		Albert Pucino	Mgr of Stds.	Stephanie Reiniche
Holly Bailey		Mika Salonvaara	Mgr of R&T	Mike Vaughn
Stephen Barefoot		Elia Sterling		
Marcus Bianchi		Theresa Weston		
Doug Bibee				
Jim Cummings				
Leonard Damiano				
Claudio Darras				

TC 1.12 Moisture Management in Buildings

1 to 3pm, June 23rd 2012

San Antonio Convention Center - Room 007D, San Antonio, TX

(These minutes were approved at the 2013 Winter Meeting in Dallas TX, January 26th)

1. Call to order – Lew Harriman III – Chair

Chair called meeting to order at 1 PM and read the TC 1.12 scope statement.

2. Self-Introduction of members and guests – Lew Harriman

Those present introduced themselves. Quorum was established.

3. Approval of minutes from Las Vegas meeting – Lew Harriman

Motion: Jeff Traylor moved to accept the draft minutes from the Chicago meeting. Steve Cornick seconded. Motion carried (8, 0, 0).

4. Review agenda – Lew Harriman

There were no changes to the agenda.

5. Chairman's report – Lew Harriman

The chair had no items to report.

6. Program – Lew Harriman

Program chair Alex McGowan was absent, and Lew Harriman led the discussion.

a. San Antonio program: TC 1.12 is sponsoring Seminar 58, "Mold, Moisture, and Damp Buildings: New Understanding and Guidelines for Reducing the Health Effects."

b. Dallas: the following programs were proposed

i. Seminar: "What the HVAC engineer needs to know about building enclosures" Chair Ray Patenaude ; If Ray is unable to chair, Hugo Hens volunteered to take over.

ii. Seminar: "World-wide measured values of indoor humidity;" Chair Steve Cornick. Potential speakers: Sam Glass, Hugo Hens, Florian Antreter, Achilles Karagiozis.

iii. Seminar: "Building envelope real-world case histories in moisture management" Chair Steve Cornick. Lew Harriman will submit this to ASHRAE

c. Denver:

i. Conference paper session: "World-wide measured values of indoor humidity;" Chair Wahid Maref.

ii. Seminar: "Tools and techniques for avoiding construction moisture problems" Chair Anton TenWolde. Potential speakers: Lew Harriman (drying), Hugo Hens (masonry construction), Wahid Maref (wood-frame high-rise), Stan Gatland (materials shipped from other locations)

d. New York:

i. Conference paper session: "Hygic buffering to save energy and control humidity in buildings." Chair Hugo Hens. Potential speakers: Dane Christiansen (2 papers), Florian Antreter, Achilles Karagiozis.

7. Research – Steve Cornick

a. TC 4.4 requested co-sponsorship of RTAR 1670 "Research to Determine Energy and Moisture Impacts of Attic Ventilation". The Research Subcommittee recommended not to co-sponsor at this

time because members felt the RTAR was not ready for submittal. The complexity of moisture in an attic does not appear to be sufficiently captured by the proposed research. As currently described in the draft RTAR, the research project is unlikely to provide results robust enough and relevant enough to be of general use to designers, builders and homeowners.

- b. *Status update – Equations to Estimate Evaporation Rates from Wetted Surfaces in Natatoriums, Commercial and Institutional Building and Meat Processing Plants (WS-1566, developed by TC 8.10) – Status:* Lew Harriman reported that there was no progress from the sponsoring TC (8.10) on the work statement. The topic expires from society research implementation July 2013.
- c. *Status update – Development of the ASHRAE Design Guide for Dedicated Outdoor - Air Systems (1565-TRP) - Status:* Lew Harriman reported that the PES has recommended acceptance of one bidder’s proposal . Tech Council will accept or reject that recommendation at their meeting this month
- d. *Future Research –* The Research Committee selected the top four research ideas that were generated at the Chicago meeting:
 - i. *Techniques for Limiting Indoor Dampness and Microbial Growth During Unoccupied Hours and In Buildings That are Seasonally Occupied –* Lew Harriman
 - ii. *Techniques for Minimizing Construction Moisture Problems –* Anton TenWolde, Hugo Hens, Sam Glass, Therese Stovall.
 - iii. *Humidity Loads Generated in Non-residential Buildings –* Theresa Weston, Anton TenWolde, Sam Glass, Raoul Webb
 - iv. *Techniques for Limiting Indoor Dampness and Microbial Growth in Heritage and Special-purpose Buildings –* Steve Cornick
- e. *Report from Section 1 Research Liaison –* Liaison Arthur Giesler reported that the RAC manual has been updated. He urged that new RTARs be sent to the liaison for review, and to involve other TC’s before sending it to RAC. He also reported that there is no funding backlog anymore.

8. Handbook – Hugo Hens

Hugo described the 3rd proposed draft of the chapter titled “Fundamentals of Moisture Management” that is targeted for the 2017 Handbook of Fundamentals. He urged members to review and comment. More recent data are needed, in particular for moisture production. This issue needs coordination with other committees such as TC 4.1, 4.4, 4.8, and SSPC 160. Hugo will contact these with the help of Lew Harriman. During the subsequent discussion, members of the committee noted that the chapter should mention the negative effects of extremely low humidity as well as risks posed by poorly-maintained humidifiers.

9. Old Business – Lew Harriman

Lew Harriman gave a status update on ASHRAE’s Mold Position document. Tech Council has unanimously recommended that the Board of Directors approve the (15th) draft of the revised document. The Board is expected to vote on that recommendation on Wednesday, June 27.

10. New Business – Lew Harriman

There was no new business to report

11. Mini-Presentation – Sam Glass

Dr. Sam Glass of the USDA Forest Products Laboratory gave a presentation on Measured Humidity Loads in Single-Family Residences. The measured data from several field research projects in Northern Europe indicate that the values currently obtained by equation 31 in the 2009 ASHRAE Handbook—Fundamentals are at the 90th percentile of observed humidity loads.

Said another way, 90% of the observed humidity loads in residences are higher than what is estimated and published by ASHRAE.

Members of the committee remarked that Sam’s research strongly suggests that the values published by ASHRAE for residential humidity loads need to be updated based on measured values. Better humidity load data may help eliminate the currently notorious problems in comfort and durability associated with higher-than-expected latent loads.

The measured data is summarized in Sam’s PowerPoint presentation, which is attached to these minutes. The Chair will take an action item to inform TC 4.1 (Load calculation data & procedures) of Sam’s conclusions.

12. Adjourn – The meeting was adjourned at 3:05 PM

Next meeting: Dallas, Saturday January 26, 2013 - 13:00 – 15:30

Action items as of June 2012

WHO	ITEM	DEADLINE
Anderson	Gather input from Std 62 subcommittee members, organize it, discuss it and report with recommendation to the full committee on the question of changing the max rh recommendation in std 62 to a max dew point recommendation	January 10 th , 2013
All	Send appropriate material for the Handbook chapter to Hugo	October 15 th , 2012
Glass, Künzel	Submit Handbook section on moisture sources to Hugo	October 15 th , 2012
Harriman	Draft an outline for a chapter in the APPLICATIONS volume of the handbook that is focused on common problems and solutions in moisture management. (Outline partly based on work of the Mold Position Document Revision Committee)	October 15 th , 2012
Patenaude	Submit a seminar entitled “What the HVAC engineer needs to know about building enclosures “ for Dallas	August 13 th , 2012
Cornick	Submit a seminar entitled “World-wide measured values of indoor humidity” for San Antonio	August 13 th , 2012
Harriman	Submit a seminar entitled “Building envelopes: real-world case histories in moisture management” for San Antonio	August 13 th , 2012
Maref	Submit a conference paper session entitled “World-wide measured values of indoor humidity” for Denver	January 2013
TenWolde	Submit a Seminar entitled “Tools and techniques for avoiding construction moisture problems” for Denver	February 2013
Hens	Submit a conference paper session entitled “Hygric buffering to save energy and control humidity in buildings.” For New York	July 2013
Harriman	Develop RTAR “ <i>Techniques for Limiting Indoor Dampness and Microbial Growth During Unoccupied Hours and In Buildings That are Seasonally Occupied</i> ”	December 2012
TenWolde	Develop RTAR “ <i>Techniques for Minimizing Construction Moisture Problems</i> ”	December 2012
Weston	Develop RTAR “ <i>Humidity Loads Generated in Non-residential Buildings</i> ”	December 2012
Cornick	Develop RTAR “ <i>Techniques for Limiting Indoor Dampness and Microbial Growth in Heritage and Special-purpose Buildings</i> ”	December 2012
Harriman	Notify TC 4.1 (Load Calculation Data & Procedures) that Sam Glass’ research strongly suggests that current internal humidity load equation in the ASHRAE handbook severely underestimates the observed data, and that TC 1.12 respectfully suggests that TC 4.1 re-evaluate the values generated by equation 31 of chapter 17 of the 2009 FUNDAMENTALS in light of this fact.	December 2012

Minutes prepared by A. ten Wolde