



Giga-Joule

September 2017

<http://www.ashrae4greenville.com/>

Meeting Announcement

Factory Built Vent Systems for Commercial and Industrial Applications

The **Greenville meeting** will be held on **Tuesday, September 12, 2017 at 11:45 AM**

RSVP here: <https://goo.gl/forms/f5XzkyYqJQ9TxWwf1> by Monday, September 11

Location: M.T. Anderson Support Center
100 Blassingame Rd
Greenville, SC 29605

Program Cost includes catered lunch!

- \$13 via website: <http://www.ashrae4greenville.com/next-greenville-meeting>
- \$15 at door for chapter members, \$20 for non-chapter members

Education Credit: This Seminar qualifies for 1.0 PDH each (including NC PE).

If you have any questions, contact: Jeremy Butdorf at 864.232.0200 or jeremyb@jmpco.com

Meeting Sponsor: **Sponsorships available!** Contact our Research Promotion officer Tigue Garick for rp@ashrae4greenville.com more information.

A Message from the President



Melissa Angulo – President
ASHRAE – Greenville Chapter
president@ashrae4greenville.com

Happy ASHRAE New Year! I am excited to be serving as your Chapter President this year and together with the Committee we have a great year of events lined up. I am thankful to have a wonderful Chapter committee working with me, please take the opportunity to meet them at our upcoming Chapter meetings. Please let me know if you are interested in serving on a Chapter Committee. More about what a chapter committee does is available in the Manual of Chapter Operations, found here: <https://www.ashrae.org/society-groups/chapters> As always, we appreciate any suggestions you may have for our chapter.

As Chapter President, it is my responsibility to bring nominations forward for regional positions and committee positions. The Nominating Committee, one of the Society's most important committees, has the responsibility of selecting and nominating members who will guide the affairs of ASHRAE. However, for many committees, you may also nominate yourself or someone else directly through the ASHRAE website. There are many opportunities for ASHRAE members to participate at Society level from Standing Committees (<https://www.ashrae.org/society-groups/committees>) to the Membership, Publishing & Education and Technology Councils, (<https://www.ashrae.org/societygroups/councils>). In addition, there are many technical committees, which correspond to the Handbook Giga-Joule September 2014 sections, where you can join as a Corresponding Member (<https://www.ashrae.org/standardsresearch--technology/technical-committees>) and the Standards committees, found here: <http://www.ashrae.org>. Even if you do not wish to participate in one of these groups, you can find all the proceedings in the links above.

I look forward to seeing you at our Chapter Meetings and events and hope you will make time to continue your support of ASHRAE.

September Meeting



Tony Pouncey

Program: Factory Built Vent Systems for Commercial and Industrial Applications

Mr. Tony Pouncey is the National Sales Manager at Jeremias, Inc., one of the world's leading manufacturers of flue and chimney systems for the exhaust of gases and ventilation, covering all kinds of domestic, commercial and industrial applications.

With more than 40 years experience in production, and headquartered in Germany, the Jeremias Group has expanded its activities steadily in Europe and is now the only stainless steel chimney manufacturer with 7 production locations in 6 different countries. Jeremias added its first location in the USA in 2014 in Marietta, GA, just outside of Atlanta.

Research Corner



Tigie Garick

Research Promotions Chairman
rp@ashrae4greenville.com

Greetings from ASHRAE Resource Promotion! For those of you that don't know me, my name is Tigie Garick. I've served in several capacities within our chapter as well as with the Birmingham, AL chapter, and this year is my second stint as RP chair. That said, I'd like to say thank you to all of last year's donors to ASHRAE Research. We will be hosting a recognition event later this year to honor those folks in person. I look forward to working with each of you this year, and I hope to see you at our next chapter meeting!

We appreciate your continued support for our local ASHRAE Chapter.

Young Engineers in ASHRAE (YEA) Chairs



YEA Chairs

Brandon Dillard

yea@ashrae4greenville.com

Greetings from Young Engineers in ASHRAE! I look forward to meeting all our younger members, both at our meetings and at upcoming social events. I hope to provide you with any help I can to allow you further develop professionally in our industry and to understand ASHRAE. If you have any specific needs or suggestions do not hesitate to let me know and I will do all I can to see they are addressed.

I am looking for ideas for social events and outings for this year. I want to provide events that our members are interested in so if you have any suggestions they are welcomed. Thanks and have a great September.

Grassroots Government Activity Chair



Tigie Garick

GCAC

ga@ashrae4greenville.com

Greetings from ASHRAE GGAC! I know that may have sounded slightly familiar (see my RP report), but I will also be serving as the GGAC Chair this year for a second term. To answer the question you are all asking, GGAC stands for Grassroots Government Advocacy Committee. “The **Grassroots Government Advocacy Committee** shall be responsible for organizing ASHRAE members at the grassroots level to influence and educate local, state, provincial, and national government bodies and officials in areas of interest to ASHRAE members, in order to better coordinate efforts and understanding between ASHRAE members and government as well as being responsible for developing the extent and the manner in which ASHRAE implements and pursues actions to influence government affairs and public policy.” For more information, please visit <https://www.ashrae.org/government-affairs>. If you are interested in serving on this committee, please do not hesitate to call or email. Thank you, and as always, I look forward to seeing you at our next meeting.

Treasury



Jeff Beard

Treasurer Greenville ASHRAE

Jeff.beard@heattransfersales.com

Our finances remain stable and we continue to provide a great menu during our meetings. Thanks to the “Presenting Sponsors” of our meetings. If you are interested in being a presenting sponsor please let me know as these opportunities are filling up fast.

In efforts to keep you updated, visit us at:

WEBSITE: www.ashrae4greenville.com

LINKEDIN: https://www.linkedin.com/groups?home=&gid=8154388&trk=anet_ug_hm

EVENTCALENDAR: View ASHRAE Greenville Chapter Meetings calendar

ASHRAE Winter Conference

Start Planning for 2018 ASHRAE Winter Conference, Jan. 20– 24, Chicago, IL



<https://www.ashrae.org/membership--conferences/conferences/2018-ashrae-winter-conference>

Chapter Board of Governor special message

Pipe Insulation - How Much is Minimum?

There are numerous resources to use providing recommended "economic" levels of pipe insulation for your system. The manufacturers have many, but what is the legal minimum per code for cool pipe? The answer is... fuzzy.

South Carolina as well as many other states are legally bound to the 2009 International Energy Conservation Code. The chapter on commercial energy efficiency covers pipe insulation in Table 503.2.8 where pipes 1.5" in diameter moving cold fluids are to have 1.5" of insulation. (The formula below the table adjusts for insulation conductivity.) So how many refrigeration system line sets have 1.5 inches of insulation? The chapter on residential energy efficiency states in Section 403.3 that pipe with fluid above 105F or below 55F is to have insulation equal to R3 - no reference to pipe size.

Jump to the 2015 International Energy Conservation Code, just for comparison sake. In the commercial chapter Table C403.2.10 covers pipe insulation. For pipe with fluid temperatures of 40F-60F insulation thickness is 0.5" for pipes up to 1.5" in diameter. For fluid temperatures less than 40F the insulation thickness increases to 1.0" for pipe sizes of 1.0 to 1.5 inches. This requirement is the same found in ASHRAE 90.1-2010. This is a huge change from the 2009 IECC.

How much insulation is 0.5" providing? In a "flat" world, namely walls and ceilings, we tend to think of most insulation materials having an "R" value between 3 and 5 per inch of thickness, but lets go back to heat transfer 101; $Q=UA(T_2-T_1)$ For walls and ceilings this works fine, because area (A) is constant, but not on pipes. The area of pipe insulation varies between the inside surface and the outside surface of the insulation, and on small pipes this impact is quite large. To properly calculate this you need to dig under the unread copies of the ASHRAE Journal and retrieve your calculus book, OR find a table where someone has done the math for you. Click on Item 4 at the address below to download a technical sheet from Armacell explaining the calculation. Page 2 of the same document includes a table where someone has already done the math. Thank you!

<http://www.armacell.us/knowledge-center/document-downloads/mechanical-insulation/technical-bulletins/>

Using Armaflex insulation as the basis, 1/2" thick insulation on a 1" diameter pipe has an "R" value of about 3.2. Lay the same insulation out flat and the 1/2" thick material has an "R" value of 2.1. And, in most applications, R3 is sufficient to prevent condensation on cold pipes.

I doubt that I have answered the question that I started this column with. I can say that I am not aware of an incident where a code official enforced the 1.5" thickness requirement. In addition, there is solid engineering logic behind the R3 requirement in the 2015 IECC and ASHRAE 90.1. I have my doubts on the 1.5" minimum in the older "current" code.

Thank you,

Devon Cortright - VP of Mechanical Engineering
H2L Consulting Engineers Inc.

gov6@ashrae4greenville.com

ASHRAE Greenville Chapter Board

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ASHRAE Learning Institute 2017 Online Course Series

2 WAYS TO REGISTER

Internet: www.ashrae.org/onlinecourses

Phone: Call 1-800-527-4723 (US and Canada) or 404-636-8400 (worldwide)

One-part course (3 hours) **\$284 (\$219 ASHRAE Member)** – -- -- Two-part course (6 hours) **\$484 (\$359 ASHRAE Member)**

NEW! Fundamental Requirements of Standard 62.1-2016
Wednesday, September 6, 2017 – 1:00 p.m. to 4:00 p.m.

Designing High-Performance Healthcare HVAC Systems
Tuesday, September 19, 2017 – 1:00 p.m. to 4:00 p.m.

Laboratory Design: The Basics and Beyond
Tuesday, October 10, 2017 – 1:00 p.m. to 4:00 p.m.

Introduction to Ultraviolet Germicidal Irradiation (UVGI) Systems
Monday, October 16, 2017 – 1:00 p.m. to 4:00 p.m.

NEW! Complying with Standard 90.1-2016
Part I: Wednesday, November 1, 2017 – 1:00 p.m. to 4:00 p.m.
Part II: Tuesday, November 7, 2017 – 1:00 p.m. to 4:00 p.m.

NEW! Variable Refrigerant Flow System: Design & Application
Wednesday, November 29, 2017 – 1:00 p.m. to 4:00 p.m.

**NEW! New ASHRAE-Classified Refrigerants to Meet
Society's Changing Needs**
Tuesday, December 5, 2017 – 1:00 p.m. to 4:00 p.m.

ASHRAE HVAC Design & Operation Training

2 Courses, 5 Days of Intense Instruction

Atlanta • Columbus • Denver • Dubai

HVAC Design: Level I – Essentials - Registration is \$1,264 (\$1,009 ASHRAE Member)

Gain practical skills and knowledge in designing and maintaining HVAC systems that can be put to immediate use. The training provides real-world examples of HVAC systems, including calculations of heating and cooling loads, ventilation and diffuser selection using the newly renovated ASHRAE Headquarters building as a living lab.

HVAC Design: Level II – Applications - Registration is \$854 (\$699 ASHRAE Member)

HVAC Design: Level II — Applications provides instruction on HVAC system design for experienced HVAC designers and those who complete the HVAC Design: Level I – Essentials training. The training provides information that allows practicing engineers and designers an opportunity to expand their exposure to HVAC systems design procedures for a better understanding of system options to save energy.

Visit www.ashrae.org/hvactraining to register and learn how your Chapter can earn PAOE points.

Contact Karen Murray (kmurray@ashrae.org) to discuss scheduling ASHRAE HVAC Training in your Chapter area.