



Mission:
To offer high-quality educational opportunities for HVAC-related industry members, toward better appreciation and implementation of the building codes governing the industry and toward improvement of the industry generally.

Southeast Louisiana Coalition of the Air Conditioning Industry

www.SELACACI.org (504)-488-2412

RADIANT BARRIER – An Option for Heatload Reduction



Dr. Mario Medina at Radiant Barrier Class

The Southeast Louisiana Coalition of the Air-Conditioning Industry (SELACACI) held a class on October 2, 2014 at the Local 60 Hall in Metairie, LA to educate contractors, code officials, and homeowners about RADIANT BARRIER. Dr. Mario Medina of the Engineering Dept. of the University of Kansas (PhD in Mechanical Engineering) conducted the

class, based on his 25 years of research and review of all the existing literature on the subject. He is the leading researcher nationally, and also came to New Orleans for the Radiant Insulation Manufacturers Association (RIMA) annual conference. The gathering was a rare chance to hear directly from an expert about a product developed by NASA de-

acades ago that has unfortunately been misunderstood and under-estimated over time, despite the fact that it's a simple, low-cost energy efficiency upgrade for buildings – and ideally suited for the Hot Humid climate zone.

Sixty people attended the two-hour class, which was a continuation of SELACACI's Building Science Series, and featured vigorous discussion. Dr. Medina explained the physics of how Radiant Barrier works -- based on the principle of Emissivity (rather than Reflection). Radiant Barriers have high reflectance and low emissivity, and both principles can be operational. The thin foil material requires an airspace to perform as a Radiant Barrier (with the bottom-facing surface working through emissivity in the typical installation on the underside of a roof deck). When installed correctly, Radiant Barrier does not have an R-value per se (as it does not work by conduction or by touching another surface), but Radiant Barrier can have an "Effective R-value" in conjunction with other insulation (with R-19 being the most tested and recommended traditionally). The level of performance varies with the configuration and conditions, but in general, a 92% reduction in radiant heat transfer is expected. On average, Radiant Barriers reduce summer ceiling heat flows by approximately 23 to



Dusty Goforth, President Dr. Mario Medina, Audrey Evans, Secretary at an inspection of a historic uptown home with newly installed radiant barrier

45%, depending on the insulation level, with an average of 37% of heat blocked over the course of the Summer. Space Cooling loads are reduced by 8 to 22% when HVAC ducts are in attics -- based on the results of Dr. Medina's experiments.

With Dr. Medina's tests in model homes, neither shingle color/temperature nor roof pitch were issues for Radiant Barrier. The amount of sun doesn't matter either; Radiant Barrier works even when it's overcast, turning around radiant heat.

While ventilation is always recommended to dissipate moisture, airflow is not required for the performance of the product. Radiant barrier performs best with a sealed attic, and increasing ventilation doesn't really change

the effect of Radiant Barrier, except in a completely sealed attic. Perforated material is preferred to allow the movement of moisture, but doesn't affect the performance of the product.

Hopefully, there will be opportunity for additional discussion on this topic, given the lively interest and additional questions based on actual situations in our area. Dr. Medina is actively involved in working with RESNET and other organizations to ensure that Radiant Barrier is adequately represented in Home Energy Rating and other computer models -- as well as active in numerous other forums, as his LinkedIn profile describes.

Submitted by Audrey Evans, Secretary -- SELACACI.org ■

The Inside Story: "Times they are a'changing" by Jerry Lawson



Jerry Lawson
Publisher/Editor-in-Chief
Times they are a'changing.

Everything changes with time. Those of us who grew

up in the forties and fifties will remember the open doors of stores. Open doors invited customers in and big fans kept unwanted pests out. It seemed to work. We who grew up in small towns were lucky to have a "Square" at the center of town. Stores lined all four sides with the town hall in the center. Not one of the stores as I remember had air conditioning.

In the fifties things began to change. The movie houses installed air conditioning and the two-hour shows were our escape from the 100-degree day outside. Stores began to

cool their buildings, at least where the customers were shopping.

My great, late friend Al Parrott told me about one of his dealers who chose what we called swampers, water cooled units for his store. When the seasons changed the store would simply turn their racks around to display the seasonal clothing. That first year when the merchant turned his racks around he found the entire stock mildewed due to the excess humidity the water coolers generated. In the deep South, that was a problem.

My dad put a swamp cooler in the den of our home in Tyler. With four kids running in and out of the house there wasn't much chance of a humidity buildup. We also had a ceiling fan... remember those?

The changes we have benefitted from recently have made our industry more efficient in every way. Variable refrigerant flow, zoning improvements and seer ratings double what we once thought of as high efficiency.

Just keeping up with the changes is a challenge. Fortunately your local distributor

is offering classes for your service techs and salesmen. Not many industries follow through on this most important part of business. These classes probably won't cost you anything other than the expense of sending your people to their classes.

Your local supply house can be your best business "partner." They keep the products, parts and supplies you need everyday ready for your immediate pickup. Some will deliver. They will have expert advice to share with you about equipment and sound business practices. ■