

FRACCA DUCT CONDENSATION WORKSHOP

FEATURING RICK SIMS CREDITS AVAILABLE: 1 HOUR CEU ~ 3.5 NATE CREDITS

ATTENDEES WILL LEARN HOW TO:

- INCREASE PROFICIENCY IN THE DIAGNOSIS OF MOISTURE RELATED ISSUES
- UTILIZE BETTER INSTALLATION AND SERVICE METHODS FOR DUCT AND EQUIPMENT INSTALLATIONS
- IMPROVE ACCURACY IN ASSESSMENT OF MOISTURE USING DATA
- MAKE SURE YOU ARE CORRECT WHEN OFFERING EXPERT OPINIONS

ATTENDEES: FIELD TECHNICIANS • ESTIMATORS • BUSINESS OWNERS • SALES ENGINEERS

WORKSHOP INCLUDES:

Natural laws of moisture behavior. Natural laws of air and vapor mixtures. Effects of temperature. Climate Zone 1 Historical Weather Data. Naples 15 Year average dew point temperatures by month. Night-time and daytime dry bulb and dew point temperatures and effect on surface temperatures. How H₂O vapor adsorbs to materials. How H₂O vapor absorbs into materials. How condensation forms. The difference in formation of condensation film on a surface versus formation of water droplets. Capillary action forces in duct boards, internal insulation and external insulation ; when does it start? R-value degradation of wet duct materials. Cooling capacity of water versus air filled fibrous materials. Comparing porosity and permeability. Materials that absorb moisture. Materials that diffuse moisture. How various duct materials and cabinet insulations get wet ; how they can and cannot be dried. Equipment cabinet infiltration. Evaporator coil bypass air. Determining moisture source. Apparatus and methods for drying out ducts and equipment cabinet insulation after wetted. Can you dry a wet surface by conveying air over it? Can you wet a dry surface by conveying air over it? Insulation R-value relationship to surface temperatures. Upgrading duct insulation from R-6 to R-8. Effect of increasing supply air temperature (or fan speeds) on surface temperature of materials. Effects of emissivity of cold surfaces. Comparing shiny surfaces with flat surfaces ; surface temperatures. Exposure rates in vented unconditioned spaces. Venting attic correctly. Comparing still air to moving air. How excessive or improper venting increases moisture exposure and condensation on cool surfaces. Knowing warmest and coolest locations in a vented space. Effects of knee walls, shafts and 2nd floors. Installation techniques to reduce condensation. Rigid ducts, metal ducts, flexible ducts and connectors. Effects of turbulent airflow on surface temperatures. Effect of thermal bridging on surface temperature. Strategies to reduce condensation by utilizing superior installation methods and materials. Fortifying ducts and cabinets for extreme conditions. Low thermostat set points and moist cool spaces. Selecting materials and methods to reduce thermal bridging. Insulation upgrade materials and methods. Condensation on the inside of mechanical ventilation ducts and back-drafting through exhaust vents. Condensation on building materials from mechanical systems ; basic building science diagnostics.

PRESENTED BY:



WORKSHOP PRICING

\$ 190.00 PER MEMBER

\$ 215.00 NON-MEMBER

1 HOUR CEU - ADD \$15.00

REGISTER ONLINE:

WWW.FRACCA.ORG

CHAPTER: MACCA

LOCATION: TRANE- SEE REVERSE

DATE: APRIL 30, 2019

**TIME: Morning 8:00 - 11:30 AM
Evening 5:00 - 8:30 PM**

THANK YOU TO OUR PARTNER: TRANE FOR SPONSORING THE EVENT

FRACCA DUCT CONDENSATION WORKSHOP

FEATURING RICK SIMS

CREDITS AVAILABLE:

1 HOUR CEU ~ 3.5 NATE CREDITS

Location: TRANE

2224 72nd Terrace E., Sarasota, FL 34243

(2nd floor - class room)

REGISTRATION FORM

Name: _____ [] 1 CEU CILB (add \$15) MACCA

Company: _____ Lic # _____

Address: _____ NATE # _____

City: _____ St: _____ Zip: _____ Email: _____

REGISTER AND PAY ONLINE: WWW.FRACCA.ORG [] Morning [] Evening Limited Seats for both.

[] Check (payable to FRACCA) MAIL TO FRACCA PO BOX 592760 ORLANDO FL 32859

[] Visa [] MasterCard [] Discover [] AMEX TOTAL: \$ _____

Name on Card: _____

Address: _____

City: _____ St: _____ Zip: _____ Phone: _____

Card #: _____ Expiration: _____ CVC Code: _____

PRESENTED BY:



WORKSHOP PRICING

\$ 190.00 PER MEMBER

\$ 215.00 NON-MEMBER

1 HOUR CEU - ADD \$15.00

REGISTER ONLINE:

WWW.FRACCA.ORG

PAULA.HUBAND@FRACCAIR.COM

CHAPTER: MACCA

LOCATION: TRANE

DATE: APRIL 30, 2019

TIME: Morning 8:00 - 11:30 AM

Evening 5:00 - 8:30 PM

THANK YOU TO OUR PARTNER: TRANE FOR SPONSORING THE EVENT