Relative Humidity (RH) vs. Absolute Humidity (AH): What's the difference and why does it matter?

Relative Humidity (RH) is the amount of moisture air is able to hold at a particular temperature. The higher the temperature, the more moisture the air can hold. Conversely, the lower the temperature the lower the amount of moisture the air can hold.

Absolute Humidity (AH) is the actual amount of moisture in the air regardless of temperature. In winter, if 20°F outside air (OA) at a typical RH of 90% is brought into a building, that OA must be heated to more than 110°F to keep the indoor temperature at 70°F. At 110°F that same air will have a RH of less than 15%. This is typically the RH in a building with no moisture added.

Likewise, in summer, 90°F air has the capability of holding a lot of moisture. The cooling system has to work that much harder to take the moisture out of the air and lower the temperature to approximately 55°F just to keep indoor air temperature in occupied spaces at 72°F and maximum 60% RH.