Capillary Breather Tubes on Insulated Glass Units

CAPILLARY TUBE FUNCTION

Breather tubes are only intended to be open until installation at the job site after the units have been allowed to equalize. Typically, glass will equalize within 48 hours, however the rate of equalization is dependent on the temperature, barometric pressure, altitude, glass thickness, air space width, unit dimension, and the type of glass. Glass deflection is unlikely to return to a perfect neutral or parallel position even after equalization. Also, if tempered glass is used, additional bowing may be present due to the tempering process. The diameter of a capillary tube is significantly larger than the diameter of a water molecule. Moisture diffusion through the capillary tube is minimal.
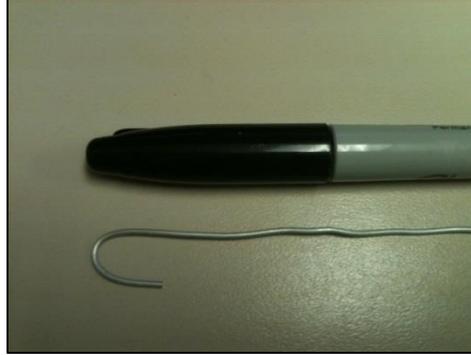

Figure 1: Capillary Breather Tube Prior to Installation

CAPILLARY BREATHER TUBES

Capillary breather tubes are inserted into the edge spacer of an insulated glass unit to allow the unit to breathe in situations where the unit may be subject to internal and external pressure changes. Applications for these breather tubes is for applications at high altitudes where the final altitude of installations is substantially greater than the manufacturing altitude.

Because air pressure decreases as altitude increases, insulated glass units at higher elevations can experience expansion as they move from low to higher altitudes. Glass and seal breakage can result from unit expansion. Deflection of the glass is also typical.

Insulated glass units using capillary breather tubes are not available with argon gas and will be air filled only as the argon will diffuse out of the breather tube.

For low level elevation projects, capillary breather tubes are not recommended.

Disclosure to Arm-R-Lite of a project's final elevation with regard to the use of breather tubes is the sole responsibility of the customer. Customers should notify Arm-R-Lite prior to quoting if their project exists within an elevation 3,000 feet or higher than sea level.