

# Breather Tubes

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# 1.0. Summary

- Breather tubes are used in IG units to avoid glass deflection due to barometric pressure differential between the air cavity of the IG unit and the atmosphere – either during transit or post installation.
- Breather tubes employed in Emirates Glass are of two types :
  1. Wide Bore : Inside diameter of approximately 1.5mm
  2. Narrow Bore : Inside diameter of approximately 0.5mm
- Wide bore breather tubes are generally used for transit purposes to compensate for any glass deflection due to barometric pressure fluctuations between the area of installation and the area of production of the double glazed units. These tubes shall be crimped by the customer prior to installation. Instructions related to the location and method of crimping of these tubes shall be adequately affixed in the form of instruction labels.
- Narrow bore breather tubes are typically meant to function throughout the life of the unit. These tubes are therefore kept open post installation. Unless otherwise instructed by Emirates Glass' Technical department, breather tubes for all the units that are supplied by Emirates Glass shall be crimped on site prior to installation.
- The rate of pressure equalization in any given panel depends on the size of breather tubes as well as the panel sizes.
- In most cases, the pressure equalization is almost completed within 48 hours of the breather tube application.
- Although pressure equalization reduces the bowing of the glass units significantly, it cannot eliminate this effect entirely. Some bowing due to tempering is to be expected and cannot be flattened out even after installation of breather tubes.

- Once the breather tubes are closed (crimped) on site, the glasses will continue to exhibit a pillowing effect caused by a deviation in flatness due to an increase in volume of the air space at different temperature levels. This phenomenon is not only normal for a hermetically sealed IG unit but also an indicator that the integrity of the primary sealant and therefore the IGU is well maintained.

## 2.0. Tube Installation

- The breather tubes are typically 12 inches long. Approximately 8 inches of the tube is inserted in the air spacer.
- The tubes are inserted along the top horizontal arm of the Aluminum spacers.
- The area of contact between the tube and spacer is adequately plugged using polyisobutylene.
- The portion of the tube protruding outside the unit is bent downwards at 90 degrees to the horizontal arm and then taped with the glass by Emirates Glass.

## 3.0. Site Precautions

- Care should be taken to ensure that the tube openings are free of dirt/contaminants/sealant/any other material which may block the tube openings thereby rendering the breather tubes ineffective.
- The location of the breather tubes are adequately identified on the units by having stickers on the glasses.
- The breather tubes must be completely closed prior to installation by crimping around 1 inch of the outer end of the tubes.  
**Do not try to twist or pull this tube out of the unit under any circumstances.**
- For crimping procedure, please follow instruction labels on the glass.



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