

PRODUCT INFORMATION**PRODUCT COMPARISON BETWEEN BIMETAL
AND MERCURY IN GLASS THERMOMETERS****Accuracy:**

Industrial applications have a standard requirement of $\pm 1\%$ SPAN accuracy. This is available in both glass and Bimetal thermometry.

Readability:

The glass thermometer cannot be effectively read beyond 2-3 feet. Bimetals (dependent upon size) can be effectively read from up to 20-30 feet.

Repeatability:

Bimetal thermometer should provide consistently repeatable, accurate readings for an indefinite period of time. With the Mercury in glass thermometer, frequent cycling may cause the capillary inside diameter to wear thus causing loss of original accuracy.

Durability (Shock):

Similar to household medical thermometers; the glass capillary in glass thermometers is extremely fragile and subject to breakage in shock conditions. The Bimetal thermometer is highly resistant to damage from shock.

Durability (Vibration):

Glass thermometers tend to have "fill separation" under vibration conditions. The silicone damped Bimetal thermometer is resistant to most all vibration conditions. High frequency (low amplitude) vibration conditions may be served by liquid filled Bimetal thermometers. There is no glass thermometer equivalent.

Contamination Sensitivity:

There is no inherent danger of process contamination from Bimetal thermometers. However, if Mercury in glass thermometers should fail, there is the inevitable possibility of batch contamination. In particular, the food industry and the nuclear industry both restrict the use of mercury thermometers in their systems due to these possibilities. Further complicating this matter is the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976. These documents place prohibitive regulations on waste disposal systems for hazardous materials. Mercury is defined by these Acts as a hazardous waste material.

In summary, the Bimetal thermometer offers distinct product advantages over the glass thermometer and may be classified as a superior product offering the most industrial applications. In that ASHCROFT used to manufacture a glass thermometer line, these above mentioned considerations were instrumental in our decision to withdraw this product offering from sale through our distribution channels.