

DIAL THERMOMETERS - GLYCERINE/OIL FILLED

Why fill a thermometer?

A filled thermometer is essentially a dry thermometer where the casing has been filled with fluid - usually glycerine or silicone - although other liquids can be used. They are usually used where the thermometer is going to be operating in a harsh environment and is likely to encounter vibrating loads and dynamic shock.

The benefits of using a filled thermometer in these environments are as follows:

- Dampens mechanical vibration
- Lubricates internal parts reducing everyday abrasion
- Prevents internal corrosion by moisture, especially in environments where condensation will be a factor
- Decreases the possibility of the pointer moving away from zero
- Decreases prospect of inaccurate readings
- Increase operating lifespan of the thermometer.

Glycerine filled

Glycerine is a relatively inexpensive, clear material well suited to applications where vibrations are present. The damping effect of the glycerine will stabilize the movement of the pointer, making it easier to read against the scale. Glycerine thermometers operate best in the -20C to +60C temperature range.

Silicone filled

In comparison to glycerine, silicone has a lower viscosity and is a better suited material for applications with extreme temperature variations. It is primarily relied upon when a thermometer requires protection against vibration or in a temperature range below -20C or greater than 60C such as a dial exhaust gas thermometer.

