

**Compliance with following International Standards:**

ASTM D6371, IP 309, IS 1448 Part 110

Purpose:

Used to Determination of the cold filter plugging point (CFPP) temperature of diesel and domestic heating fuels by measuring the temperature, at which the sample ceases to flow through a wire mesh filter.

Summary of test method:

A specimen of the sample is cooled under specified conditions and, at intervals of 1°C, is drawn into a pipet under a controlled vacuum through a standardized wire mesh filter. The procedure is repeated, as the specimen continues to cool, for each 1°C below the first test temperature. Testing is continued until the amount of wax crystals, that have separated out of solution, is sufficient to stop or slow down the flow so that the time taken to fill the pipette exceeds 60 seconds or the fuel fails to return completely to the test jar before the fuel has cooled by a further 1°C.

Apparatus Details:

The complete assembly consists of following main parts and accessories to conduct the test

Cooling Bath:

DEWAR Flask (Dry Ice bath)
Capacity : 04 Liters

Test Jars:

Cylindrical of Borosil make, Flat bottom with 120 ± 5 mm height. The inside diameter of test jar is of 31.5 ± 0.5 mm within constraint that

the wall thickness be no greater than 1.3mm. The jar has a permanent mark at the 45 ± 1 mL level.

Jacket:

(2.5mm thick) - water tight, cylindrical, metal flat bottom 115 ± 3 mm depth with inside diameter of 45mm and outside diameter of 48 mm. It will be supported in a vertical position in the cooling bath, so that not more than 25mm projects out of the medium and will be capable of being cleaned.

Insulating rings:

Made from oil-resistant plastics or other suitable material, to be placed in the bottom of the jacket to provide insulation for the bottom of the test jar. It fits closely inside the jacket and have a thickness of 6 ± 0.3 mm.

Spacer rings:

Approximately 5-mm thick, made of oil-resistant plastics or other suitable material, to be placed around the test jar to provide insulation for the test jar from the sides of the jacket. The spacers shall fit closely to the test jar and closely inside the jacket.

Supporting ring:

Supporting rings of oil resistant plastics or other suitable non-metallic, non-absorbent, oil-resistant material, used to suspend the jacket in a stable and upright position in the cooling bath and to provide a concentric location for the stopper

Thermometer:

IP-1C and IP-2C (02 Nos) JRM make thermometers will be provided with certificate from NABL certified lab.

Pipette with Filter unit:

Pipette of clear glass with a calibration mark corresponding to a contained volume of 20 ± 0.2 mL at a point 149 ± 0.5 mm from the bottom of the Pipette. It will be connected to the filter unit. Body of Filter unit will be of Brass material and will be supplied along with 32 μ m, wire mesh filters, brass screw cap, filter holder and brass cylinder.

Vacuum device:

Complete with two 5 liters bottle with stopper, stopcock and U-manometer.

Note: Specifications are subject to change.