



EIE INSTRUMENTS PVT. LTD.
(An ISO 9001:2015 Certified Company)

LPG COPPER STRIP CORROSION TEST APP-DIGITAL-ASTM D 1838



Complies with following International Standards :
ASTM D1838, ISO 6251, IP 411, etc..

The apparatus for the ASTM D1838 copper corrosion test requires a specialized temperature controlled water bath and pressure test cylinders, along with essential accessories for preparing and evaluating copper strips.

Equipment Specifications :

- Test Method: Conforms to ASTM D1838, ISO 6251, IP 411, etc..
- Test Temperature: The bath should maintain 37.8°C with high precision ($\pm 0.1^\circ\text{C}$).
- Bath Medium: Typically a water bath with a stainless steel tank.
- Capacity: Standard models accommodate 2 LPG corrosion test cylinders.
- Temperature Control: Microprocessor-based digital PID temperature controller with a digital display.
- Safety Features: Should include over-temperature cut off.
- LPG Test Cylinders (Bombs):
 - Precision-machined stainless steel construction.
 - Designed to withstand high pressure, typically hydrostatically tested to at least 6900 kPa (1000 psig).
 - Equipped with two 1/4" needle valves for sample purging and admission, and a dip tube with a hook for suspending the copper strip.
 - Screw-top closure with an O-ring gasket for a positive seal.

Additional Accessories and Consumables List :

- ASTM Copper Strip Corrosion Standards: A set of colour standards for visual comparison and rating of the tested copper strip.
- Copper Strips: High-purity copper (99.9%+) strips, sized 75 mm x 12.5 mm x 1.5-3.2 mm, with a 3.2 mm hole near one end.
- Polishing Vise: A multistrip vise to hold the copper strips securely during the polishing process.
- Polishing Materials:
 - Silicon carbide grit paper or cloth (P220-grit or 65 µm grade).
 - Wash Solvent: A volatile hydrocarbon solvent like 2,2,4-trimethylpentane (isooctane) for cleaning the strips.
- Viewing Test Tubes: Flat glass test tubes for holding the copper strip and some sample/solvent for comparison against the color standards.
- Thermometer: An ASTM thermometer (e.g., similar to 34C, range +23°C to 105°C) or a Pt100 temperature sensor for accurate temperature monitoring.
- Flexible Inert Hose: A high-pressure (tested up to 100 bar) flexible stainless steel hose with appropriate connectors (e.g., 1/4" NPT male/female thread) for safely transferring the LPG sample to the test cylinder.
- O-Rings/Gaskets: Spare O-rings (e.g., NBR material) for the pressure test cylinders to ensure leak-proof operation.

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