

# SOLUBILITY OF ASPHALT MATERIALS IN TRICHLOROETHYLENE



# Solubility Of Asphalt Materials In Trichloroethylene TT-2042

Solubility Of Asphalt Materials In Trichloroethylene TT-2042 - This testing procedure gauges the solubility of asphalt in trichloroethylene. The portion that dissolves in trichloroethylene signifies the active cementing constituents.

## APPLICATIONS

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The primary application of the Solubility Of Asphalt Materials In Trichloroethylene TT-2042 apparatus is to determine the purity of asphalt binders. By measuring the percentage of the material that dissolves in trichloroethylene, the test quantifies the amount of active, effective "cementing constituents." The insoluble portion is generally considered to be inert contaminants (e.g., minerals, free carbon), so a high solubility value indicates a purer, higher-quality asphalt binder.

### Key Industries

- **Asphalt Production & Petroleum Refining:** This is a fundamental quality control test for asphalt producers. It allows them to certify the purity of their binder and ensure it is free from significant contamination before it is sold.
- **Road Construction & Paving:** Paving contractors and hot-mix asphalt (HMA) plant operators use this test to verify the quality and purity of the asphalt binder they receive. Ensuring a high percentage of active binder is critical for the performance and long-term durability of the finished pavement.
- **Civil Engineering & Materials Testing Laboratories:** These labs, including government agencies like the Department of Transportation (DOT), perform this test for quality assurance and compliance. It is a key method for ensuring that the asphalt materials used in public infrastructure projects meet the required specifications for purity.

## TECHNICAL SPECIFICATIONS

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Assembly of the filtering apparatus is depicted below, along with details of its component parts:

1. Bitumen Crucible or Gooch Crucible: Glazed both inside and outside, except for the outer bottom surface. Dimensions approximately 44 mm diameter at the top, tapering to 36 mm at the bottom, with a depth of 20-30 mm.
2. Glass Microfiber Filter Pad: Diameter of 32-34 mm, fine porosity, fast flow rate, with a particle retention of 1.5  $\mu\text{m}$ .
3. Filter Flask: Heavy-wall flask with a side tube, available in capacities of 250 or 500 mL.
4. Filter Tube: Inside diameter ranging from 40 to 42 mm.
5. Rubber Tubing or Adapter: Used to secure the crucible on the filter tube.
6. Erlenmeyer Flask: Capacity of 125 mL.
7. Oven: Capable of maintaining a temperature of  $110 \pm 5^{\circ}\text{C}$ .



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