



ROLLING THIN FILM OVEN

Rolling Thin Film Oven TT-2872

Rolling Thin Film Oven TT-2872 is crafted to meet the specifications outlined in the ASTM D2872 Standard Test Method for Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin-Film Oven Test).

This oven serves to approximate the changes in asphalt properties during conventional hot-mixing at approximately 302°F (150°C), as indicated by viscosity and other rheological measurements. It produces a residue that closely resembles the asphalt's condition when integrated into pavement. Significant deviations in mixing temperature from the 302°F (150°C) level may lead to varying effects on properties. Additionally, this test method facilitates the determination of mass change, offering insights into asphalt volatility.

APPLICATIONS

The primary application of the Rolling Thin Film Oven (RTFO) TT-2872 is to simulate the short-term aging of asphalt binder that occurs during the hot-mixing and paving process, in compliance with the ASTM D2872 standard. The oven exposes a moving film of asphalt to heat and air, producing an aged residue. This residue is then tested for its physical properties (like viscosity, ductility, and penetration) to determine how the binder will perform after it has been mixed into pavement. The test also measures mass loss, providing an indication of the asphalt's volatility.

Key Industries

- **Asphalt Production & Petroleum Refining:** This is a mandatory quality control test for asphalt producers. It is a critical step in the performance grading (PG) of asphalt binders, ensuring the material will not age excessively during the construction phase.
- **Road Construction & Paving:** Paving contractors and hot-mix asphalt (HMA) plant operators rely on the results of the RTFO test to predict the binder's performance and ensure the final pavement will be durable and resistant to premature aging and cracking.

- **Civil Engineering & Materials Testing Laboratories:** These labs, particularly those associated with government agencies like the Department of Transportation (DOT), use the RTFO as a standard procedure for quality assurance, compliance testing, and research on asphalt materials used in public infrastructure projects.

FEATURES

- Incorporates thermal insulation layer and duct between the studio and box shell.
- Ensures stable and precise temperature control.
- Insulated with aluminum silicate cotton for enhanced insulation.
- Equipped with a dedicated air machine to supply the required airflow during the test.
- Utilizes advanced ASIC chip and manufacturing technology for the temperature sensor of the heating device, delivering optimal performance.

TECHNICAL SPECIFICATIONS

1. Working temperature: 163°C
2. Temperature accuracy: $\pm 0.5^{\circ}\text{C}$
3. Heating power: 2KW
4. Wheel speed: $15 \pm 0.2 \text{rpm}$
5. Air flow: $4 \pm 0.2 \text{L/min}$
6. Bottle nozzle size: 6.35mm
7. Filled sample bottle size: $\phi 64 \times 140$
8. Studio size: 480*450*380
9. Rated voltage: 220V $\pm 5\%$ (110V also available)



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