

Materials Testing Division

Rolling Thin-Film Ovens



The Rolling Thin-Film Oven (RTFO) procedure provides simulated short term aged asphalt binder for physical property testing. Asphalt binder is exposed to elevated temperatures to simulate manufacturing and placement aging.

The RTFO also provides a quantitative measure of the volatiles lost during the aging process.

The exterior is constructed from sheet steel finished in an easy clean powder coated paint and the interior chamber is made from stainless steel.

The control system comprises of a microprocessor digital controller and overheat thermostat with calibrated scale and tamper proof lock.

The standard Rolling Thin-Film Oven test is:
AASHTO T 240 and ASTM D2872.

The Rolling Thin-Film Oven

- Complies to the requirements of ASTM D2872
- Internal dimensions (mm): 380 high x 480 wide x 440 deep
- External dimensions (mm): 800 high x 710 wide x 660 deep (add 40mm to depth for door handle)
- Double wall construction with high density thermal insulation
- Non-rusting grade 304 Stainless steel interior
- Easy clean powder painted steel exterior in light grey (RAL 7035) textured finish
- Top mounted fan constructed with an air plenum as described in the ASTM D2872 specification and is fitted with a squirrel-type fan blade for better uniformity of air and temperature distribution
- Equipped with air jet for blowing heating air into each bottle at its lowest point of travel
- Base mounted elements
- Vented to atmosphere
- Single front opening, side hinged door with positive quarter turn latching mechanism
- Double glazed window in door for viewing the test chamber
- Top mounted controls comprise:
 - ✓ Dual display microprocessor digital control
 - ✓ Independent overheat thermostat
 - ✓ Mains switch
 - ✓ Flow meter to control airflow
 - ✓ Indicator lamps
- 1500 watts
- Supplied with a built-in 305mm diameter vertical circulator carriage to hold 8 glass sample containers rotating at 15 rpm ± 0.2 rpm (glass containers not supplied)
- Temperature is controlled and pre-set at $163^{\circ}\text{C} \pm 1^{\circ}\text{C}$

RTFO – Rolling thin film oven – 220-240 volts

RTFO1 – Rolling thin film oven – 110-120 volts