

## Aging - Rolling Thin Film Oven Test Method - RTFOT (semi-automatic)

ASTM D 2872, EN 12607-1, JIS K2207, AASHTO T240 (obs.), Superpave®

**Product group(s):** Bitumen

**User group(s):** Asphalt, Bitumen, Tar

**Scope:** To determine the effects of heat and air during conventional hot-mixing on a thin moving film of semi-solid bitumen or bituminous binders. Indicating the resistance to hardening under influence of heat and air and the change in sample mass (Loss on Heat).  
Suitable for bitumen (asphalt), flux oil & bituminous binders.

The effects of heat and air are determined by physical tests measured before and after the oven treatment.  
A moving film of a sample is heated in an oven with a constant air flow and a vertical rotating shelf.

### ASTM D 2872:

The samples are cooled down in horizontal position in a metal rack.

The change in sample mass (by analytical balance) and the changed properties of bitumen (by Ductility, Viscosity) are examined.

### EN 12 607-1:

The samples are cooled down in a desiccator. The change in sample mass (by analytical balance) and the changed properties of binders (by Penetration, Softening-Point, Viscosity).

- Ready-to-Go Set
- Squirrel Cage Protected Fan
- Flowmeter Control



### Semi-Automatic Rolling-Thin-Film Oven Test Equipment

to be composed of:

- Semi-Automatic **Rolling-Thin-Film Oven Tester**  
(according to ASTM & EN)
- **Pressure Reducer**

### Technical Data

Test places:	2 - 8
Working temperature:	163 °C (325 °F)
Rotating speed:	15 rpm
Air volume:	4000 ml/min
Inside dimensions:	483 x 450 x 381 mm (WxDxH)
Outside dimensions:	750 x 650 x 820 mm (WxDxH)
Weight:	approx. 50 kg

## Main Unit

10-0619

**RTFOT - Semi-Automatic Rolling-Thin-Film Oven Tester**  
ASTM D 2872 - EN 12607-1 - Superpave® - JIS K2207

#### Features:

- for semi-solid bituminous samples
- digital display of temperature & settings
- squirrel cage protected fan
- venting continuously variable
- flowmeter control

Consisting of:

double-walled electrically heated convection type oven made of stainless steel, door with heat resistant twin paned glass window, safety thermostat and digital display, internal fan, symmetrical top and bottom vents, circular and vertical rotating 8-place aluminum rotating shelf, flowmeter controlled air jet at the lowest point blows pre-heated air with a constant volume into each passing glass.

Supplied with:

8 sample jars  
1 thermometer ASTM 13C

Note: pressure reducer is recommended.

Power supply: 230 V, 50 Hz, EU-plug

10-0621

**Pressure Reducer**

with Valve and Manometer, 0.2 to 7 bar

**Options & Accessories**

25-0489

**Vacuum-Pump with Mini-Compressor & Accessories**



Consisting of:

1 oil-free diaphragm pump with filter,  
1 hose (Ø 6 mm x 1 m, silicon, clear),  
1 T-piece connection (Ø 7.5 mm)  
1 Hoffmann-Clip

Technical Data:

Max. capacity: 11.5 l/min  
End vacuum: 240 mbar  
Operating pressure: 2 bar (overpressure)  
Dimensions / Weight: 9 x 20 x 13 cm (WxDxH), 2.2 kg

Power supply: 220/230 V, 50 Hz, EU-plug

25-0490

**Vacuum-Pump with Mini-Compressor & Accessories**

Like 25-0489 but:

Power supply: 110/115 V, 60 Hz, US-plug

16-0700

**Air Volume Meter (used to calibrate flowmeters)**

Technical Data:

Type: wet experiment drum-meter for small quantities of gas  
Range: 6 - 360 l/h min.  
Readable Volume: 0.02 l  
Drum Volume: 3 l  
Accuracy: ±0,2 %

**Spare Parts**

10-0625

**Sample Jar, heat-resistant glass**

(Ø 64 mm x 140 mm)

10-0126

**Thermometer ASTM 13C / IP 47C**

Range: +155 to +170 : 0.5 °C  
Length: 155 mm, Immersion: total, Ø 6.5 mm

10-0127

**Thermometer ASTM 13C / IP 47C**

Range: +155 to +170 : 0.5 °C (officially certified)

10-0629

**Heating element**

**Order Guideline**

Minimum equipment: 10-0619  
Spares (approx. 1 year): 10-0625  
Additional requirements: Rack or Desiccator to let the samples cool down