

Ageing and Heat Resistance

07E Multi-Cell Ageing Oven

Accelerated ageing and heat resistance tests are designed to estimate the relative resistance of rubber to deterioration with the passage of time. The Wallace 07E Multi-Cell Ageing Chamber allows samples to be aged in separate cells, preventing any contamination from adjacent samples through the migration of volatile substances.

Features

- **Stable temperature range 60 - 250°C**
- **Seven separate test cells**
- **No volatile migration between cells**
- **Auto-tuning temperature control**
- **Adjustable air flow**
- **Accurate temperature and airflow**
- **Safety Temperature cut-out**
- **Sturdy Construction on stand and castor wheels**

Principle of Operation

The rubber is subjected to controlled deteriorating influences for definite periods, after which appropriate properties are measured and compared with the corresponding properties of the unaged rubber.

This air oven method of ageing exposes a test sample to elevated air temperatures, allowing its physical properties, such as tensile strength, to be measured and compared with those of an unaged sample.

Avoiding the need for valuable bench space, the 07E is designed as a complete unit with its own stand and castor wheels.

The oven is a solid aluminium block with seven vertical cells machined from it. Preheated air at a controlled temperature is pumped from a manifold through a calibrated opening into the bottom of each cell, ensuring even air and temperature distribution.

To avoid contamination from re-circulation, the air is discharged to the atmosphere through the two covers at the top of each cell. The test samples are suspended from the inside of the top cover.

The oven includes a PID temperature controller with digital display. The controller is auto-tuning, achieving a high level of accuracy and stability at the working temperature. Alarms on the controller abort the tests if the temperature goes outside its operating band.

A valve positioned on the top of the control module regulates the airflow, which is measured accurately by a calibrated flow-meter.

A USB communication option is offered, allowing connection to a PC.

Safety Features

- After a power failure the oven will not auto-reset for safety reasons.
- The oven is fitted with thermostats, which will switch off the power supply if the cell temperature exceeds 280°C.



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Specifications

Wallace Multi-Cell Ageing Chamber (07E)	
Part Number	WAO7E
Dimensions	960mm (h) x 620mm (w) x 500mm (d)
Weight	113kg
Maximum Power	2.1kW
Chamber size	75mm (diameter) x 305mm (depth)
Number of heating chambers	7
Temperature Range	60 - 250°C ± 0.2°C
Air Flow	1 - 10ft ³ /hr
Operating Temperature	10 to 40°C; Altitude 2000m maximum
Humidity Range	10 to 80% RH non-condensing

Standards

BS ISO 188, ASTM D573

