Elastocon®

Hot set tester, EB 16-II

Oven for determination of hot set according to IEC 811-2-1

The EB 16-II hot set tester is made for hot set testing of cable material according to IEC 811-2-1. It is built on an ageing oven that performs well inside the apparatus requirements in IEC 811.

To avoid too high temperature loss when inserting and cutting the samples, the samples are placed through a small opening in the top of the oven. To get a suitable working height and not shake the samples during insertion, the oven is fixed and the sample holder moves up and down by a servo motor driven screw system.

The oven has a low air speed and an air exchange rate which is controlled by a flow meter, meeting the requirements for ageing ovens in IEC 811.

Measurements are made through the window with a laser pointer mounted on a measuring scale placed on the door. The laser pointer will automatically shut off when the door is opened. The window can be taken apart for cleaning.

When measuring the elongation with a push on a button on the scale, the measured values are entered into a spreadsheet template, through a Bluetooth connection.

The templates are for testing 3 flat samples, 3 round samples, 4 flat samples with possibility to have 2 samples in 2 different materials, and 4 round samples with possibility to have 2 samples in 2 different materials.

The set is measured outside the oven with a digital caliper also connected to the computer through a Bluetooth connection. A finished report can then be produced in a spreadsheet software.

Some accessories needed for the hot set test are not included: a balance, sample preparation instruments such as cutting press, cutting dies, a marker, and a pair of scissors.

Elastocon AB • Tvinnargatan 25 • SE-507 30 Brämhult • Sweden
Phone: +46 33 323 39 00 • E-mail: info@elastocon.se • www.elastocon.com

Technical specifications for EB 16-II hot set tester

Temperature range, °C:	+40 to +250
Temperature control, +40 to +100 °C, °C:	± 0,5
+101 to +200 °C, °C:	± 1,0
+201 to +250 °C, °C:	± 2
Temperature variation in time, °C:	± 0,25
Temperature variation in space, %:	± 0,5
Temperature sensors:	Pt 100, 1/3 DIN
Air speed, m/s:	<0,001
Useful volume, l:	60
Sample positions:	4
Dimensions, inner, w × h × d, mm:	450 × 450 × 300
Dimensions, external, w × h × d, mm:	820 × 1490 × 680
Dimension, window, 4 glass, mm:	200 × 300
Illumination of the inner chamber:	24 V, 10 W halogen
Weight, kg:	approx. 120
Voltage, V/phase/freq:	220 to 240/1/50
Power, W:	2 200

Note: *EB 16-II needs connection to dry and clean compressed air for the air exchange.*

Common specifications

- The oven performs well inside the apparatus requirements in IEC 811.
- The sample holder moves up and down by a servo motor.
- Special design with controlled air exchange rate and low air speed.
- The casing consists of steel, painted with powder paint in bluegreen colour.
- The inner chamber is made of stainless steal.
- Temperature controller with 0,1 °C setpoint.
- Solid state relay for safe control.
- Temperature indicator with sensor in the test space.
- Adjustable over and under temperature limits with alarm.
- Fixed over temperature fuse at 340 °C.
- Over temperature safety relay.
- Flowmeter with needle valve, for setting the air exchange rate.
- The air speed is low and it is dependent on the air exchange rate only.
- Cooling channels in the casing for low surface temperature.
- Temperature controlled cooling fan for the electronics cabinet.
- Run-time meter.
- Laser pointer for measuring the elongation.
- Calliper for measuring the tension set.
- 2 pcs of timers (one preset to 5 min the other one preset to 15 min PLC).
- The temperature, timers, alarms and movement are controlled by a micro PLC with colour touch screen.
- Clamps and weights for 8 samples are included as well as the computer (PC).

Optional accessories

- **EB 16.01** 1 Set of extra grips, weights and hook.
- **EB 16.03** 8 Set of extra grips, weights and hooks.
- **EC 11**, monitoring software.
- Network cables.
- **ET 01.08** Adjustable table for hot set testers.

Included in the purchase of hot set instruments

EB 16-II	EB 30
Grips, hooks and weights for 8 samples	Grips, hooks and weights for 4 samples
Bluetooth connected caliper	No
Bluetooth connected measuring scale with line laser on the instrument	Line laser with measuring scale on the instrument
2 timers inbuilt in the PLC touch screen	No
Computer	No
Templates for calculations and reports	Templates for calculations and reports

ELASTOCON reserve the right to modify these specifications in part or in whole.

Hot set oven basic, EB 30

Oven for determination of hot set according to IEC 60811-507

The EB 30 hot set oven basic is made for hot set testing of cable material according to IEC 60811-507 and technically equivalent standards.

It is built on a heating cabinet with window in the door. The inner chamber of stainless steel is equipped with illumination. Measurements are made through the window with a laser pointer that is mounted on a measuring scale placed on the door.

The line laser will automatically shut off when the door is opened.

All measurements can be inserted in a spreadsheet template (included) for calculation of both the weight necessary for each sample, and the hot set test result.

4 different templates are included and ready for installation on your PC for the usage in a spreadsheet software of your choice.

The templates are for testing 3 flat samples, 3 round samples, 4 flat samples with possibility to have 2 samples in 2 different materials, and 4 round samples with possibility to have 2 samples in 2 different materials. These templates will generate a test report.

Also included in the purchase are 4 hooks to hang the samples on as well as weights and clamps for 4 samples.

Some accessories needed for the hot set test are not included: a balance, a PC with a spreadsheet software, a caliper, sample preparation instruments such as cutting press, cutting dies, a marker, and a pair of scissors.

Technical specifications for EB 30 hot set oven basic

Temperature range, °C:	+40 to +200
Temperature control, °C:	± 1,0
Temperature variation in time, °C:	± 0,3
Temperature variation in space, %:	± 1,3
Temperature sensors:	Pt 100
Volume, l:	116
Sample positions:	4
Dimensions, inner, w × h × d, mm:	550 × 550 × 385
Dimensions, external, w × h × d, mm:	710 × 735 × 760
Dimension, window, 4 glass, mm:	370 × 370
Illumination of the inner chamber:	15 W
Weight, kg: approx.	63
Voltage, V/phase/freq:	220 to 240/1/50
Power, W:	1300

Common specifications

- The oven performs well inside the apparatus requirements in IEC 60811-507.
- The casing consists of steel, painted with powder coating.
- The inner chamber is made of stainless steel.
- Temperature controller with 1 °C setpoint.
- Solid state relay for safe control.
- Over temperature safety relay.
- Cooling channels in the casing for low surface temperature.
- Laser pointer for measuring the elongation.
- Clamps and weights for 4 samples are included.

Optional accessories

- **EB 16.01** 1 Set of extra grips, weights and hook.
- **EB 16.03** 8 Set of extra grips, weights and hooks.
- **EB 30.01** Caliper, timers and Bluetooth connection kit for connecting the measuring scale and caliper to a computer.
- **ED 04** Computer (Windows) with a spreadsheet software.
- Balance.
- Sample preparation instruments such as cutting press, cutting dies etc.
- **ET 01.08** Adjustable table for hot set testers.

Elastocon®

Elastocon AB
Tvinnargatan 25 • SE-507 30 Brämhult • Sweden
Phone: +46 33 323 39 00 • E-mail: info@elastocon.se
www.elastocon.com