SCB Tester EmS

Semi Circular Bend tester — electromechanical and automatic

The SCB EmS is a fully automatic stand-alone Semi Circular testing system powered by our new environmentally friendly Electromechanical Servoactuation (EmS) technology.

Silent, compact and highly performing, the SCB EmS is run by our ingenious AutoSCB software. Pre-programmed with testing procedures conforming to international standards, our AutoSCB software will guide you from initial set-up through the full test including the critical slope and energy calculations.

SCB test description

The Semi Circular Bend test determines the cracking resistance properties of a semi-circular asphalt specimen (cut from a Gyratory Compactor sample) with a notch cut parallel to the loading axis. The test is performed at constant vertical displacement until specimen failure. Typically, fracture energy parameters are calculated from the load/vertical displacement graph, to rank the resistance of asphalt mixtures to cracking.

Specifications

Maximum vertical force	20 kN (4,500 lbs)
Ram travel	25 mm (1.0 in)
Minimum testing speed	0.0001 mm/min (0.000004 in/min)
Maximum testing speed	50 mm/min (2.0 in/min)
Horizontal clearance	175 mm (6.9 in)
Vertical clearance	440 mm (17.3 in)
Dimension	285 x 390 x 810 mm (11 x 15 x 32 in)
Weights	40 kg (90 lbs) approx.
Power	220–110 V, 50–60 Hz, 1 ph
Power consumption	600 W

Test standards

ASTM D8044 — Cracking Resistance SCB test at Intermediate Temperatures

AASHTO TP124 — Fracture Potential Flexibility Index Test (FIT)

EN 12697-44 — Crack propagation by SCB test

Features

- **Fully automatic testing** for the most common SCB testing procedures.
- **Environmentally friendly and quiet —** new Electromechanical Servoactuation (EmS) technology requires no hydraulic jacks or pumps drastically reducing noise levels.
- **Lightweight and portable** with a small footprint that can be easily accommodated on benchtops less than 500 mm (20 in) deep.
- **High performance** with 20kN (4,500 lbs) capacity and a 25mm (1.0 in) displacement transducer.
- **Precise, repeatable and accurate test speed control** with optimized closed-loop PID control.
- **Stand-alone system** complete with PC software with pre-programmed testing procedures.

Testing made easy

Totally new and ingenious AutoSCB software

- Time saving with automatic PC control
- Reliable LAN connection to SCB Tester EmS
- Easy to use with a full range of pre-programmed SCB test procedures
- Total standards compliance — fully automatic SCB testing in accordance with the standard testing procedure
- Full test process automation, including slope and energy calculations

Interchangeable SCB jigs

- SCB tester EmS is compatible with a range of SCB jigs conforming to the main international standards.
- ASTM/AASHTO SCB jigs are also compatible with IPC Global dynamic UTMs, AMPTs and AsphaltQubes.

Standard test method

ASTM D8044 — Standard Test Method for Evaluation of Asphalt Mixture Cracking Resistance using the Semi Circular Bend Test (SCB) at Intermediate Temperatures.

AASHTO TP124 — Standard Test Method for determining the Fracture Potential of Asphalt Mixtures Using the Flexibility Index Test (FIT).

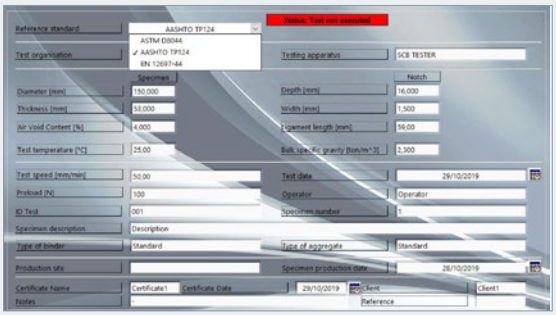
EN 12697-44 — Bituminous Mixtures Test methods for testing crack propagation by semi-circular bending.

Ordering information

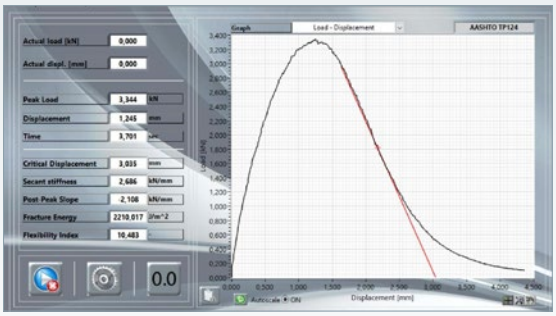
79-PV0310 SCB EmS - Electromechanical Servoactuation, automatic Semi Circular Bend testing machine.

- Complete with AutoSCB PC software. PC and SCB test jigs not included and must be ordered separately.*
- 100-220 V, 50-60 Hz, 1 ph.

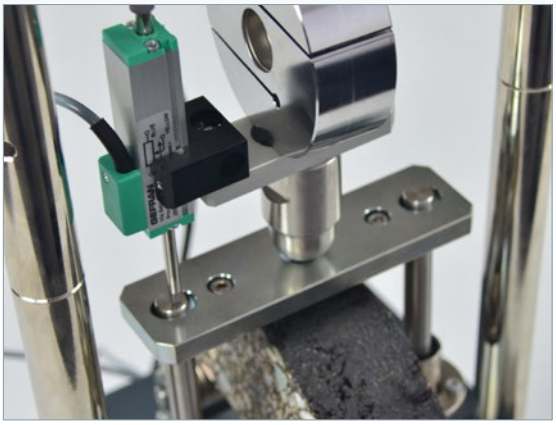
* Please check our webpage for additional information



Selection of AutoSCB test configuration from software menu



Typical result from SCB test



Detail of the integrated load cell and displacement transducer

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