

DATA SHEET

SCB Tester EmS — Semi Circular Bend Tester, electromechanical & automatic



EN 12697-44 | ASTM D8044 | AASHTO TP124

MAIN FEATURES

The **totally new SCB EmS** is a fully automatic stand-alone test system. Utilizing our environmentally friendly Electromechanical Servoactuation (EmS) technology, it quickly determines the cracking resistance of asphalt specimens with accuracy, repeatability and compliance to standards.

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.

FULLY AUTOMATIC

Improved testing process and accuracy

The SCB EmS can complete all tests in full automatic mode and deliver standards compliant and repeatable results without manual intervention minimizing operator variability and increasing accuracy.

TOTALLY NEW AND INGENIOUS SOFTWARE

Ease of use and total standards compliance

Now controlled by its own dedicated software pre-loaded with testing procedures conforming to international standards, the SCB Tester EmS will guide you through the full test including the critical slope and energy calculations.

- **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

FEATURING EmS ELECTROMECHANICAL SERVOACTUATION TECHNOLOGY

Lower maintenance and noise levels

Versatile and fully automatic, this stand-alone test system is powered by our quiet and environmentally friendly EmS technology requiring no hydraulic jacks or pumps. This drastically reduces noise levels and lowers the level of maintenance.

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 METHODS

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

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- 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.

GENERAL DESCRIPTION

- **Fully automatic** perfect 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.
- **Lighweight and portable** with a small footprint that can easily be accommodated on benchtops even those less than 500 mm deep.
- **Highly performance with** 20kN capacity and a 25mm displacement transducer.
- **Precise, repeatable and accurate test speed control** with optimized closed-loop PID control.
- **Stand-alone system** complete with AutoSCB PC software for remote control loaded with pre-programmed testing procedures.

TECHNICAL SPECIFICATIONS

- Maximum vertical force: 20 kN
- Ram travel: 25 mm
- Minimum testing speed: 0.0001 mm/min
- Maximum testing speed: 50 mm/min
- Horizontal clearance: 175 mm
- Vertical clearance: 440 mm
- Dimension: 285 x 390 x 810 mm
- Weights 40 kg (approx.)
- Power: 220–110 V, 50–60 Hz, 1 ph
- Power consumption: 600 W

ORDERING INFO

79-PV0310

SCB EmS - Electromechanical Servoactuation, automatic Semi-Circular Bend testing machine. Complete with PC software. PC and SCB test jigs not included and must be ordered separately.
100-220 V, 50-60 Hz, 1 ph.

ACCESSORIES

SCB jig to ASTM D8044 and AASHTO TP124 Method B

79-PV70150

Indirect Tensile (IDT) and Semi-Circular Bend (SCB) Jig Base

79-PV70155

Semi-Circular Bend (SCB) Top Platen

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79-PV70156

Semi-Circular Bend (SCB) Jig Upgrade Kit Option for ASTM D8044 / AASHTO TP124 Method B

SCB jig to AASHTO TP124 Method A

79-PV70150

Indirect Tensile (IDT) and Semi-Circular Bend (SCB) Jig Base

79-PV70155

Semi-Circular Bend (SCB) Top Platen

79-PV70157

Semi-Circular Bend (SCB) Jig Upgrade Kit Option for AASHTO TP124 Method A

SCB jig to EN 12697-44

79-PV70119

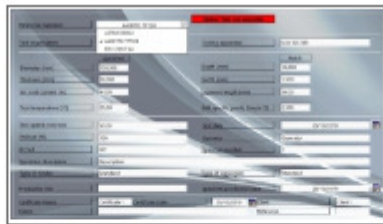
Indirect Tensile (IDT) and Semi-Circular Bend (SCB) Jig Base

79-PV70130

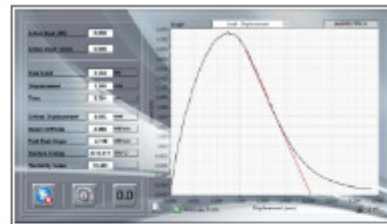
Semi-Circular Bend Test Jig for EN12697-44



SCB EmS tester with SCB jig



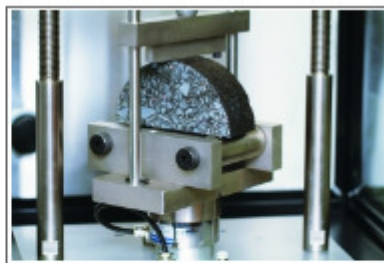
Detail of the integrated load cell and displacement transducer



Selection of SCB test configuration from software menu



Typical result from SCB test



Semi-Circular Bend (SCB Test) Kit to ASTM D8044 and AASHTO TP124 Method B