

Product Code

ShearTrac III

The ShearTrac IIITM system is capable of performing the consolidation and shear- ing phases of a 305 mm x 305 mm (12 x 12 in. by 200mm(8.0 in) height direct shear test under automatic control for soils and geosynthetics (geomembrane, geotextile, GCL, geogrid, etc.) as well as for deter- mining the interface frictional properties of soil and geosynthetics, and internal friction of GCLs.

The system consists of a computer con- trolled unit that utilizes a micro stepper motor to apply the horizontal loads. Ver- sions of the unit are available to test loads up to 50 kN (10,000 lbs). Built- in elec- tronics control test and display data in real time. The system is capable of applying a constant rate of strain or stress at any displacement rate up to 15mm (0.6 inch) per minute. The computer controlled program runs under latest Windows. It includes the capability to display the current status of latest and graphically portray the progress of the test in real time. The system also includes the capa- bility for the operator to alter the test process and conditions at any stage during the test.

This is a turnkey system that includes hardware and software for recording all test input data and settings of selected test parameters, performing standard engineering calculations on the data, and producing graphically plotted and printed output in the standard Corps format, in accordance with ASTM D5321, D6243 and BS 1377 standards.

Applicable Test Standards

- ASTM D-5321 and D-6243
- ASTM 3080/T236
- BS 1377

Features / Benefits

- Built-in end clamps for geosynthetics testing
- Optional grip plates for true internal friction determination for GCLs
- Linear bearings for minimum horizontal friction
- Two sets of limit switches to prevent over traveling
- Built-in 4-channel data acquisition with 16-bit resolution
- Two LCD display
- Two displacement transducers with 100 mm (4.00 in.) range and 0.002 mm (0.00008 in.) resolution
- Two universal shear web type load cells
- Accurate displacement rate control from 0.00003 to 10 mm per minute (0.000001 to 0.4 in. per minute)
- Built-in electronic controls for automatic display of data and control of test
- Windows XP, or Vista, 7 friendly user interface
- Fully incremental consolidation test capability



Technical Specifications

Capacity	50 kN (10,500 lbs.)
Vertical Motor	Stepper motor with built-in controls for vertical load
Horizontal Mot.	Stepper motor with built-in controls for horizontal load
Speed Range	0.00003 to 10 mm per min. (0.000001 to 0.4 in per minute
Vertical Travel	90 mm (3.5 in.) resolved to 0.002 mm (0.00008 inches)
Horizontal Travel	90 mm (3.5 in.) resolved to 0.002 mm (0.00008 inches)
Power	110/220 V, 50/60 Hz, 1phase

Models

ST-10000	50 kN (10,000 lbs.) frame capacity in both directions.
----------	--

Accessories

Geo-NETTM-	Network card and cable to link ShearTrac III to PC
PC Shear	Software package to automatically run consolidation and direct shear test on ShearTrac III
Shear.report	Editing/reporting software package
Gripping Plates	Optional for GCL testing