

Benefits and Features

- 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
- Displacement transducers with +/- 45 mm (1.75 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 7.5 mm per minute (0.000001 to 0.3 in. per minute)
- Built-in electronic controls for display of data and manual control of test
- Windows® friendly user interface
- Fully incremental consolidation test capability

Applicable Test Standards

- ASTM D5321 / D6243
- ASTM D3080 / T236
- BS 1377

The ShearTrac III system is capable of performing the consolidation and shearing phases of a 300 x 300 x 205 mm (12 x 12 x 8 in.) direct shear test under automatic control for soils and geosynthetics (geomembrane, geotextile, GCL, geogrid, etc.), as well as for determining the interface frictional properties of soil and geosynthetics, and internal friction of GCLs.

The system consists of a computer controlled unit that utilizes a micro stepper motor to apply the horizontal loads. Versions of the unit are available to test loads up to 160 kN (35,000 lbs). Built-in electronics 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 7.5 mm (0.3 in.) per minute. The computer controlled program runs under latest Windows® software. 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 capability 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, D3080 and BS 1377 standards.



Standard Fully-Automated ShearTrac III System

Interface Shear ShearTrac III

TECHNICAL SPECIFICATIONS

CAPACITY

Up to 160 kN (35,000 lbs.) vertical and
115 kN (25,000 lbs.) horizontal

VERTICAL MOTOR

Electro-mechanical stepper motor with
built-in controls for vertical load

HORIZONTAL MOTOR

Electro-mechanical stepper motor with
built-in controls for horizontal load

SPEED RANGE

0.00003 to 7.5 mm per min.
(0.000001 to 0.3 in. per min.)

VERTICAL TRAVEL

+/- 45 mm (1.75 in.) resolved to
0.002 mm (0.00008 in.)

HORIZONTAL TRAVEL

+/- 45 mm (1.75 in.) resolved to
0.002 mm (0.00008 in.)

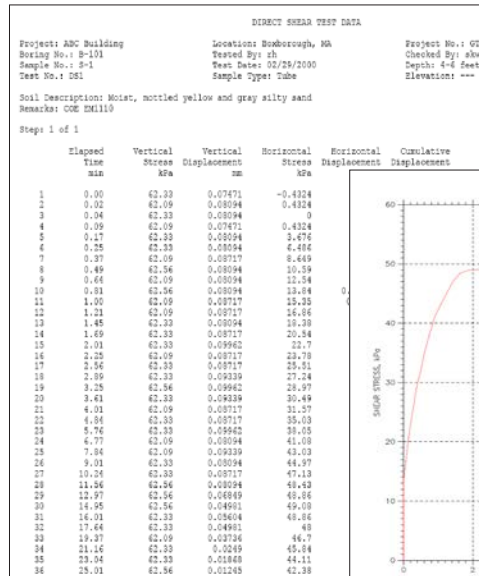
ACCESSORIES

Geo-NET PC Network card and cable to
link ShearTrac III to PC

SHEAR: Software package to
automatically run consolidation and direct
shear test on ShearTrac III

SHEAR.REPORT: Editing / reporting
software package

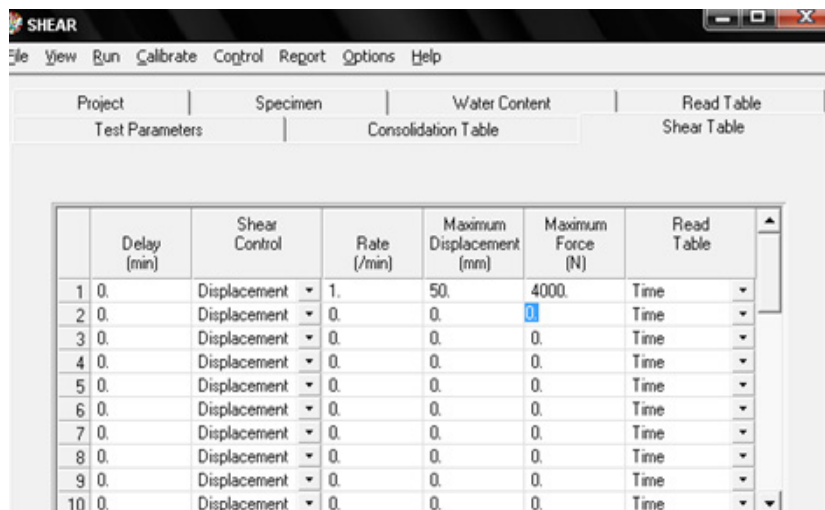
GRIPPING PLATES: Optional for GCL
testing



Typical Test Output

Project: ABC Building	Location: Boston, MA	Project No.: GTX-0000
Boxing No.: B-101	Tested By: sh	Checked By: shv
Sample No.: S-1	Test Date: 02/29/2000	Depth: 4-6 feet
Test No.: D51	Sample Type: Tube	Elevation: ---

Soil Description: Moist, mottled yellow and gray silty sand
Remarks: CDE EM1110
File: C:\Documents and Settings\hankour\My Documents\Active_Data\Direct Shear\D51.dat



User-friendly Interface