

Torvane and Penetrometer Quick Start Guide



Introduction

-The Torvane shear device (ELE International model 26-2261; Figure 13) enables the user to quickly determine the shear strength of cohesive soils. Three sizes of vanes are supplied with torvane. The standard vane has a stress from 0 to 1 kg/cm², this is also the approximate range of torque that can be easily applied by finger pressure.

It is used for fully saturated cohesive soils with undrained strength independent of normal pressure. The stress range permits it to be used for clays varying in consistency from very soft to stiff. A large vane is provided for use with remolded samples, and has a ratio of 0.2. A smaller vane with a ratio of 2.5 is used with stiffer clays

-The pocket penetrometer was developed by Soiltest Inc. for use for field engineers to check the visual classification of soils. The readings of the penetrometer were compiled from several thousand unconfined compression tests of silty and clay-like soils

Measuring the Sample

Torvane

1. Select the appropriate vane size and fit to vane driver (0.2, 1.0, 0.2 ratio)



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1. Make sure zero on dial is aligned with index mark on knob, rotating a counter-clockwise the dial face



1. Test the surface should be reasonably flat and least two inches in diameter. Press torvane into soil to depth of blades and maintain a constant vertical pressure while turning knob. A rate of rotation such that failure develops in five to ten seconds is recommended



1. After failure develops, release the remaining spring tension slowly and the index mark on the knob will indicate the maximum shear value



Penetrometer

The red ring on the barrel of penetrometer hold the maximum reading of the scale for esy reading



- 1. Slide the ring down against the instrument handle
- 2. Grip the knurled portion of the handle and push the tip of the penetrometer into the soil to the grove located ¼" from the tip



1. Read the unconfined compression strength directly in tons per square foot (TSF) or kilograms per square centimeter (kg/cm²) from the scale. The reading is located in the red ring, side closest to the knurled handle



Uploading the data

- 1. Open the spreadsheet for to enter the data



- 1. Scan the label of your sample

	A	B	C	D	E	F	G
1	Scan Your Barcode Below	Label ID	Text ID	Instrument	Raw Instrument Value	Offset (cm)	Adapter
2	SHLF10756	999-U9999A-10H-1-A	SHLF10756711				
3							
4							
5							
6							
7							
8							
9							

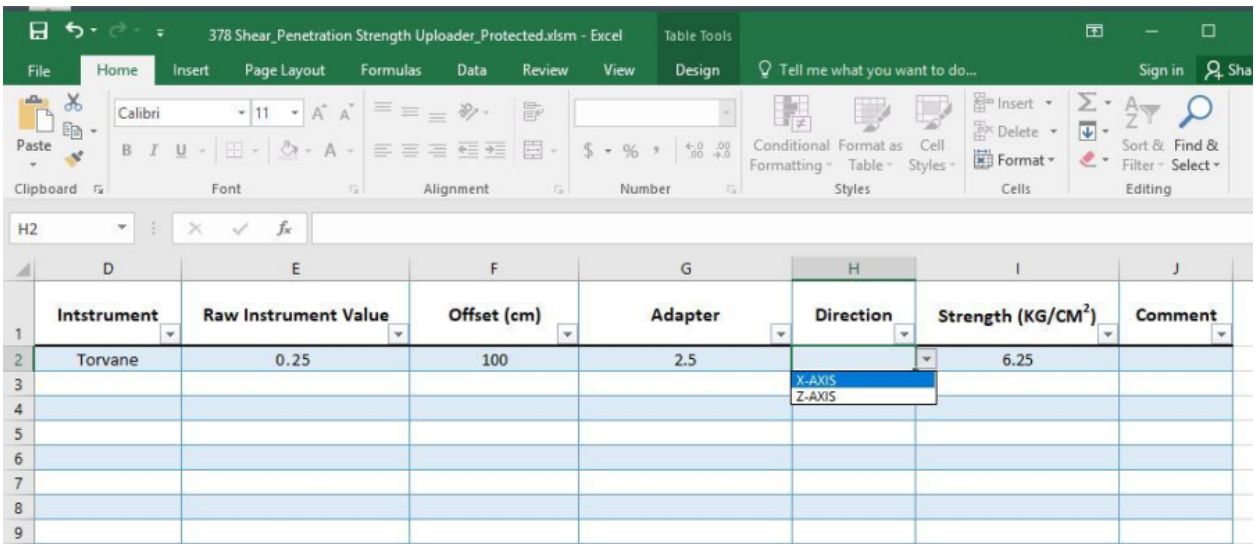
1. Select the instrument on cell (torvane or penetrometer), and write the value

	A	B	C	D	E	F	G
1	Scan Your Barcode Below	Label ID	Text ID	Instrument	Raw Instrument Value	Offset (cm)	Adapter
2	SHLF10756	999-U9999A-10H-1-A	SHLF10756711	Torvane	0.25		
3							
4							
5							
6							
7							

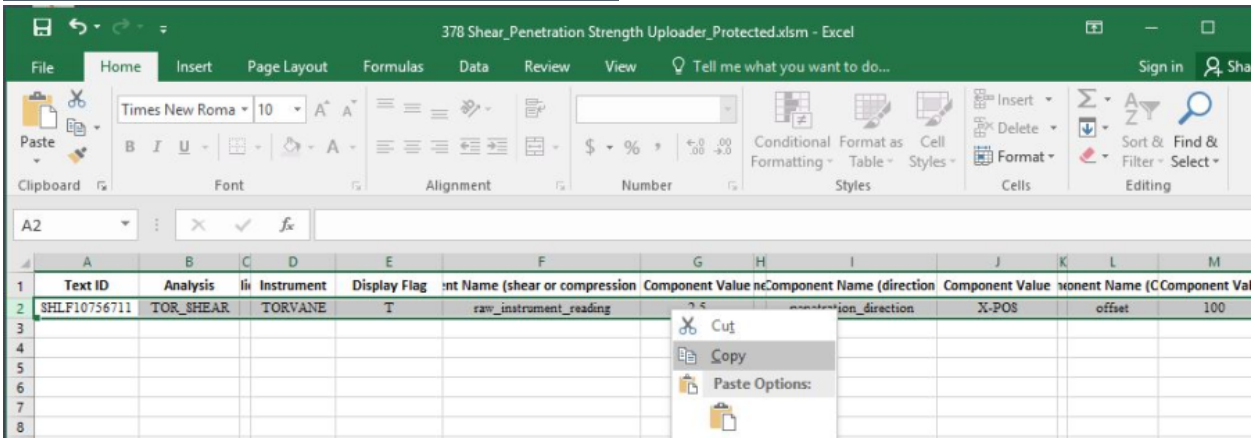
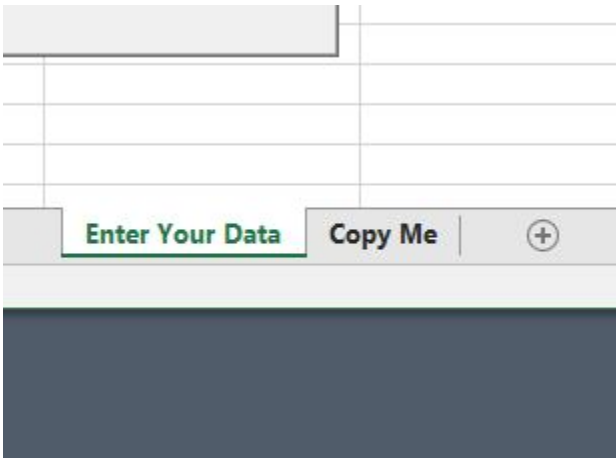
1. Write the offset and select the adapter number (torvane) or if you use it or no (penetrometer)

	D	E	F	G	H	I	J
1	Instrument	Raw Instrument Value	Offset (cm)	Adapter	Direction	Strength (KG/CM ²)	Comment
2	Torvane	0.25	100			0	
3				0.2			
4				1			
5				2.5			
6							
7							
8							
9							

1. Select the direction in which you realize the measurement

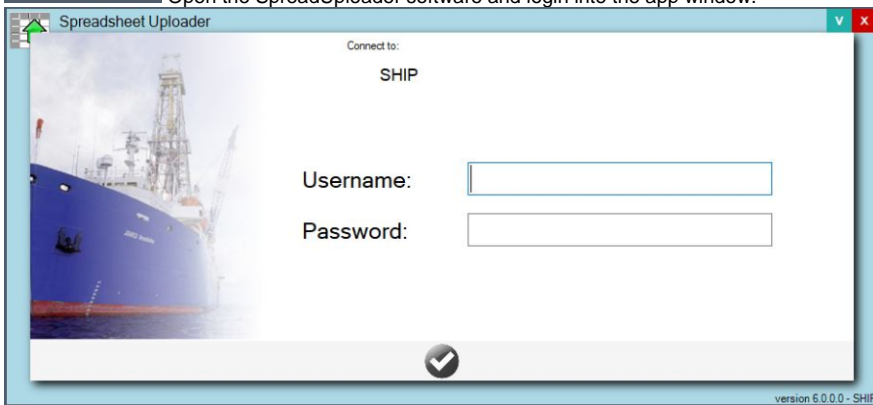


1. Select the "copy me" tab, down on spreadsheet and copy the rows with your sample data





1. Open the SpreadUploader software and login into the app window.



1. Paste the copied rows data and validate the sheet. A message will appear at the bottom if everything is fine.

Spreadsheet Loader - 6.0.0.0

File Edit Lims Current Project: 378 Clear Sheet

	Text ID	Analysis	Replicate	Instrument	Display Flag	Component Name	Component Value	Component Unit	Component Name	Component Value	Component Unit	Component Name
1	SHLF10756711	TOR_SHEAR		TORVANE	T	raw_instrument_re	2.5		penetration_dir	X-POS		offset
2												
3												

Spreadsheet Loader - 6.0.0.0

File Edit Lims Current Project: 378

	Text ID	Analysis	Replicate	Instrument	Display Flag	Component Name
1	SHLF10756711	TOR_SHEAR		TORVANE	T	raw_instrument_re
2						
3						
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Validate Sheet

Perform validation without uploading to LIMS

Building Analysis - Component list, this could take several seconds...
 Finished building Analysis - Component list.
 Retrieving Text-Id's from LIMS, this could take several seconds...
 Finished retrieving Text-Id's from LIMS.
 No errors found in this sheet, OK to upload.

File Load Progress Validation complete, no errors found.

1. Select Upload in the Lims button. A message will appear at the bottom when it is done

Spreadsheet Loader - 6.0.0.0

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Upload

	Text		Replicate	Instrument	Dis Fl
1	SHLF10756711	TOR_SHEAR		TORVANE	T
2					
3					
4					
5					
6					
7					
8					
9					
10					

Spreadsheet Loader - 6.0.0.0

File Edit Lims Current Project: 378

	Text ID	Analysis	Replicate	Instrument	Display Flag
1	SHLF10756711	TOR_SHEAR		TORVANE	T
2					
3					
4					
5					
6					
7					

Building Analysis - Component list, this could take several seconds...
 Finished building Analysis - Component list.
 Retrieving Text-Id's from LIMS, this could take several seconds...
 Finished retrieving Text-Id's from LIMS.
 No errors found in this sheet, OK to upload.
 Building Analysis - Component list, this could take several seconds...
 Finished building Analysis - Component list.
 Retrieving Text-Id's from LIMS, this could take several seconds...
 Finished retrieving Text-Id's from LIMS.
 No errors found in this sheet, OK to upload.
 Sample: 10756711 found
 Analysis: 118654971 logged
 Logged row: 1 successfully.
 Finished processing row 1
 Finished processing 1 rows; Total Elapsed Time: 00:00:02

That is all !!