



SVSOILS™

A KNOWLEDGE-BASED DATABASE SYSTEM
FOR SATURATED / UNSATURATED SOIL PROPERTIES

Premier Solution for the Estimation
of Unsaturated Soil Properties for
Numerical Modeling



SOILVISION®
INNOVATIVE GEO-MODELING SOFTWARE

SVSOILS™ (formerly known as SOILVISION®) is the world's premier product for estimating the hydraulic properties for flow modeling in unsaturated soils. Our database contains data on over 6,200 soil-water characteristic curves and provides numerous theoretical methods of estimating the soil-water characteristic curve (SWCC) or unsaturated hydraulic conductivity curve. Constitutive models can be developed for soils with little volume change on soft clays/tailings with high volume change characteristics such as oilsand tailings.

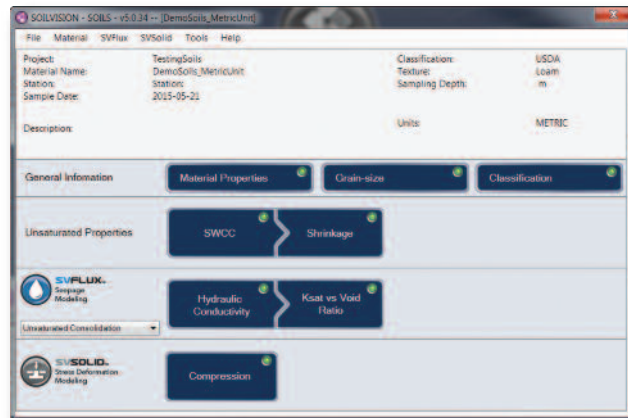
PREMIERE PACKAGE FOR ESTIMATING UNSATURATED HYDRAULIC PROPERTIES REIMAGINED

The SVOFFICE™5 release of SVSOILS™ software contains the following specific improvements...

- Redesigned simple user interface
- Additional unsaturated hydraulic properties
- Simple data mining/searching interface
- Development of oil-sand constitutive models
- Newly designed graphing engine
- Export unsaturated hydraulic properties into SVFLUX™GE
- New SVOFFICE™5/GE Manager integration

This completely new release represents a fresh re-design of the classic and popular SOILVISION® application. SVSOILS™ contains an expanded database of unsaturated soil properties and presents a new and simplified interface for a pleasing user experience.

SoilVision Systems Ltd. has spent years collecting high-



Redesigned simple user interface

quality unsaturated soil data from sources all over the world. The database continues to grow as more organizations donate soils to the system. Our database now contains data on over 6,200 soil samples. 98% of these soil samples have a soil-water characteristic curve measured in a laboratory. The soil database also contains saturated permeability (hydraulic conductivity) data on over 2,500 soils as well as unsaturated permeability data on over 700 soils.

The software is designed specifically for the estimation and mathematical representation of soil constitutive models for subsequent numerical modeling. Saturated and unsaturated soil properties may be estimated based on the extensive existing database or with one of the many estimation methods present in the software. The estimation methods include: 8 methods of estimating the soil-water characteristic curve; 14 methods of estimating saturated hydraulic conductivity; and 8 methods of estimating unsaturated hydraulic conductivity.

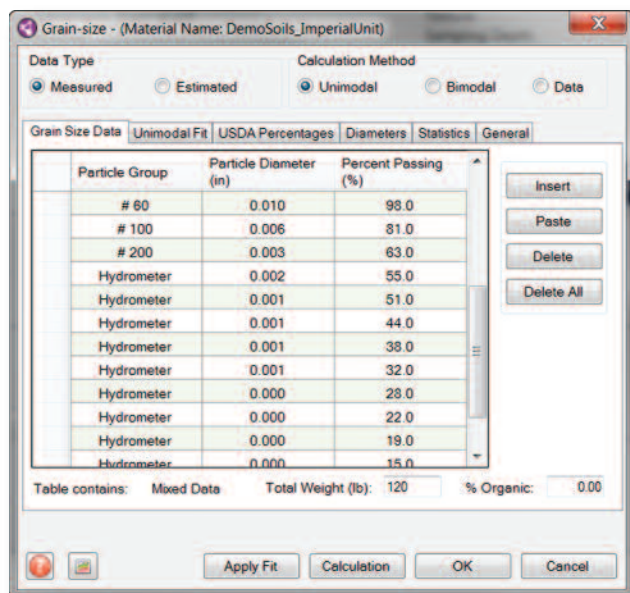
The new design is more tightly integrated with the SVOFFICE™5 suite of software – developed constitutive models may easily be integrated with the corresponding numerical analysis software package.

It is crucial to have an accurate description of unsaturated soil properties when performing finite element modeling of water and contaminant flow through the unsaturated soil zone. Methods for estimating unsaturated soil

properties may not always be reliable. The use of the database contained in the SVSOILS™ software can confirm the potential variability of your unsaturated soil properties. Groups of soils may be selected and plotted together to give a comprehensive idea of the variability of the soil-water characteristic curve. Determination of the air entry value (AEV) or the residual water content with increased accuracy is now possible.

Key features and capabilities of SVSOILS™

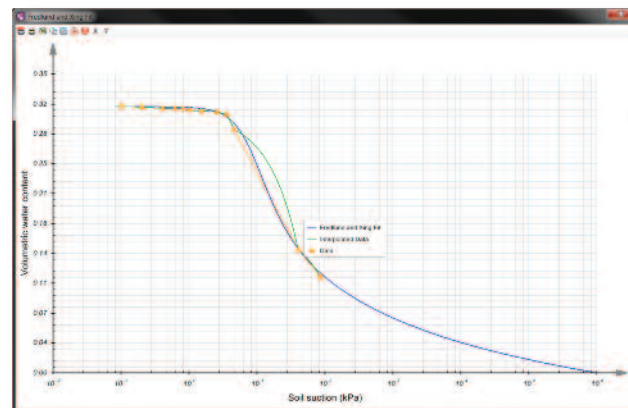
- Search database of over 6,200 soils
- Estimate SWCC by 9 methods
- Estimate saturated hydraulic conductivity by 15 methods
- Estimate unsaturated hydraulic conductivity by 10 methods
- Calculate volume-mass properties of an air-water-soil mixture using any 3 measured properties
- Import unsaturated constitutive model into SVFLUX™ for unsaturated seepage modeling
- Fit and estimate properties for consolidation modeling
- Estimate oil-sand tailings constitutive properties
- Newly designed graphing engine



Clear display of soil properties

General Applications

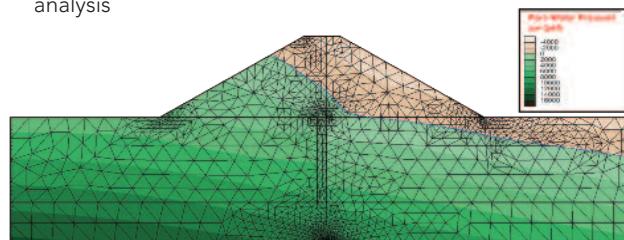
- Estimation of field capacity and capillary rise based on grainsize information
- Estimation of soil-water characteristic curves
- Estimation of saturated hydraulic conductivity curves
- Estimation of unsaturated hydraulic conductivity curves



Soil-water characteristic curve utilizing Fredlund-Xing fitting method

Seepage Modeling Applications

- Estimation of unsaturated hydraulic soil properties for seepage finite element modeling
- Easily push data to SVFLUX™ to perform your seepage analysis



Example results of SVFLUX™ seepage analysis

“The power...is in its large database of soil-water characteristic curves, and the fact that this database can be added to by the user. The “query” option allows grouping of soils with similar characteristics, such as grain-size distribution and classification. It is a valuable tool for use in unsaturated soil studies.”

Claudia E. Zapata, Ph.D.
Arizona State University

THE MOST VERSATILE SUITE
OF MULTI-DIMENSIONAL
GEOTECHNICAL AND
HYDROGEOLOGICAL
ANALYSIS TOOLS WE
HAVE EVER DEVELOPED.

WE HAVE REDEFINED THE
"NEW" STANDARD... AGAIN.

EXCITING NEW FEATURES!

SVOFFICE™5 introduces new features, speed, precision and functionality that have not been available in any other geotechnical analysis software until now.

SVOFFICE™5 boasts a completely new Manager with "Learning" and "Expert" user modes to get you up and running even faster; a completely reimagined and modern Soil Properties database application; a new user friendly 3D model geometry builder and visualizer... SVDESIGNER™; improved user interface for a more intuitive streamlined workflow; an entirely new graphics subsystem to handle more complex geometry, speed up workflows and allow for high resolution output of visuals.

What we haven't changed is our commitment to keep developing leading-edge software at a breakneck pace, exceptional technical support and user training.



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