



SVHEAT^{GE}
1D / 2D / 3D FINITE ELEMENT
FREEZE / THAW MODELING



SOILVISION[®]
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FEATURE COMPARISON				
PRODUCT VERSION	STUDENT	CLASSROOM	STANDARD	PRO
General				
Verification, Tutorial, and Example Manuals with Corresponding Models Provided	Yes	Yes	Yes	Yes
Create/Edit Models	Yes	Yes	Yes	Yes
CAD Windows Interface	Yes	Yes	Yes	Yes
Integrated Help System	Yes	Yes	Yes	Yes
Batch Analysis of Groups of Models	Yes	Yes	Yes	Yes
Windows 7, 8 and 10 Compatible	Yes	Yes	Yes	Yes
Multi-Core CPUs, Multi-Threading & 64 bit Environments Supported	Yes	Yes	Yes	Yes
Licensed for Engineering Consulting Use (Commercial Licenses Only)			Yes	Yes
Geometry				
Number of Regions	10	Unlimited	Unlimited	Unlimited
Number of Materials	3	Unlimited	Unlimited	Unlimited
Number of 3D Surfaces	3	Unlimited	Unlimited	Unlimited
Finite Element Cells	Limited*	Limited*	Unlimited	Unlimited
Import Regions from AutoCAD™ DXF Files		Yes	Yes	Yes
Import of Shape Files (SHP)		Yes	Yes	Yes
Import of ESRI ASCII Grid Files		Yes	Yes	Yes
Pinch Out Surfaces (3D)	Yes	Yes	Yes	Yes
Slice 3D Models to 2D Cross Section	Yes	Yes	Yes	Yes
Coordinate Systems				
1D Analysis	Yes	Yes	Yes	Yes
2D Analysis	Yes	Yes	Yes	Yes
3D Analysis	Yes	Yes	Yes	Yes
Axisymmetric Analysis		Yes	Yes	Yes
Plan View		Yes	Yes	Yes
Temporal				
Steady-State	Yes	Yes	Yes	Yes
Transient		Yes	Yes	Yes
Initial Conditions				
Other SVHeat™ Analysis	Yes	Yes	Yes	Yes
Constant/Equation of Temperature	Yes	Yes	Yes	Yes
Assign Initial Conditions by Region	Yes	Yes	Yes	Yes
Application Types				
Heat Conduction with Phase Change	Yes	Yes	Yes	Yes
Convective Heat Transfer Coupled with SVFLUX™ or SVAIR™				Yes
Mesh				
Fully-Automatic Generation	Yes	Yes	Yes	Yes
Fully-Automatic Mesh Refinement	Yes	Yes	Yes	Yes
Mesh Refinement Following Freezing/Thawing Front	Yes	Yes	Yes	Yes
Equation Solvers				
Galerkin Finite Element Method	Yes	Yes	Yes	Yes
Parallel Processor Support	Yes	Yes	Yes	Yes
Full coupling				
Water				Yes
Air				Yes
3 way Air / Water / Thermal				Yes
Input Data Sets				
From Seepage (SVFLUX™)	Yes	Yes	Yes	Yes
Climate Data				Yes
Thermosyphon Data				Yes
Property Functions				
Various Unfrozen Water Content Functions	Yes	Yes	Yes	Yes
Saturated/Unsaturated Soils	Yes	Yes	Yes	Yes
Thermal Conductivity Function Estimation	Yes	Yes	Yes	Yes
Frozen/Unfrozen Volumetric Heat Capacity	Yes	Yes	Yes	Yes

* Student editions are limited to 100 cells in 1D, 400 cells in 2D and 1200 cells in 3D.