

# UniSoft

SOFTWARE FOR FOUNDATION ANALYSIS AND DESIGN

*UniPile UniSettle UniBear UniCone*

- All UniSoft programs are **Windows**-based and compatible with Windows 3.1 and higher, including XP.
- The programs are designed to suit the needs of **engineers active in engineering practice** and they require no computer programming knowledge.
- Each program comes with a comprehensive **Background and User Manual**. On-screen, contents-sensitive help is available at the touch of a key.
- Commands can be by keyboard and/or mouse. Using the programs is very intuitive and learning to use them is fast and easy, and requires only minimal keyboard ability.
- Calculations can be performed in either **English** or **SI**-units. A calculation made in English units can be automatically converted to SI-units and vice versa without re-entering data. By a press of a key or click on the mouse convert from English to SI-units and back again.
- Results can be **plotted** in diagrams and **printed** in tables ready for insertion into engineering reports.
- The graphs and tables can be imported to word processing files and edited to fit any preferred style.
- All programs have a very strong "**what-if**" capability and will in seconds determine the consequence of a change in an input value or dimension.

At present, the UniSoft programs are used by design, construction, highway, and teaching engineers in more than 50 countries. The Users are distributed amongst contractors and consultants, as well as authorities, such as highway departments, public works departments, corps of engineers, and universities.

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Order for	Copies of	<b>UniSettle</b>	Version 3 at \$480.00	\$		
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**UniPile** Determine pile **capacity**, **dragload**, pile group **settlement**, and **downdrag** due to negative skin friction in the real world, where the soils consist of interchanging layers, where the pore pressures are artesian or the gradients are downward and differ from layer to layer, and where excavations and fills co-exist with the piles.

To determine capacity and load distribution, use or combine effective stress method (**beta**-method) and total stress method (**alpha**-method), even **lambda** method applied to multi-layered soils of any combination of clays and sands with hydrostatic pore pressure or an array of pore pressure gradients. Analyze driven piles and drilled-shafts, single piles or pile groups. The piles can be straight-shafted, uniform-**tapered**, or **step-tapered**, and the cross section be square, rectangular, hexagonal, octagonal, round, or H-section. For analysis of settlement of a pile group, use for any separate soil layer conventional  $c_c$ - $e_0$  approach, or E-modulus or tangent modulus methods. Produce the capacity and distribution of shaft and toe resistances for direct **input to WEAP** bearing graphs as well as for the drivability option; Determine the distribution of residual load in the pile; Calculate the load in the pile at the exact location of a force gage in an instrumented pile; Calculate the settlement of a single pile from input of **t-z** and **q-z curves**; Simulate the load-movement diagram of a static loading test; and much more . . .

**UniSettle** Calculate **stress distribution** and **settlement**—total and differential and in layered soils, be they clays and sands—as caused by a multitude of **load areas** placed at different elevations, by **excavations** to different depths, and/or **change of groundwater table** and pore pressures. For stress distribution, use Boussinesq, Westergaard, or 2:1 methods. For settlement, use conventional  $c_c$ - $e_0$  approach, E-modulus, or the Janbu tangent modulus method. Consider point and line loads in combination with load areas that are circular, rectangular, or polygons, and subjected to uniform or non-uniform distributions of stress. UniSettle will let you determine the differential settlement between two arbitrarily chosen points, the preconsolidation effect caused by a previous foundation in the area, and much more . . .

**UniBear** Design and analysis of shallow foundations, spread footings, and walls: Bridge Piers, Bridge Abutments, and Cantilevered as well as Tied-back Retaining Walls, using Working Stress Design and Limit States Design, Load factor and Resistance Design, as well as Partial-Factor-of-Safety Methods. UniBear includes design rules per AASHTO Specifications for both Service Load Design and Load factor Design including details, such as separation on Dead and Live Load, Earth Loads, Earthquake Loads, Collision, etc., and not least, the effect of inclined walls, sloping ground surface, line loads and uniform surcharge on the ground, etc. The design according to the Canadian Ontario Highway Bridge Design Code is also included. UniBear provides the output necessary for both geotechnical and structural design.

**UniCone** Processing of Cone Penetrometer Tests (CPT and CPTU) into **soil profiling** and classification according to Campanella-Robertson and Eslami-Fellenius methods. The **capacity of a pile** at the location of the CPT can be made per six methods: the Eslami-Fellenius, Dutch, French (LCPC), Meyerhof, Schmertmann, and Tumay methods. The resulting CPT and Pile analysis diagrams can be printed out in user-controlled scales for insertion in engineering reports or exported to Excel.