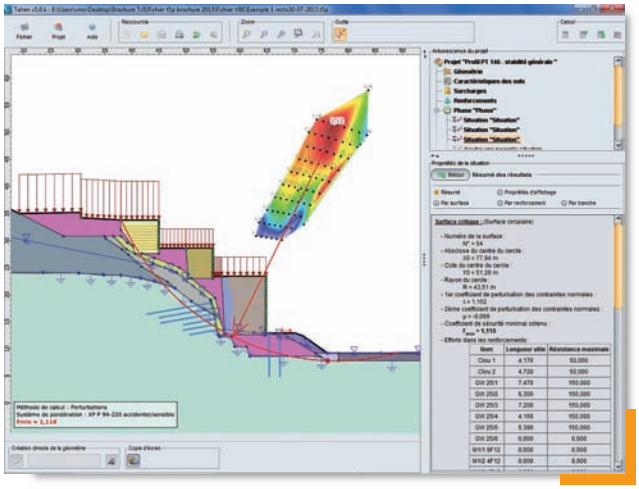
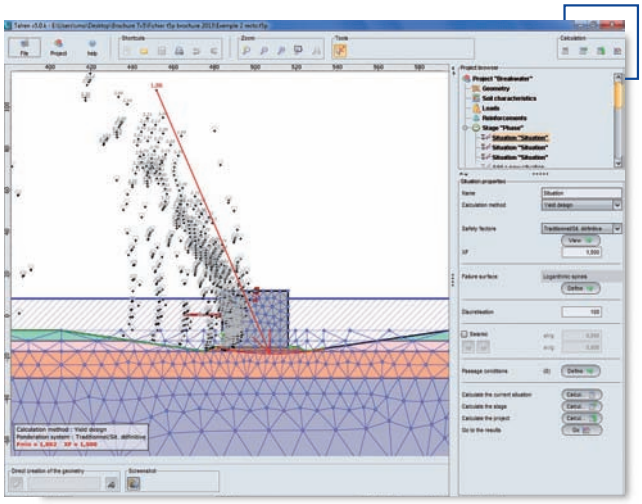
TALREN v5

STABILITY OF SLOPES AND ANCHORED WALLS

The latest design tool for checking the stability of geotechnical structures with or without reinforcements

Talren v5 is ideal for checking the stability of natural slopes, cut or fill slopes, earth dams and dikes. It takes into account various types of reinforcements, such as: anchors and soil nails, piles and micropiles, geotextiles and geogrids, steel and polymer strips.

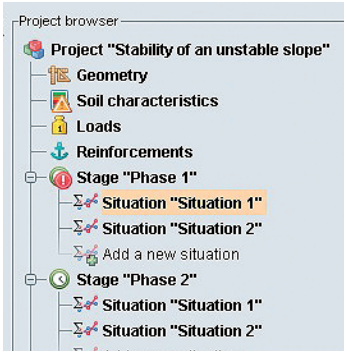




A user-friendly and interactive interface

With for example:

- Permanent graphical display, definition of the profile using a mouse, rulers and grid, Undo function, zoom options, choice of the soil colour.
- Several construction stages and calculation alternatives can be handled in the same file.
- Display of all input data in the main window, through a global tree, including general data (geometry, soil properties, loads, reinforcements) and phases data.
- Ability to load background drawings (.jpg and .gif formats) and adjust them to scale.
- Various output options for graphical display and results (shadings, forces in reinforcements, detailed results for each failure surface, etc).
- Wizards and databases, predefined partial safety factors (including those according to the French application standards of Eurocode 7).



Links with other software

- Ability to load Plaxis files (from version v8 to version 2D 2012): loading of the geometry, soil properties and mesh of pore pressures.
- Ability to import geometries defined with AutoCAD® (dxf files).

TALREN v5

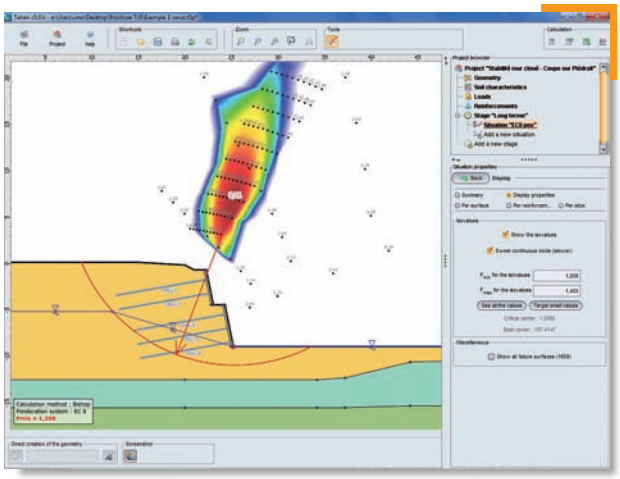
Calculation functionalities

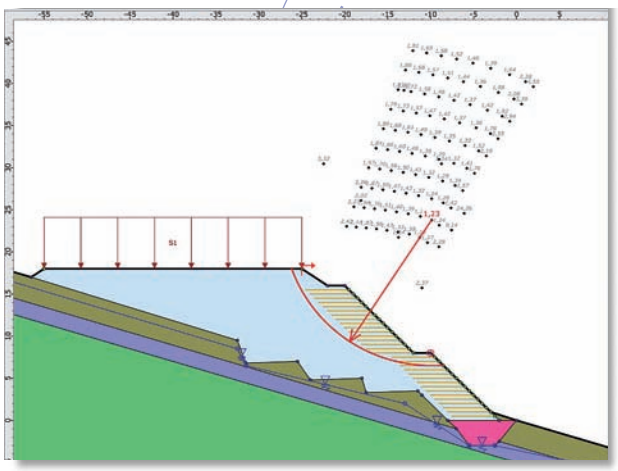
...extensively used methods

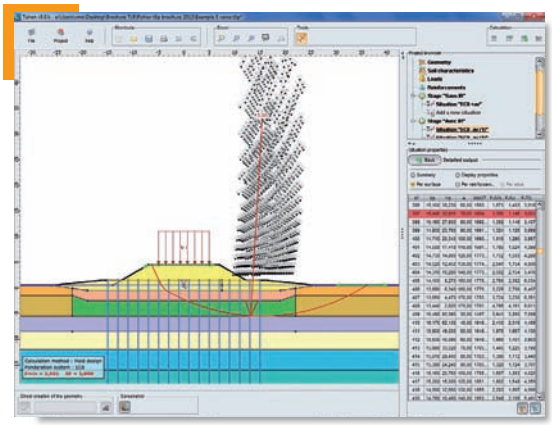
- Limit equilibrium calculation along potential failure surfaces using the Fellenius, Bishop or perturbations methods (with automatic search option for circular failure surfaces).
- Calculation method based on limit analysis theory (J. Salençon), with logarithmic spirals.
- Possibility to take into account hydraulic conditions.
- Possibility to take into account seismic loads.

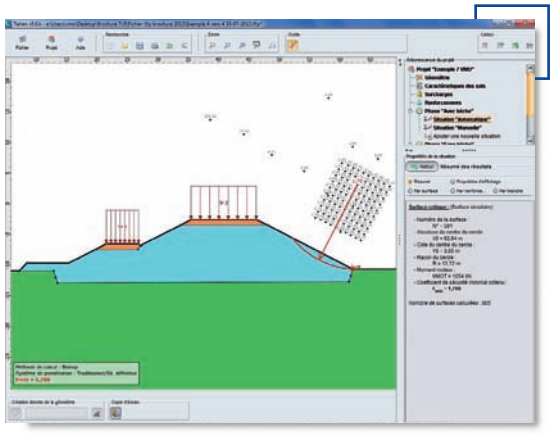
...a specific treatment for each type of reinforcement

- Each inclusion can work in: tension, compression, shear, bending.
- Ability to use a combination of different failure criteria for the reinforcements and the soil to accurately model all the mobilised forces (principle of maximum plastic work).









...standards and recommendations

The part of the Clouterre report dealing with the design of soil nailed walls is largely based on the theories used in the development of Talren, which is recognised as one of the best design tools for reinforced soils.

Moreover, predefined sets of partial safety factors are provided with **Talren v5**: Clouterre, Eurocode 7...

Minimum hardware requirements

PC-compatible computer with:

- processor compatible Intel® Core Duo
- 2 Gb RAM
- resolution 1280x720 minimum
- USB port
- 500 Mb free hard-disk space
- Windows® XP/7/8, 32- or 64-bit

TERRASOL

42-52 quai de la Râpée
CS 71230
75583 Paris Cedex 12
France

Phone: +33 (0)1 82 51 52 00
Fax: +33 (0)1 82 51 52 99

www.terrasol.com
software@terrasol.com

Une société du groupe setec

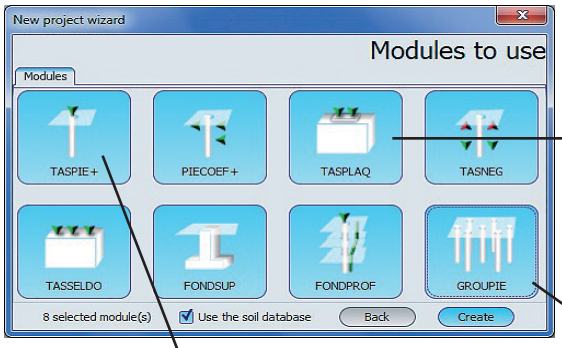
FOXTA v3

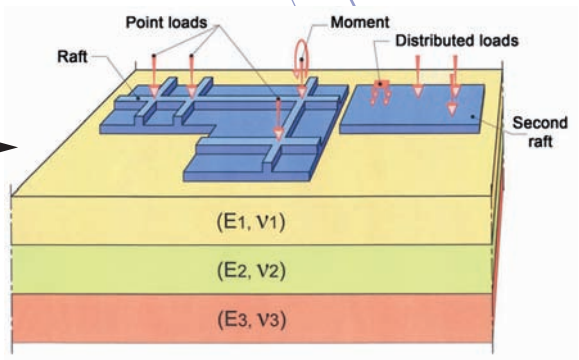
FOUNDATIONS DESIGN

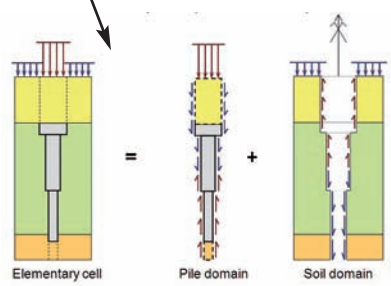
Software suite for foundations design (shallow, deep and piled-raft foundations, stiff inclusions...)

A software suite composed of 8 standalone/interacting modules:

- **Fondsup** and **Fondprof**: bearing capacity and settlement of shallow foundations and piles (using pressumeter and static penetrometer tests results), according to french application standards of Eurocode 7: NF P 94-261 for shallow foundations and NF P 94-262 for deep foundations.
- **Tasseldo**: elastic and oedometric settlement of groups of shallow foundations subjected to various distributions of vertical loads.
- **Tasplaq**: 3D (or 2D) calculation of settlements and stresses for rafts and pavements of any shape, subjected to complex loading systems.
- **Taspie+**: calculation of piles under axial loading and of stiff inclusions (below pavements or embankments) according to ASIRI recommendations.
- **Piecoef+**: single pile or pile group subjected to lateral loading (at pile head or distributed), with elastoplastic soil behaviour, g(z) curves option, and calculation of shear forces and 2nd order deformations. This module allows for calculations of monolith type required for stiff inclusions projects..
- **Groupie**: pile group topped with a rigid footing and subjected to full loading torques.
- **Tasneg**: negative skin friction along a single pile or a pile in a group.



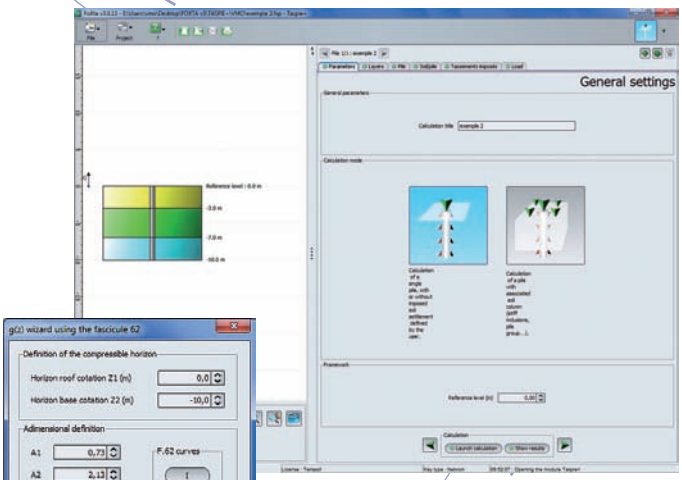


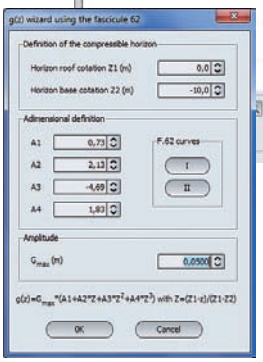


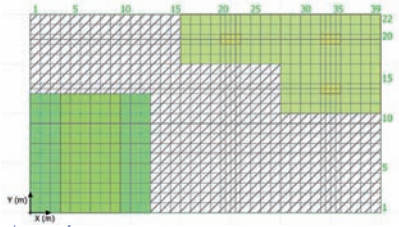
FOXTA v3

A user-friendly software

- A **fully new user-interface** (with respect to Foxta v2), with a very intuitive use,
- **Easy browsing** through the modules,
- **Numerous wizards** for data input,
- **Graphical display** of input data and output results (in 2D or 3D),
- **Customizable printings**.

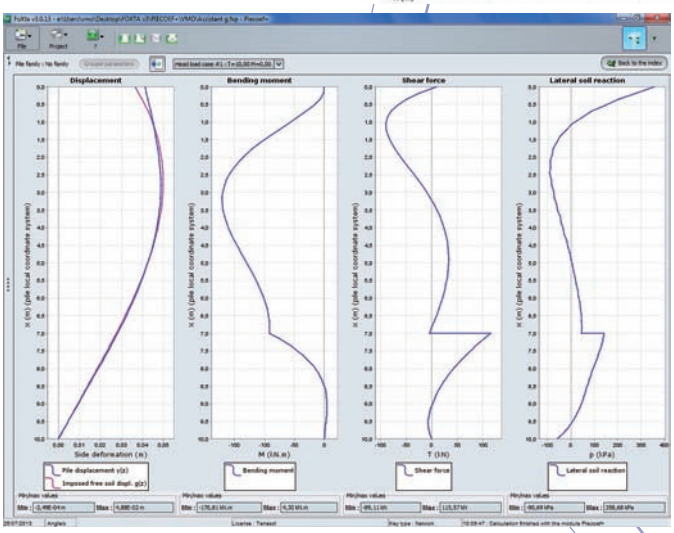


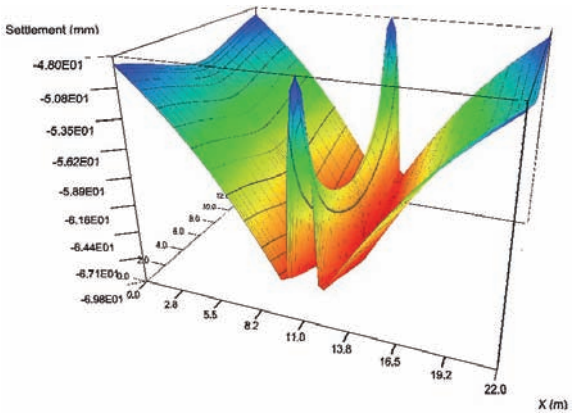




Main results available

- Formatted output files,
- Tables (which can be exported to Microsoft Excel® for instance),
- Curves,
- For Tasplaq: cross-section curves, scatter plots and 3D display.





Foxta is available in 3 versions

- **Full**: 8 modules.
- **Lt**: 5 modules for simple applications (Fondsup, Fondprof, Tasseldo, Tasplaq and Taspie+).
- **Piles**: 5 modules for the design of deep foundations projects (Fondprof, Taspie+, Piecoef+, Tasneg and Groupie).

Minimum hardware requirements

PC-compatible computer with:

- processor compatible Intel® Core Duo
- 2 Gb RAM
- resolution 1280x720 minimum
- USB port
- 500 Mb free hard-disk space
- Windows® XP/7/8, 32- or 64-bit

TERRASOL

42-52 quai de la Râpée
CS 71230
75583 Paris Cedex 12
France

Phone: +33 (0)1 82 51 52 00
Fax: +33 (0)1 82 51 52 99

www.terrasol.com
software@terrasol.com

Une société du groupe setec

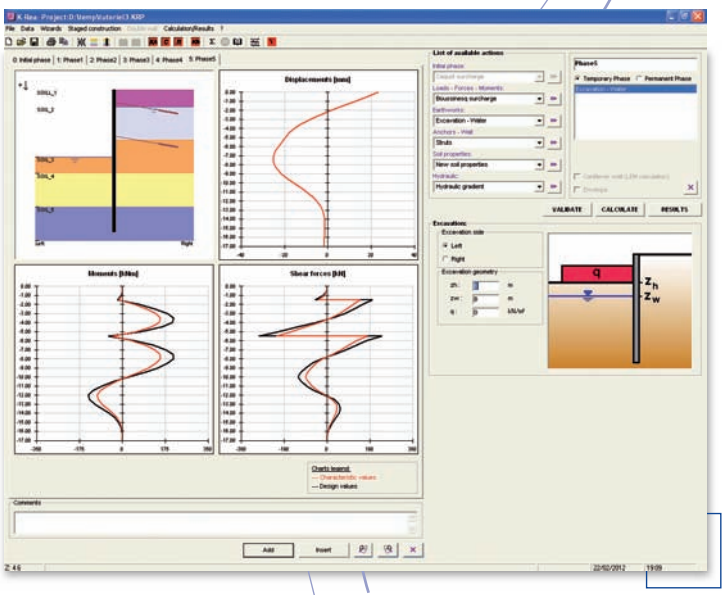
K-REA v3

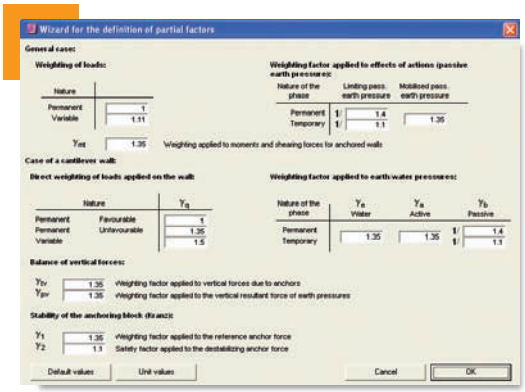
DESIGN OF SINGLE/DOUBLE RETAINING WALLS

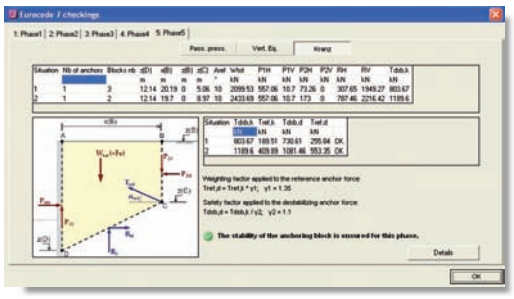
Retaining walls analysis including partial safety factors and ULS checks

K-REA v3 is a user-friendly and interactive program designed for the latest Windows® environment. It allows for the analysis of retaining wall solutions (diaphragm walls, sheet-pile walls, soldier-pile walls):

- Using **the subgrade reaction calculation method** (beam on elasto-plastic supports),
- Considering the **construction stages** of the project,
- Applying **ULS calculations and checks** according to approach 2 of **Eurocode 7**,
- Calculation of single walls, but also **double-walls** (optional module).







ULS checks

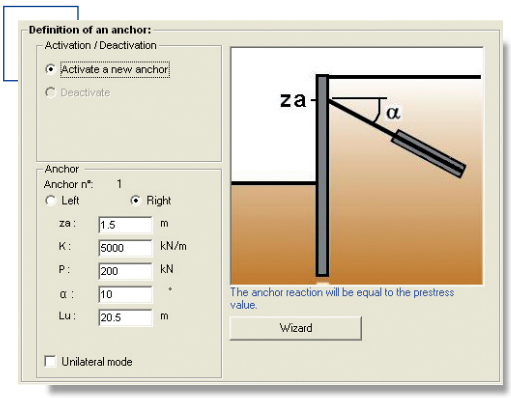
K-REA v3 includes ULS calculations and checks according to the French standard NF P 94-282 (French application standard for retaining walls corresponding to **approach 2 of Eurocode 7**):

- **LEM and SSIM-K models** with calculation of ULS moments and forces,
- Check of the safety against **failure on the passive side** of the wall,
- Balance of **vertical forces**,
- Check of the stability of the anchoring block according to **Kranz simplified method** (one or several anchor levels may be taken into account),
- Possible modification of predefined **partial safety factors**, in order to comply with local application of **Eurocode 7**.

K-REA v3

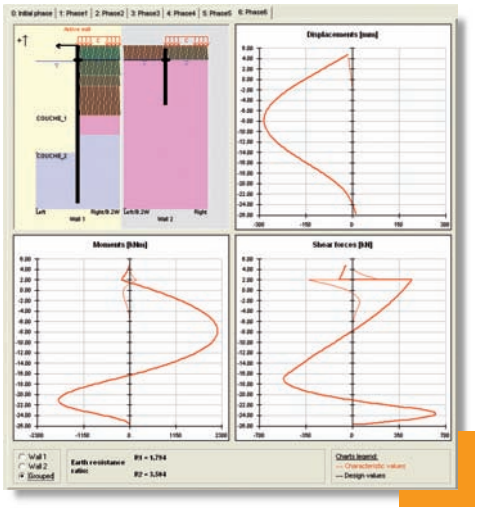
User-friendly interface

- ▶ **Easy browsing** between the different phases,
- ▶ **Numerous wizards** for the evaluation of earth pressure coefficients and subgrade reaction coefficients,
- ▶ **Dialogue boxes** with systematic quotes of the units,
- ▶ Useful **graphical display** of input data and calculated results.



Main results (curves and tables)

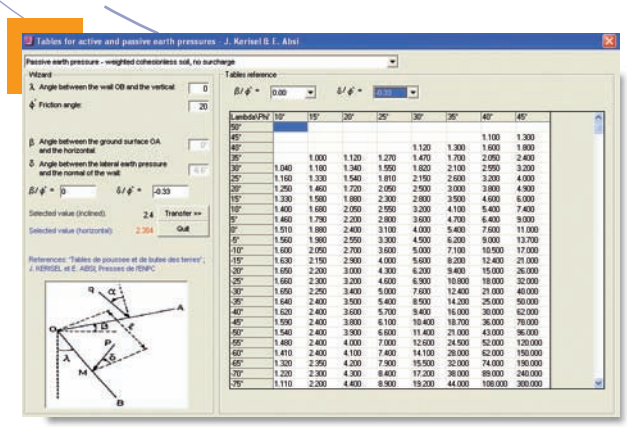
- ▶ Displacements, moments and shear forces (for each phase and envelope curves),
- ▶ Active and passive earth/water pressures,
- ▶ Limiting/mobilized earth pressure ratio,
- ▶ Dedicated window for ULS checks results (failure on the passive side, balance of vertical forces, Kranz).



Minimal hardware requirements

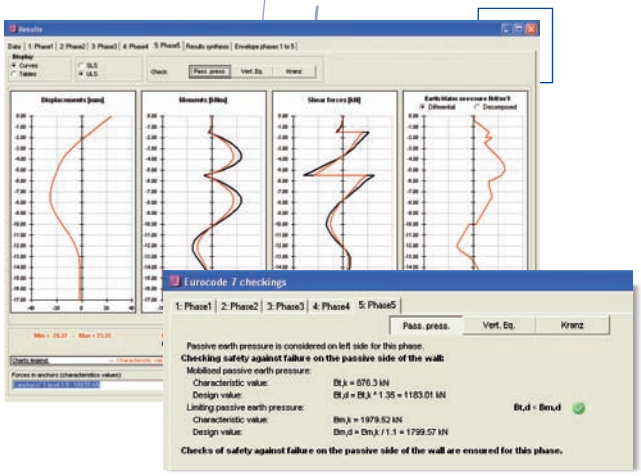
PC-compatible computer:

- 1 GHz processor
- 1 Gb RAM
- Video card 1024 x 768 pixels
- USB port
- 100 Mb free hard-disk space
- Windows® XP/Vista/7 (32/64 bit)



Construction phases

The project phases include the initial phase for the wall installation, plus any number of construction phases. In each phase, one or several actions may be defined, such as: installation of **anchors or struts**, activation of **loads**, **earthworks**, change of the **water level**, etc.



Optional module: double-walls

An option of **K-REA v3** enables you to model double-walls, or rear-walls, i.e. to define 2 walls (either identical to each other or not) and have them interact through 1 or 2 levels of linking anchors. These linking anchors can take traction and/or compression depending on the input data.

TERRASOL

42-52 quai de la Râpée
CS 71230
75583 Paris Cedex 12
France

Phone: +33 (0)1 82 51 52 00
Fax: +33 (0)1 82 51 52 99

www.terrasol.com
software@terrasol.com

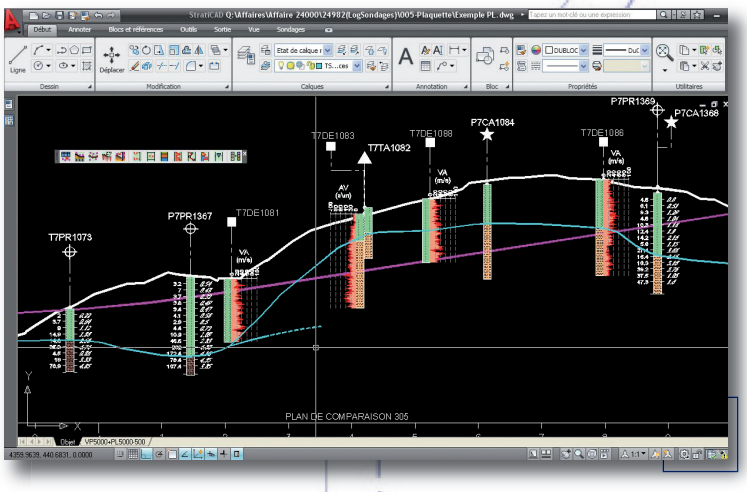
Une société du groupe setec

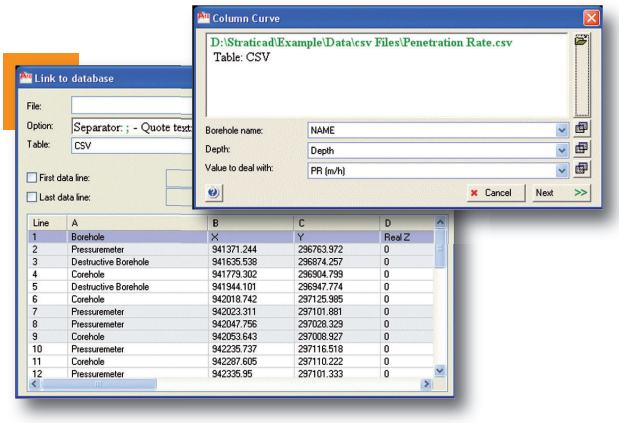
STRATICAD

GEOTECHNICS AND CAD

A tool for the rapid drawing of geotechnical data within your CAD software

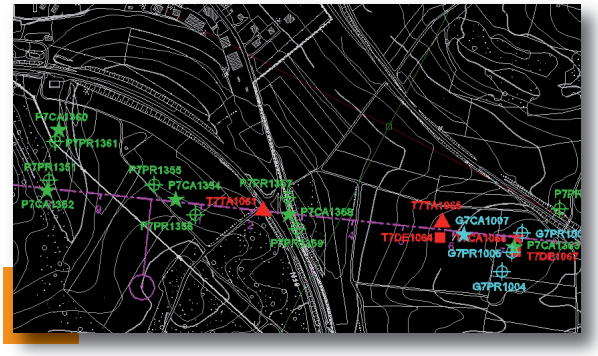
Through experience undertaking geotechnical projects, **TERRASOL** has developed a specific CAD tool enabling the semi-automatic processing of geotechnical data within drawings. **Straticad** combines efficiency, simplicity and graphical quality, providing significant time savings even when dealing with a small number of boreholes.





LOADING OF DATABASES

Straticad can import boreholes databases provided as Excel®, Access® and Open Office® spreadsheet files. The link between the database and the CAD software is set and saved within the drawing file.



CAD COMPATIBILITY

Straticad integrates with Autocad® et Autocad LT® environments (Versions 2000 to 2010), Bricscad® V10 and V11, and ZWCAD® 2010.

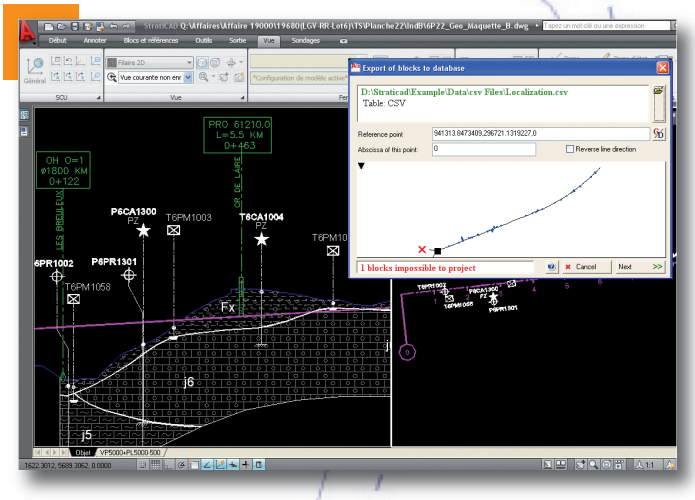
STRATICAD

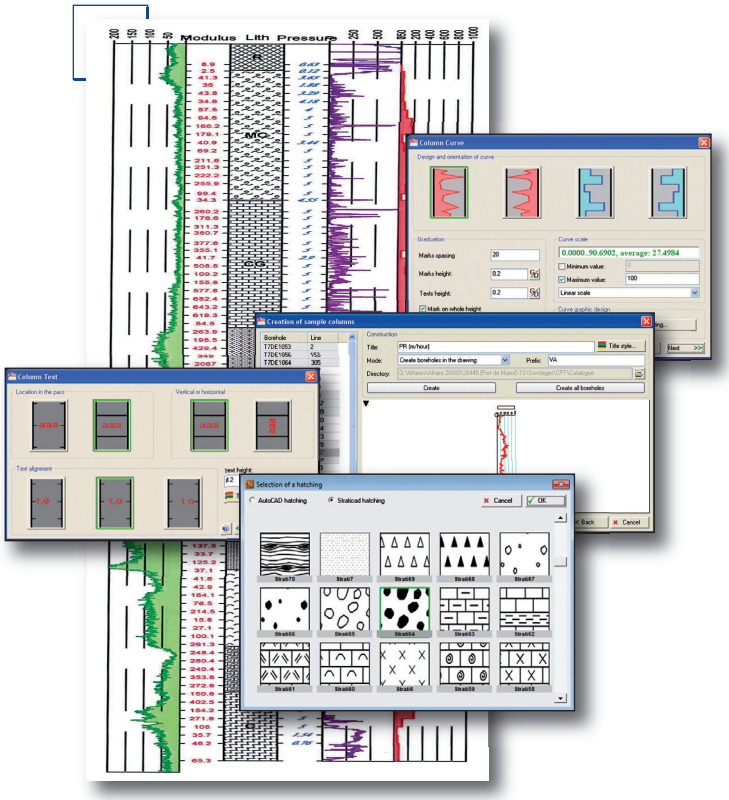
TWO GROUPS OF TOOLS

Layout tools

These tools enable:

- rapid and accurate layout of borehole symbols on the top view and longitudinal profile;
- calculation and import of boreholes locations on a project axis;
- automatic layout of borehole logs.





Borehole log creation tools

These tools provide numerous options for the clear display of data:

- text and level columns;
- hatching columns;
- curve columns;
- columns associating texts and curves, or hatching and curves;
- columns including symbols.

Once preferences have been set, **Straticad** generates a unique Autocad "block" for all or some of the database boreholes depending on the user's instructions. This "block" may be saved within the CAD drawing or shared on a server.

Minimum hardware requirements

PC-compatible computer including:

- USB port
- Microsoft Windows® XP/2000/2003/Vista/7
- Autocad LT® versions 2000 to 2010 or Autocad® versions 2000 to 2010
- Excel® version 2003 or 2007 or Access® version 2003 or 2007 or Open Office® version 3.1

TERRASOL

Immeuble Central Seine
42-52 quai de la Râpée
75583 Paris Cedex 12
France

Phone: +33 (0)1 82 51 52 00
Fax: +33 (0)1 82 51 52 99

www.terrasol.com
software@terrasol.com

Une société du groupe setec