



Talren v6

Talren v6 is a software for checking the stability of **natural slopes, cut or fill slopes, earth dams and dikes**, taking into account **various types of reinforcements**

Stability analysis of geotechnical structures

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).
- Possibility to take into account **hydraulic conditions**.
- Possibility to take into account **seismic loads**.

The benefits of the yield design method

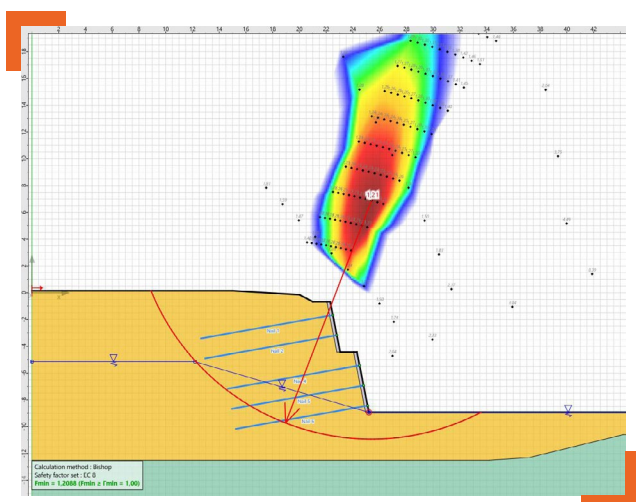
- This calculation method, based on limit analysis theory (J. Salençon) with logarithmic spirals, allows for numerous extended applications: **stability of gabions, accounting for rigid inclusions, evaluation of active/passive earth pressures**, etc.

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).

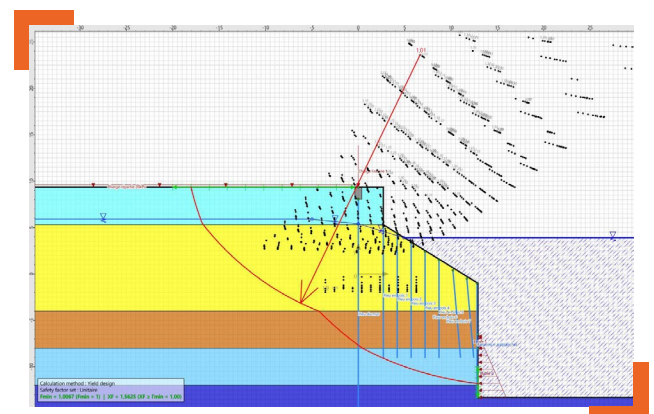
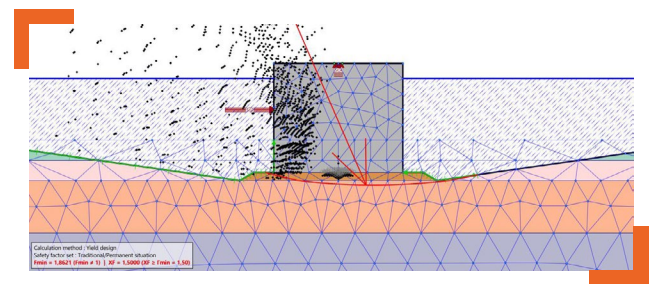
Standards

Talren v6 software integrates the specificities of the NF P 94 270 standard (October 2020) for the calculation of nailed walls.



A user-friendly and interactive interface

- **Permanent graphical display, definition of the profile using a mouse, undo function**, rulers and grid, 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.
- **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)
- Ability to load **Plaxis 2D** files and **AutoCAD®** (dxf files).

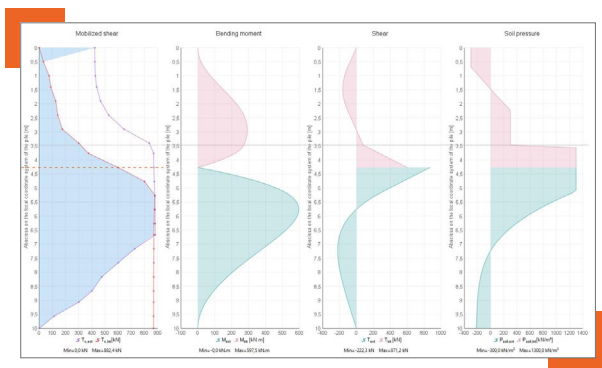




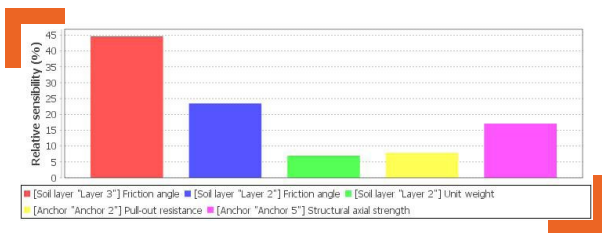
Additional modules

Talren v6 integrates a new optimised calculation engine, several new features as well as additional modules to extend the software's scope of application.

- « **Pile** » module: this complementary module allows a more accurate estimation of the resistance contribution along a reinforcement element of the "nail" type, representative of a pile, an inclusion or a bar working in flexion-shear. The calculation is based on an elasto-plastic model of the "p-y" type, taking into account the multi-layer nature of the soil.



- « **Sensitivity** » module: this module offers the possibility of automatically conducting sensitivity studies to evaluate the influence of the various model parameters on the stability of the structure studied. It is also possible to carry out a reliability analysis which consists in quantifying the safety in terms of reliability index or failure probability (analysis based on the RSM method).

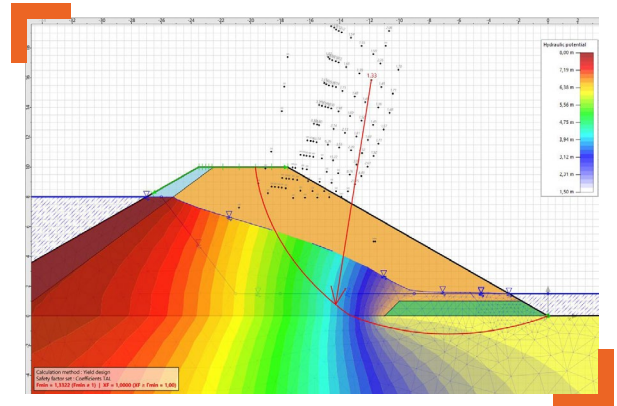


MINIMUM HARDWARE REQUIREMENTS

Compatible computer with:

- Intel® Core Duo CPU
- 4 Gb RAM
- At least 1366x768 resolution
- USB port
- 500 Mb free hard-disk space
- Windows® 8.1 SP1/10, 32 or 64 bits

- « **Water flow** » module: this module allows an integrated calculation, under steady state conditions, of the pore pressure field to be considered for stability analyses. The calculation is based on a numerical resolution of the Laplace equation taking into account the multilayer and anisotropic character of the ground.



- **Internal stability of a nailed soil massif:** Talren v6 now offers the possibility of specifying and/or automatically adjusting the forces at the head of the nails required to verify the internal stability of a nailed floor structure, in accordance with the provisions of the new **NF P 94 270** standard dated **October 2020**.
- **Seismic module:** Talren v6 allows the automatic search for the destabilising seismic acceleration (the one leading to the limit equilibrium) which can be used as input to an "Earthquake" wizard integrated in the software, allowing the empirical or analytical calculation of the irreversible post-earthquake displacements (Newmark type model).

