

Scage

Scage is a calculation software dedicated to
the structural analysis of geotechnical structures

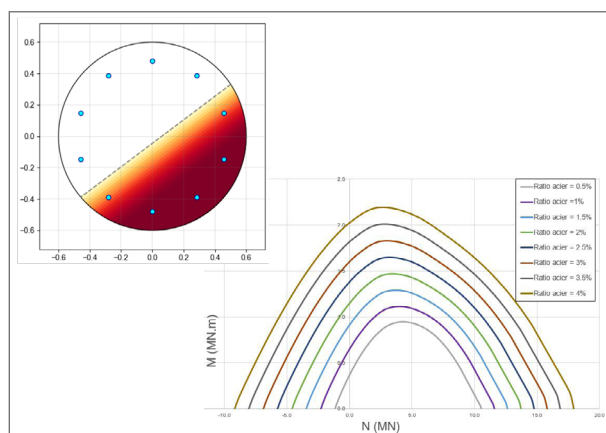
Structural analysis of geotechnical structures

Scage allows for the assessment of the internal equilibrium of **piles** and **diaphragm walls** in accordance with **Eurocode 2** (French and Belgian national annexes) and the French national application standards of Eurocode 7 (**NF P 94-262** and **NF P 94-282**).

Piles

Scage offers two types of studies:

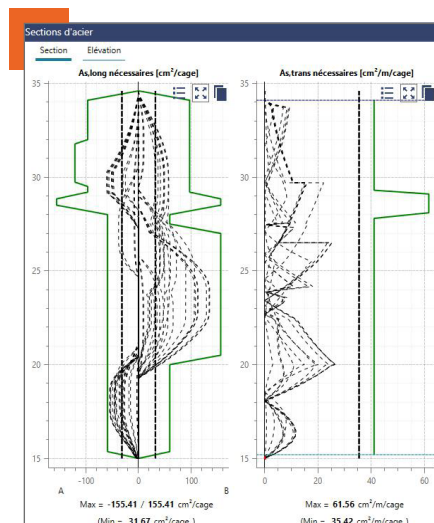
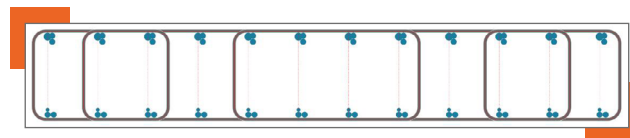
- **Simplified pre-design module:** it allows for the determination of the necessary diameter and reinforcement ratio of piles to handle one or more force vectors, for an infinite number of piles. It also enables the estimation of maximum forces at depth based on the applied forces at the head for each considered combination/situation.
- **Detailed verification module:** it allows for the verification of a reinforcement cage for a set of internal force diagrams resulting from a foundation or retaining structure equilibrium calculation (import of loads from **Foxta**, **K-Rea** or **Excel**). The calculation proceeds phase by phase (ULS and SLS) in simple, combined or deviated bending.



Diaphragm walls

Scage offers two types of studies:

- **Pre-design module:** it allows for obtaining the necessary sections of longitudinal steels at ULS and SLS as well as the necessary sections of transverse steels at ULS. The internal forces of the diaphragm wall are considered as input data from a soil-structure interaction calculation (ISS calculation conducted for example with **KRéa**) taking into account the phasing of the construction. The calculation proceeds for each phase in simple or combined bending.
- **Reinforcement cage verification module:** it allows for the verification of the adequacy of a real reinforcement cage defined by each longitudinal steel bar and each overlapping hoop. The center of gravity of the longitudinal steels is rigorously evaluated based on the bars present at each level. The calculation of crack opening is conducted at every level by the exact method.





Key features

Structural analysis of piles:

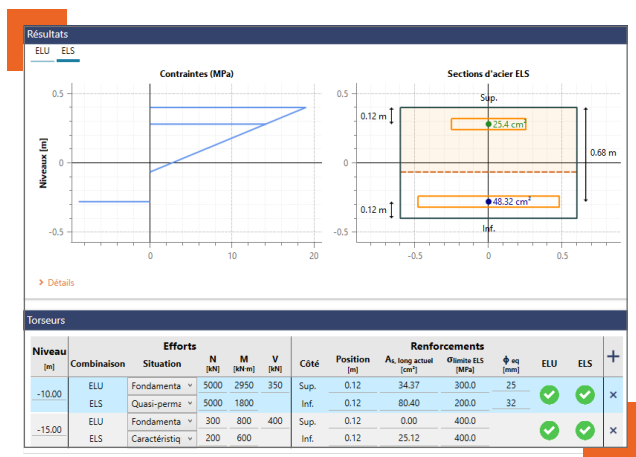
- Internal forces imported from **Foxta**, **K-Rea** or **Excel**
- Handling of **loads in 3 directions** (X, Y, Z)
- Calculation in **simple**, **combined** or **deviated bending**
- Generation of **interaction diagrams**
- Consideration of the **offset of bending** moment diagrams
- Calculation of **minimum steel sections**
- Calculation of the **steel ratio** of the cage

Structural analysis of diaphragm walls:

- Import of internal force diagrams from **K-Rea** or **Excel**
- Calculation of necessary **steel sections**
- Calculation in **simple** and **combined bending**
- Calculation of **minimum steel sections**
- Calculation of **crack opening** by approximate and exact methods (crack control)

General :

- **Integrated and independent reinforced concrete** calculator for quick verification of isolated sections
- Calculation of **standard allowable stresses**
- **Detailed print report**

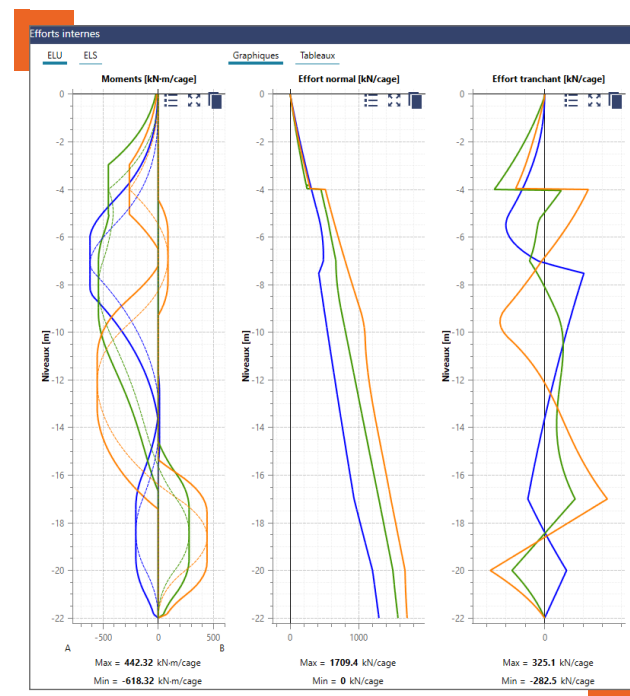


Minimum required configuration

- 1.5 GHz or faster processor with at least 2 cores
- 8 GB of RAM or more
- Minimum resolution of 1366x768
- USB Port
- 1 GB of available disk space
- Windows® 10/11, 32 or 64 bits

Transparent tool

- **Exportable graphs and tables** to clipboard and Excel
- Access to intermediate **results of any reinforced concrete calculation**
- Representation of **deformation diagram at ULS** and **stress diagram at SLS**
- Detailed user and technical manuals
- Summary report including all input data and obtained results
- Example projects provided with the installation



User-friendly interface

- **Flexible management of multiple scenarios** to examine different solutions
- **Synchronisation with K-Réa calculation results**
- Possibility to work per **unit length** or on the **width of a reinforcement cage**
- Integrated **data validation system**
- **Metric or imperial system**