



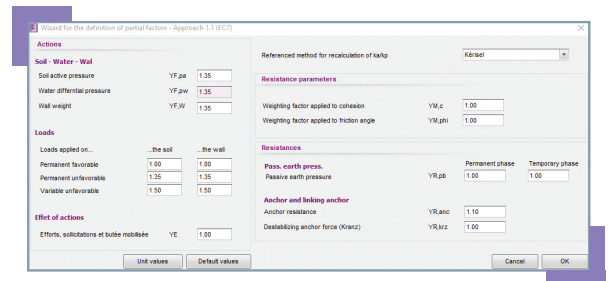
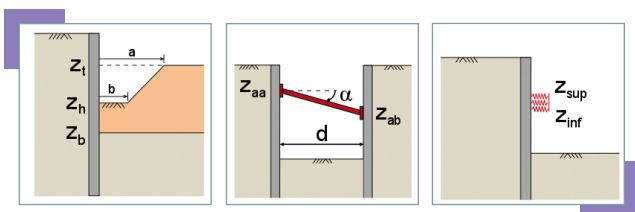
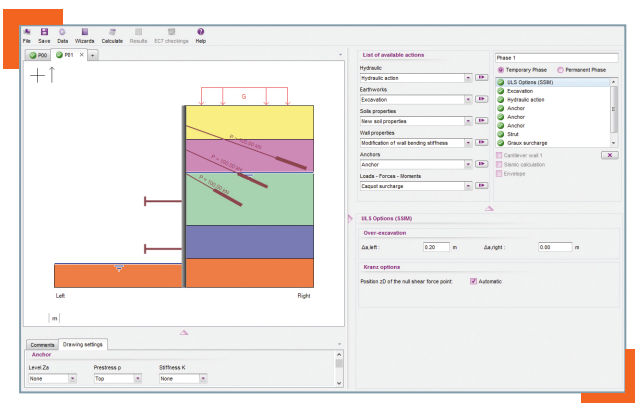
# K-Réa v4

K-Réa is a software for retaining walls analysis including **partial safety factors** and **ULS checks** according to **Eurocode 7**.

## Main features

K-Réa v4 is a user-friendly and interactive program allowing for the analysis of retaining wall solutions (diaphragm walls, sheet-pile walls, soldier-pile walls):

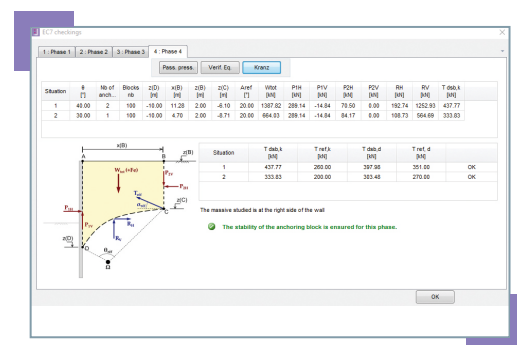
- Using the **subgrade reaction calculation method** (beam on elasto-plastic supports).
- Considering the **construction stages** of the project.
- Applying **ULS calculations and checks** according to approaches 1, 2 and 3 of **Eurocode 7**.
- Calculation of single walls, but also **double-walls** (optional module).

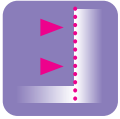


## ULS checks

K-Réa v4 includes ULS calculations and checks according to Eurocode 7 (approches 1, 2 and 3), and especially according to 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**.



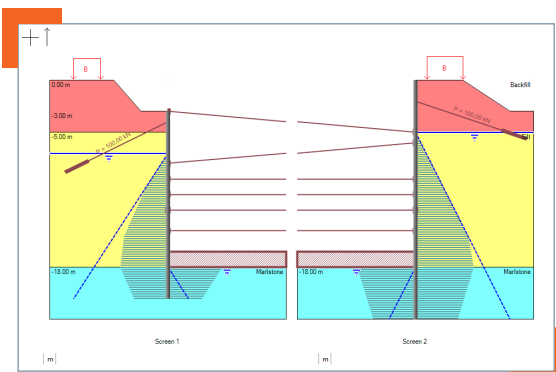
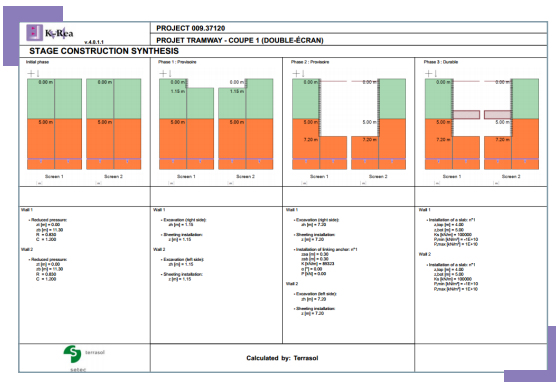


# K-Réa v4

DESIGN OF SINGLE/DOUBLE RETAINING WALLS

## A user-friendly software

- **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.



### MINIMUM HARDWARE REQUIREMENTS

PC-compatible computer with:

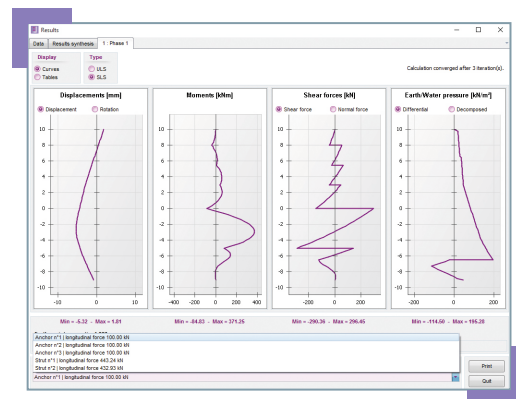
- processor compatible Intel® Core Duo
- 2 Gb RAM
- resolution 1280x720 minimum
- USB port
- 500 Mb free hard-disk space
- Windows® 7/8/10, 32- or 64-bit

## 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** (embankments or berms), change of the **water level**, etc. It's also possible to define load combinations.

## Main results (curves and tables)

- Displacements, moments, shear forces, normal forces, arching forces, anchors reactions (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).



## Optional module: double-walls

An option of K-Réa v4 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 several levels of **linking anchors** (punctual or distributed). These linking anchors can take traction and/or compression depending on the input data.