RETAINING WALL

DESIGN VARIOUS CONFIGURATIONS OF
REINFORCED CONCRETE RETAINING WALL

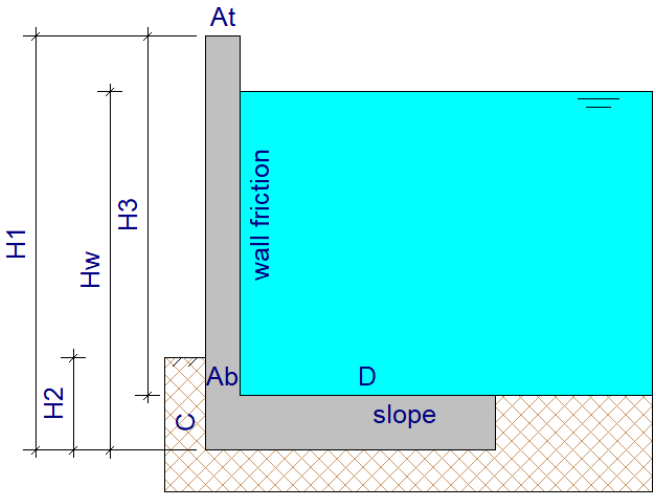
DESIGN | DETAILING | C14

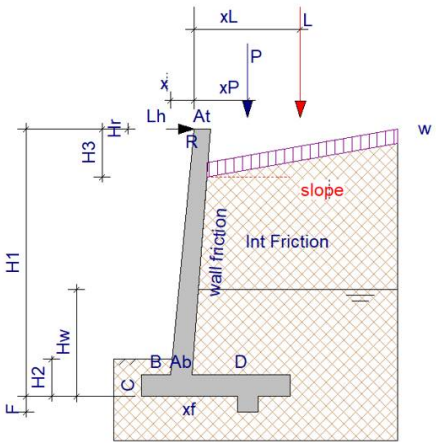
Summary

Analyse concrete retaining walls for normal soil and surcharge loads. The module can design most conventional retaining walls, including cantilever, simply supported, and propped cantilever walls.

Analyse walls with complex geometries like backward or forward sloping walls as well as walls that have a varying thickness through their height. Optionally include a toe in the base.

Choose between the Rankine and Coulomb theories and incorporate seepage in the analysis. A water table can also be specified.





What makes this module special?

- Analyse different load conditions
- Enter walls with complex geometries
- Different analysis theories
- Adjustable water Table
- Customise the theory
- Automated bending schedule

Detailed Description

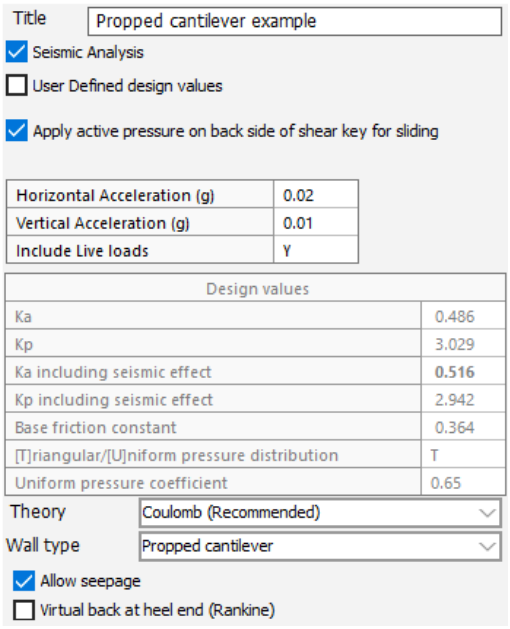
Retaining Wall is used to analyse concrete retaining walls for normal soil and surcharge loads or seismic load conditions. The module can design most conventional retaining walls, including cantilever, simply supported, and propped cantilever walls.

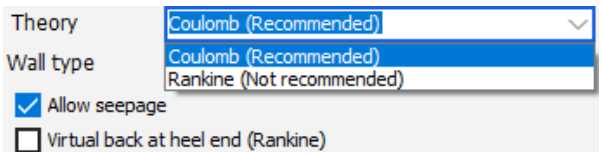
Retaining Wall offers a host of input parameters allowing you to enter complex geometries like backward or forward sloping walls and toes, as well as walls that have a varying thickness though their height. Line loads, point loads, and distributed loads can be placed on the backfill.

The module allows you to choose between the Rankine and Coulomb theories and can also incorporate seepage into the analysis. A water table can be specified; it may even be defined above the soil surface to model a liquid retaining wall. If required, the soil pressure coefficients can be adjusted manually.

Retaining walls are checked for stability (overturning and sliding at both SLS and ULS) as well as for strength (flexure and shear at various positions in the wall and base).
The most common use of the module is to analyse a wall with dimensions as entered. However, functions are available to optimise certain wall dimensions, e.g., the depth of the toe needed to resist sliding.

The module uses the calculated design moments in the wall and base to determine the required reinforcement. Furthermore, generate a bending schedule that can be edited and printed with **Padds** or **Probar 2D**.





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Theory used in this module

The modules support both static and seismic load conditions and use the Coulomb and the Rankine theories.

Key Features

- Analyse different load conditions
- Enter walls with complex geometries
- Different analysis theories

Supported Design Codes

Design Codes

- ACI 318 - 1999
- ACI 318 - 2005
- ACI 318 - 2011
- ACI 318 - 2014
- ACI 318 – 2019
- AS 3600 - 2001
- AS 3600 - 2009
- AS 3600 - 2018
- BS 8110 - 1985
- BS 8110 - 1997
- CP 65 - 1999
- CSA A23.3-04 - 2010
- CSA-A23.3:2019
- Eurocode 2 - 2004
- HK Concrete - 2004
- HK Concrete - 2013
- IS:456 - 2000
- NZ 3101 - 2006
- SABS 0100 – 2000
- SP 63. 13330.2018

Detailing Codes

- BS 4466 - 1989
- BS 8666 - 2005
- SANS 282 - 2004
- SANS 282 - 2011