

Retaining Wall Checks

Civil Engineering

The failure modes a wall is checked for.

External stability first, structural capacity last.

1

Sliding

Base friction and passive resistance against the horizontal thrust.

2

Overturning

Restoring moment about the toe against the overturning moment.

3

Bearing pressure

Pressure under the toe against the allowable bearing value.

4

Global stability

A slip surface passing below the whole wall and its foundation.

5

Drainage

Granular backfill with a working filter, weep holes or drain.

6

Structural capacity

Stem, toe and heel checked as cantilevers under the code.

Educational reference. Each check carries a code-specified factor.
Retaining structures need a qualified engineer.