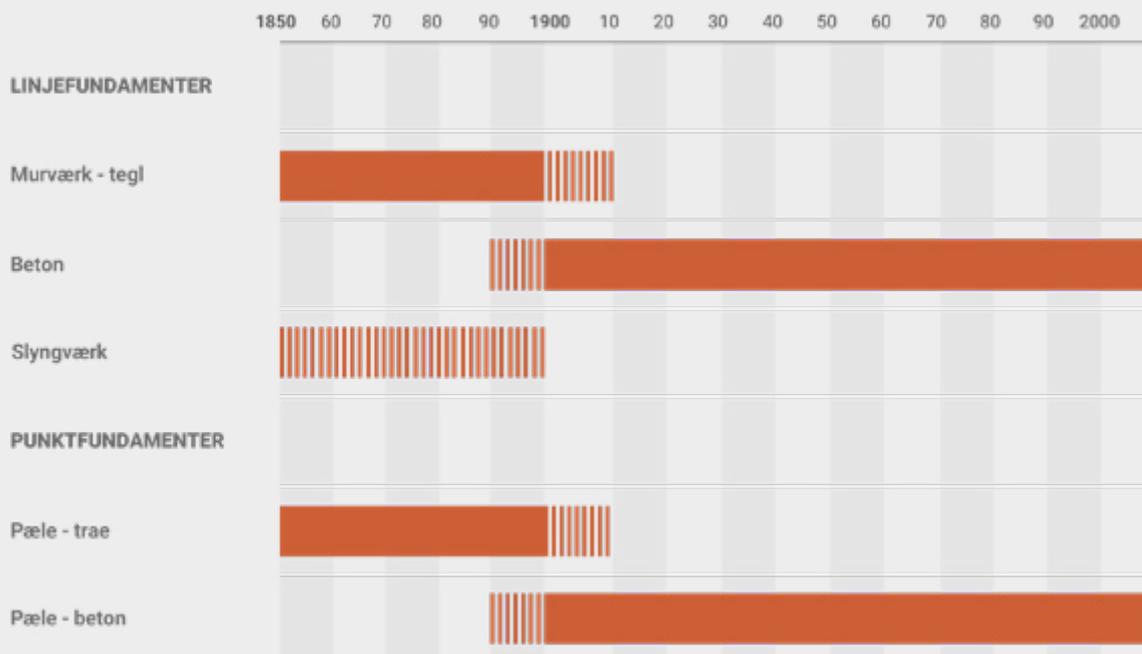


# Foundations

In construction work, the weight of the proposed building and the load-bearing capacity of the ground are interdependent: the choice of foundation method is therefore determined by a knowledge of both.



*The figure shows an overview of approximate temporal prevalence*

Traditional brick buildings with relatively narrow spans and thus many load-bearing walls are certainly heavy, but with the thickness of facades increasing downwards, there is also an increase in the cross-section spreading the weight, and this is almost constant regardless of the number of floors. The thickness of the gable/end and rear walls and interior load-bearing walls is, on the other hand, (largely) the same regardless of the building's height, and an increase in the number of floors in this case will result in a greater weight per unit area in the lowest cross-section. In facades, the weight is approximately 3 kg per cm<sup>2</sup> at the transition to the foundations, otherwise it is up to double that for five or six storey buildings.

Where building is carried out in previously undeveloped areas but where there is a reasonable knowledge of the local subsurface conditions, this knowledge has generally been sufficient to make an empirical determination of the foundation design.

Supplementary ground investigations could be performed using earthing rods and/or vane borers; however such methods have rarely been used in normal house-building.

Problems with a later foundation weakening will therefore usually occur either in previously built-up areas or in places where the terrain has been subject to changes for some other reason. For example, there could have been excavations or cases of filling in that have been forgotten about over time, or the cause could be found in falling groundwater levels. Lastly, the extent to which the decentralised loading of the foundation has been taken into account could also be of significance.

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