

Timber framework

Internal timbered walls were overwhelmingly dominant in multi-storey housing until the end of the 1800s.

It has been a legal requirement to use brick-built, longitudinal and beam-bearing (main) partition walls in Copenhagen's buildings since 1889, and in the larger towns thereafter. As a result, the widespread use of timber framework ceased; however, the use of timber framework-like structures continued to be used for smaller batches of internal transverse walls.

A timbered wall consists of posts and cross braces mortised into top and bottom plates.

The posts carry the vertical load downwards while the cross braces give the wall stability in the longitudinal direction. Consequently, it is always ideal to have two diagonally facing cross braces in such a wall.

It is not uncommon, however, for the middle cross braces to be missing; especially in buildings with fewer/small apartments that have a large number of transverse walls, it is clearly not intended that all such walls should have a stabilising effect.

In multi-storey housing, the panels in the timber framework are always lined. Where the usual post and cross brace dimensions of approximately 10 cm are used, the panels are lined with masonry of half-brick thickness and divided horizontally with wood studs or boards.

The lining is held in place by so-called mortar grooves in the posts and cross braces, although a simpler method of positioning nails in timber work at every fifth or sixth joint is often seen. The plaster coat on the posts and cross braces is held in place with pipes.

Post spacing is normally around one metre (preferably slightly less) and the size of the timber used in the posts is identical for every floor.

Longitudinal timbered walls (main partitions) can be constructed at room height using top and bottom plates on every floor, so the entire wall thus consists of wall slices standing on top of each other.

Longitudinal timbered walls can also have merging top and bottom plates; such walls thus appear as house-high "slices".

In transverse timbered walls, the top and bottom plates are formed from the beams making up the storey partitions and, as such, are also of house height.

Regardless of whether the timbered walls are longitudinal or transverse, the former are always more load-bearing than the latter.

Note to illustration 4. "Longitudinal timbered wall" in the Gallery:

This construction is determined by the wall being assembled flat and subsequently erected. Ideally, posts should be set over beams, but the result in all circumstances would be a greater degree of settling than with the use of merging top and bottom plates (source: Københavnsk etageboligbyggeri 1850-1900, Engelmark, 1983).

