

Room heating

Room heating and ventilation have both been crucial through the ages to managing the internal climate of multi-storey buildings and have undergone significant technological development.

Chimneys were not just space-consuming, they also represented a significant portion of the building costs.

At the end of the 1840s, the use of narrow chimney flues was trialled and, following an application, given consent. These pipes were cleaned with a chimney brush and steel ball (kost og kugle) and were much smaller in the cross-sectional area than the previous ones. In addition, several enclosed fireplaces in the form of iron stoves could be connected to the same pipe – not just one floor at a time but every floor of the building.

The experiments were so successful that the Copenhagen Building Act of 1856 permitted the general use of such chimney flues. Simple rules were laid down for their design and size – it was preferable for the chimney to be built with ordinary brick and have an inner cross-section of 1x1 brick.

There were no provisions regarding the number of stoves that could be connected to such a chimney. As a result, it was possible to end up with 4 stoves per floor, meaning a total of 20 to 24 stoves in a five or six storey building, or 28 if the basement was also occupied as a dwelling.

Limits were set in the building act of 1889, after which only two stoves per floor and no more than 12 overall were allowed to be connected to a flue measuring 1x1 brick.

Central heating was in use in the 1880s but only exceptionally in residential buildings, and even here to a limited extent in large, expensive single-family houses – or “villas”. Central heating started to arrive in multi-storey housing around 1930 and by the end of the 1940s was standard in the vast majority of homes.

This was a single pipe system and radiators were predominantly placed at the back of rooms and against the main partition.

The later custom of placing radiators beneath the windows on the facade was exceptional, and the two pipe system principally belongs to the period after 1960.

In both cases, the heating pipes were always vertical and visible. The current practice of horizontal distribution in each apartment with the pipes placed between the floor base and (wooden) decking first arrived in post-1970 construction.

The visible systems consisted of wrought iron pipes – “black pipes”. Such pipes were previously made by drawing glowing iron sheets through a “draw-plate hole”, whereby the shape was formed and the seam subsequently welded. This welded joint was the weak link in the pipe and, consequently, the drawing of seamless pipes was developed.

With the horizontal placement of pipes beneath the floor, there was a shift to copper

pipes, and later plastic. Finally, by the end of the century, it became common practice to place pipes within pipes – so-called conduit tubing.

Fuel was either coal or coke right up to the 1950s, and thereafter normally oil. District heating under the control of the local authorities first appeared after 1970. In some sense, it is possible to describe the very large settlements of the 1960s and later as having district heating on the grounds that it was produced centrally for thousands of apartments.



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