

# National Building Act

By the mid-1900s, Denmark was more than amply provided with building legislation, albeit in broad outline for the most part.

Where there might have been a justification for some variance/differences in requirements relating to building size, the layout of buildings in relation to each other and the design of the country's open spaces – in towns large and small – there had not been the same justification with respect to the interior design of buildings and the choice of materials and structures.

In 1948, therefore, the newly created Ministry of Housing set up a committee to draft, as far as possible, a common set of building regulations for the country. Copenhagen and Frederiksberg were exempted, in spite of the committee's explicit mission to use the Copenhagen legislation as a basis.

The committee reported in 1955, at which point in time there were 67 building statutes and 294 building regulations in force.

The draft Building Act for the Market Towns and Countryside was broadly similar to the Copenhagen Building Act of 1939 in terms of its structure and scope, but it was clearly adapted to the different administrative and building conditions. With respect to the latter, the draft contained further proposals for additional building statutes according to the municipality's population, its character and location. Common to all municipalities – just like Copenhagen – was a set of associated building regulations.

The draft of these regulations followed the example set by Copenhagen in 1939 in taking ordinary (residential) construction as its starting point, stating: "The wording has attempted to outline the fundamental principles of house building based on the view that these principles must be applicable to all construction."

To this end, the draft was (even) more meticulously descriptive in terms of materials, structures and practice, justified by the fact that:

*"the Regulations are therefore formulated as a comprehensive description of traditional building, i.e. the building of an ordinary house from brick, concrete, wood and similar materials based on experience gained over a long period of time."*

The committee members were obviously aware of the major ongoing changes within construction. In order to respond to any criticism, it continues:

*"The detailed description of traditional building is not intended to restrict the utmost freedom to use other building materials and methods, but rather to provide a basis for the rules by which these new materials and methods can be safely applied."*

Five years later, the Building Act for the Market Towns and Countryside of 10 June 1960 entered into force; in content and scope it was largely similar to the draft, although worded slightly differently.

This was not the case, however, for the associated regulations: the Building Regulations for the Market Towns and Countryside of 1 March 1961 were, in terms of their technical provisions, largely based on so-called functional requirements. In other words, these were requirements they were familiar with from the more recent building regulations, set independently of materials, structures and practices, and referring solely to the desired conditions determined by norms and standards, etc. An innovation was present in the form of a requirement for sound insulation between homes.

Similarly there was a module design requirement for the planning of residential buildings for rent – a requirement which was to come into effect for the first time in 1964 to avoid redesign work and give planners time to make the necessary conversions.

The standard module rules for construction (where the basic module is 1M and equivalent to 10 cm and the planning module is 3M) had been adopted as early as 1958, and since 1953 there had been a requirement for a fixed floor height of 28M in government-funded housing.

However, these functional requirements were predominantly set on the basis of exactly what could be achieved with the use of “traditional” materials, structures and practices. In this respect, the 1948 committee had established the baseline in its draft regulations.

While the building regulations still cited traditionally used materials and designs that could be brought into use without delay, there was no longer a cumbersome dispensation process associated with the use of others.

On the other hand, responsibilities connected with demonstrating compliance with functional requirements in the calculations of the intended work increased, and the same applied to the inspection thereof. A greater degree of specialised knowledge was needed in planning work as well as in public administration.

What in principle could have been handled a decade earlier by one person with architectural training and a little support from engineers in matters concerning drains and individual structures was now a matter for a number of specialists, and a decade further on, they would not necessarily have had an architect at the helm.

The 1961 Building Regulations (BR-61), with their declarations on immediately recognisable and traditional practices, were appropriate as a baseline for most (residential) construction.

However, the steady stream of new materials and structures and their increasing propagation at the expense of traditional ones led to a need for corresponding and more specific descriptive licences for the use of such. Therefore, an approval scheme was introduced in 1964 for materials and structures – the so-called “MK approvals”. In 1978, a similar scheme was established for water and drainage materials in the “VA approvals”. These schemes were extended in 1991 to EU directives under the auspices of ETA-Danmark.

Naturally, there were also questions regarding the interpretation and understanding of such radical changes in the legislative requirements. These were addressed by the ministry in its regular issue of so-called “green orientation cards”, the contents of which were then incorporated into the subsequent regulations.

The intention from the outset was to revise the building regulations every five years, and this did indeed happen with BR-66.

In addition to incorporating experiential knowledge into the above regulations, a number of technical requirements were amended for the sake of consistency between the Nordic countries. This applied particularly to the provisions on heat and sound insulation, requirements for ventilation and provisions on fire safety, where terms such as BS, BD and F building elements were introduced. However, the actual content of the requirements remained largely unchanged.

A substantial tightening of the constructional provisions came about with Addendum no. 3, to enter into force on 1 March 1969. It involved new provisions concerning building stability, brought about by a gas explosion in a UK high-rise building that resulted in the progressive collapse of several floors.

The amendments in BR-72 also included some of an editorial nature, in that the SI system was introduced into the regulations. In addition to this, the detailed descriptions in Chapter 5 of constructional provisions on automatically approved materials and structures were now applicable only in buildings of up to two floors: in all other cases reference was made to the functional requirements, norms and standards.

BR-77 was essentially a continuation of the previous regulations, except that the constructional and practical examples were removed. Although, for residential buildings of up to two floors, an SBi instruction was provided instead, and, for examples of fire-safety approved practices, reference was made to an appendix.

On 1 February 1979, an appendix came into force, tightening the provisions on thermal insulation. This led to a need for the possibility of official accreditation for the thermal insulating properties of materials as well as structures. The Ministry of Housing, the Danish Engineering Association and the VIF (Danish Association of Thermal Insulation Manufacturers) established a testing and control body – Varmeisoleringskontrollen – which entered into force in July 1979.

With Addendum no. 16 to BR-77 and thereafter, a number of relaxations were introduced in relation to the minimum requirements on the layout of housing in connection with conversion work – the so-called “Conversion Regulations” in Chapters 4 and 11.

BR-82 contained no amendments of a significant nature other than those mentioned below. The ministry was preparing special regulations for small houses and these would be made available before a larger revision was implemented.

As a new regulation, however, a requirement for sound insulation against traffic noise appeared and the requirements for ventilation in multi-storey housing were tightened: only mechanical extraction systems would thereafter be permitted.

BR-S 85 (building regulations for small houses) appeared in 1985, and the provisions in BR-82 pertaining to small houses, which were now contained in this set of regulations, were repealed.

When BR-82 was released, the expectation was that the five-yearly revision rate would be maintained; however the next set of regulations did not appear until 1995. Given the length of time that had passed, only nine additions were included, and these were minor changes of relevance to residential construction only.

Under Addendum no. 4 of April 1985, the use of combustible insulating materials was permitted under specific conditions, and the requirement relating to the insulating capacity of heavy exterior walls was tightened very slightly.

Addendum no. 6 of April 1986 prohibited the use of asbestos inside of buildings. The biggest changes that came about with BR-95 included the removal of the requirement to carry out modular planning, and, for the purposes of heat insulation, the introduction of a thermal loss or energy framework which required comprehensive deliberations to be made when choosing materials and structures, though with the continuing requirement for a minimum heat-insulating capacity for individual building elements.

The first of a total of 15 additions to BR-95 was released on 1 July 2000. The amendments contained in the additions are not described here because they fall outside of the relevant time frame.

(Although it is not the case for the earlier legislation, the building regulations issued since 1961 are available electronically on the website [byggningsreglement.dk](http://byggningsreglement.dk); the addendums to the individual regulations are also shown, as are some of the ministry's written circulars concerning the new regulations and the changes involved. Where additional communications from the ministry in connection with the individual regulations are available, these are included in the reference section under the heading "Skrivelser vedr. BR-XX".)

Copenhagen and Frederiksberg were not initially subject to the new common legislation. However, in practice the technical provisions were also applied here when a decision was needed concerning a condition not specified in the otherwise applicable provisions of these two municipalities.

This situation was untenable in the long run, and in 1964 the Ministry of Housing formed a committee to revise the building acts for Copenhagen and Frederiksberg with the aim of making them as consistent as possible with the National Building Act (and, if possible, to combine them into a single act for both municipalities).

Four years later, the committee was forced to report that the idea of a common act for both municipalities was unfeasible, for the same administrative reasons that had existed more than 150 years earlier. In addition, the same (though intrinsically different) administrative conditions were decisive to the fact that no changes were made to the respective building acts.

However, some revisions to the National Building Act at the end of the 1960s meant that Frederiksberg, with relatively few exceptions of an administrative nature, could be included under the Act. Thus, with the Proclamation of the Building Act of 15 May 1970, only Copenhagen remained exempt. Copenhagen did not become subject to the national building legislation until the Proclamation of the Building Act of 25 October 1976, which came into force on 1 February 1977.