

# Technical principles of barrier-free building

## Summary

### *Objective of the research project*

Barrier-free building becomes more and more important because the number of people with disabilities and mobility handicaps increases, not least as more and more people age. For this reason, handicapped and aged people are first of all the main beneficiaries of constructional measures for barrier-freedom. Families with children, pregnant women, sick persons, corpulent and small people stand to gain as well. At the same time, work routine and the organization of operational procedures in different Federal institutes and institutions benefit from barrier-freedom.

The passing of the Federal Handicapped-Equality Law (BGG) 2002 and here especially the self-commitment to establish barrier-freedom during own constructional measures and such of direct Federal institutions shows that the subject of barrier-freedom enjoys increasing political acceptance. The same applies to the discussion on similar equality laws in the Federal States.

In this context, the research project is used for preparing a manual on barrier-free building for Federal constructional measures. So, the technical basic principles were especially to be described that allow the pragmatic and cost-efficient realization of these legal regulations.

Thus, the research project on hand looks into the following concrete questions:

- ▶ Which constructional requirements for buildings result from different types of disability?
- ▶ Which regulations and instructions already exist, and what experience is there in them?
- ▶ Which technical principles for barrier-free building at Federal measures can be derived from?
- ▶ Which good and exemplary solutions are already there?

### *Methodical approach*

In the framework of the research project, both the existing laws, instructions, guidelines and planning aids, especially at the level of the Federal States and, thus, the respective experience were analysed. For that, expert talks with representatives of State ministries were held.

Also on this basis, the 14 example projects were chosen which are especially suitable for illustrating possible measures. In addition to talks with representatives of State ministries, building authorities and associations of disabled persons were also interviewed. Available literature and the Internet were consulted too.

The thematic fields of action of barrier-free building as well as the technical principles and requirements for barrier-free buildings form the analysis screen there. Among them there are:

1. accessibility and access
2. internal arrangement (lifts, staircases, doors and corridors)
3. sanitary facilities
4. guidance and handling
5. other special topics (outside facilities, parking spaces, service facilities and meeting places)

## *Results*

### Existing legal and basic content principles

On account of the State building regulations, extensive rules for barrier-free building are already in force in all Federal States. The relevant norms (DIN 18 024 and 18 025) are in many cases part of these legal regulations which are at least to some extent introduced as technical building regulations. In addition, many States have already enacted handicapped-equality laws analogous to the Federal one. Four of them even commit themselves here to barrier-free building. Furthermore, besides the legal regulations there are various planning aids. The research report presents a comprehensive summary on them and on the instructions of the building regulations and handicapped-equality laws.

### Federal options for action

The regulations of the Federal Handicapped-Equality Law (para 8) are valid for new civil buildings and the reconstruction and extension of large Federal buildings. For that, the approved technical rules, i.e. the DIN norms, shall be used. However, exceptions are possible. In addition to the realization of barrier-freedom according to DIN which is first of all valid for new buildings, constructional compromises and substitution regulations are also possible.

### Stock maintenance measures especially important

Just with the adjustment of the building stock, alternatives to the reconstruction according to DIN are often necessary. Usually, there are especially complex general constructional conditions by what complete barrier-freedom could be only realized with large constructional and financial investments. Therefore, intelligent compromises are sought after for cost-effective and pragmatic solutions. But thus, the stock adjustment plays also a special role because the public authorities realize a number of measures in this field. On this account, the majority of the presented examples also deals with such stock maintenance measures.

### Sustainable planning and building

Planning and implementation must always be considered from the aspect of sustainability as well as of economical building and project management. Besides the cost (time and expenses) and benefit ratio, the urgency of the measures, their integrability into nevertheless necessary projects as well as a possible substitution by simple interim solutions play an important role.

### Technical principles of barrier-free building

The described technical principles for barrier-free building contain the general requirements for the planning as well as concrete technical measures.

As general requirements for the planning of measures for establishing barrier-freedom are especially considered:

- ▶ the realization of general solutions instead of special solutions,
- ▶ the integration of measures in the respective planning process in due time as well as
- ▶ the cautiousness as far as time and content are concerned ("not everything is possible at once" and "barrier-poor instead of barrier-free").

The technical requirements and details are the concrete guideline for the necessary measures and their concrete implementation. They are composed of the respective fields of action of barrier-free building and introduced in the report at first as so-called "large solution" which first of all specifies the maximum requirements for new constructional measures. For the many stock maintenance measures at issue, compromises, so-called "small solutions", are presented which have emanated from a synopsis of existing planning guidelines of several municipalities.