Budapest University of Technology and Economics

Department of Mechanics, Materials and Structures
English courses
General course /2015
Fundamentals of Structures

Lecture no. 7:

Documentations of buildings

Content:

Introduction

1. Kinds of documentations
2. Basic data and graphical elements of an architectural or structural drawing
3. Content of the building permission documentation
4. Content of the execution project documentation
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Introduction

The legal obligation of having all phases of the existence of a building documented is

-economic interest of the client (the investor)

-safety interest of the users and the public

All documentations contain

-written part and

-drawings in scale corresponding to the content of the drawing

All documentations should be signed by the *responsible design engineer* who should justify his/her professional right to do the job by giving his/her *registration number*, which is given by the competent *chamber of architects/engineers* on request.

This request should prove the right of the applicant to be registered, based on:

-the diploma in the given engineering direction
-the required practice
-the payment of the required fees

1. Kinds of documentations

As already indicated in lecture no. 6, in connection with the design, construction, use and demolishment of a building the preparation of the following documentations are needed:

Name of the project	Aim of the project	Characteristic scale(s)
General development project (GDP)	Control general characteristics of the construction area	1:1000
Preliminary project	To back up the investment decision To choose the architect	1:200
Building permission project	To apply for building permission	1:100

(cont.)

Name of the project	Aim of the project	Characteristic scale(s)
Execution project or Working drawings	To construct, to execute the building	1:50, 1:10
Realization project	To indicate alterations as compared to the execution project	1:50 1:10
Measurement project	To substitute earlier (lost) projects	1:100
Reconstruction, modification, extension project	To conserve, to alter, to extend the building	1:100
Demolishment project	To prove what was demolished To assure the safety of demolishment	1:100

2. Basic data and graphical elements of an architectural or structural drawing

All drawings should have a caption block with indication of:

- subject of the project
- name the responsible architect (projected by:)
- drawing number
- scale
- date
- name of the drawer (drawn by:)
- name of the person who checked the drawing (checked by:)
- name of the person who approved the drawing (approved by:)

The thickness and character of lines are indicating important informations.

For example

thick lines generally indicate intersected objects,
broken lines are used to indicate contour of invisible parts
point lines indicate axis

Hatched areas mean intersected structural parts. The character of hatching may indicate the material of the intersected structure (timber, brickwork, concrete, reinforced concrete, steel etc.)

Architectural plans: horizontal section of the building at 1 m distance above the pavement level, indicating what can be seen when looking downward.

Structural plan: horizontal section of the building at 1 m distance from the pavement level, indicating what can be seen when looking upward.

In section only vertical load-bearing structures are indicated.

Level indicators: used on elevations and sections to indicate the relative height in *m* with reference to the ground floor pavement level (positive upward, negative downward).

Indication of quarters of the heavens, with indication of *true north* direction on plans.

3. Content of the building permission documentation

Written material:

- Technical descriptions
  - Architecture
  - Building constructions
  - Load-bearing structures
  - Installations
  - Power supply
  - Declaration of the chimney cleaning authority
- Annexed calculations concerning:
  - Load-bearing structures, thermal insulation capacities
- In case of communal or industrial buildings:
  - Fire protection technical description
  - Environment protection technical description

Drawn material:

- Key plan at scale 1:500 (1:200)
- Plans of different levels at scale 1:100
- Sections
- Elevations

4. Content of the execution project documentation

Written materials:

- Technical descriptions as by building permission documentation
- List of works for all professions

Working drawings:

- Architecture
  - Plans, sections, elevations at scale: 1:50
  - Details of building constructions 1:10, 1:5
  - Carpenter works, locksmith′s works with details 1:20, 1:5
- Load-bearing structures
  - Working drawings of floor constructions 1:50, 1:20
  - Staircases 1:20

Vertical load-bearing structures

Installations (water supply, gas supply, sewage water canalization, ventilation, heating system)

Electric power supply, alarm installations, lightning protection installations

5. Examples