Regulations concerning to the construction

BUTE – Faculty of Architecture
Department of construction technology and management

István Vidovszky PhD

Controlling of construction technology

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Introduction

Types of regulations

Hierarchy of legislation

Regulations in construction

Standards

Controlling

1

Rules and regulations for construction

WHAT KIND OF REGULATIONS HAVE YOU GOT AT YOUR HOME COUNTRY?

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1

Rules and regulations for construction

WHAT IS REGULATED?

desingn process

acoustics

material quality

heritage protection

use safety

access

fire safety

work safety

construction process

application of the standards

controlling process

1

STATUTES –LEVELS OF LEGISLATION

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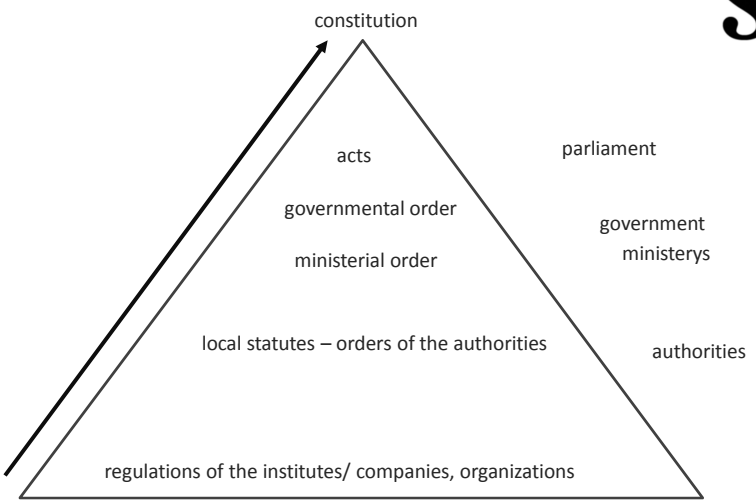
Hierarchy of legislation



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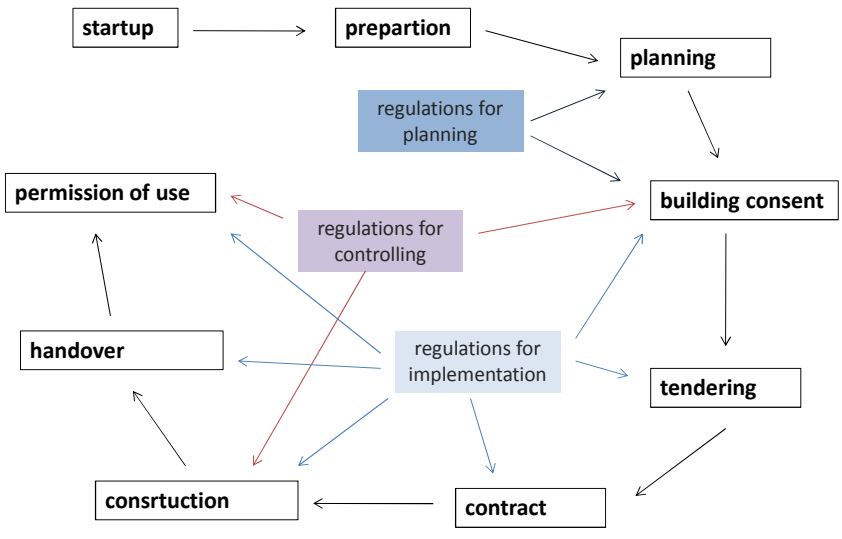
THE PROCEDURE OF CONSTRUCTION PROJECTS

Regulations of the construction



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Regulations for planning

ARCHITECTURAL PLANNING PROCESS
WHAT IS REGULATED?

Limitations:
- building height
- gross built area
- minimum green surface
- functional limitations – building areas

Heritage protection
- world heritage sites
- national listed monuments
- local listed buildings
- protected heritage area

Technical requirements:
- use performances (light, air, access etc.)
- energy consumption
- endurance requirements
- material quality
- mechanical stability
- weather resistance

Safety rules
- fire resistance
- safeguarding
- work and use safety

Process
- documentation requirements
- process protocol
- licences
- requirement of consents

2

Regulations for planning

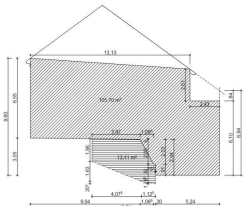
LIMITATIONS

Limitations:

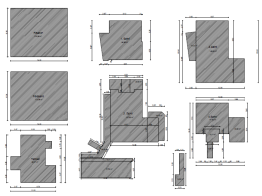
- building height

- gross built area

- minimum green surface



- functional limitations – zones of utilization
  - urban central area
  - residental (various categories)
  - industrial
  - agricultural



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TECHNICAL REQUIREMENTS

Regulations for planning

use performances
- light (windows, artificial light)
- air
- stairs
- room areas
- universal design (for disabled people)
- parking spaces
- standards for utilization (special functions)

material quality
(performance)
- certified product (by the producer / supplier)

load bearing capacity
- standards

energy consumption
- thermal insulation
- thermal envelop
- building installation/mechanical system
- energy consumption of the building/ of the equipments / of the production of the applied material

access
- overcome physical barriers
- size of entrances
- special equipments (e.g. toilets)
- signal system

1

PROCEDURE FOR BUILDING CONSENT

Regulations for planning

documentation requirements
- What kind of documentations are required? In what form?
- What kind of consent/ permission are required?
- What kind of drawings are required? In what form?

process protocol
- Which authority is responsible for what measurements?
- What institutes/offices have to be involved?
- What are the regulated durations of the process protocols (min-max)?
- What are the taxes, fees and dues?
- Who is responsible for the controlling?

1

Regulations for planning

SAFETY REQUIREMENTS

fire safety
- materials
- structures
- fire extinguishing equipment
- emergency evacuations

use safety
- health protection
- built environment, ergonomics
- regulations and standards for building structures (railings, stairs)

work safety
- health protection
- safety equipment
- safe work processes
- preventive safety measurements

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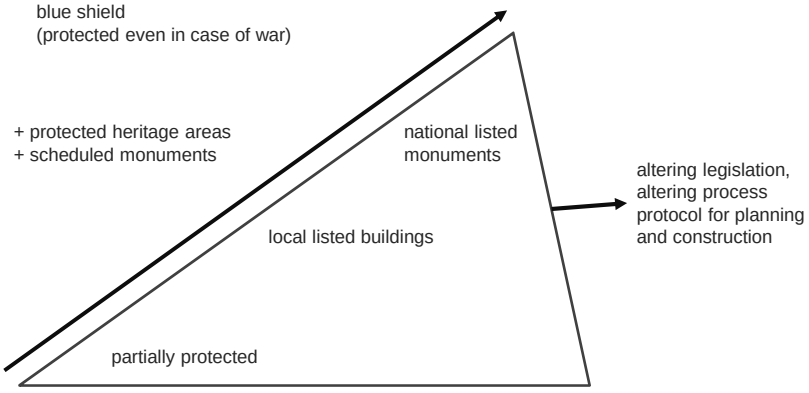
Regulations for planning

HERITAGE PROTECTION

international protection

UNESCO world heritage sites

blue shield
(protected even in case of war)



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Regulations for planning

REGULATIONS FOR ARCHITECTURAL PLANNING IN HUNGARY (EXAMPLES)

acts e.g.:
• 1997 LXXVIII. Act – On the build environment
• 2001 LXIV. Act – On the protection of the cultural heritage

governmental orders e.g.:
•253/1997 governmental order – On the national requirements of construction and shaping of settlements
•312/2012. (XI. 8.) governmental order – On the procedures and controlls of the construction supervision and the services of the construction authority

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ministerial orders e.g.:
•28/2011 (IX.6.) Order of the Ministry for Home Affairs – On the regulation of fire protection

local orders e.g:
• 47/1998 Order of the General Assembly of Budapest City – On the frame regulations about the building process and the urban shaping of Budapest

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Regulations for the construction

REGULATIONS FOR CONSTRUCTION PROCESS

Technical requirements:
• environmental requirements (waste management)
• use of standards
• sustainability

Safety rules
• fire safety
• work safety
• environment protection

Process
• documentation requirements
• process protocol
• protocol of controlling

2

Regulations for the construction

CONSTRUCTION PROCESS

(technical requirements)

construction management
- environmental requirements (lifecycle of the applied materials, waste management)
- temporary structures (standards, duration)
- renting/using public territorries

material quality
- use of standards
- certifications
- performance

1

Regulations for the construction

CONSTRUCTION PROCESS

documentation requirements
- construction logbook (now: e-logbook)
- certifications provided by the producers or the suppliers
- statement of completeness
- permission of use

process protocol
- tender
- contract
- site arrangement – territories of responsibility
- cooperation with quality surveyor/client/architect
- hand over process

control protocol
- application of standards
- controlling methods
- the work of quality surveyor
- to demand certifications from the producers or the suppliers

2

Regulations for the construction

SAFETY REGULATIONS CONSTRUCTION PROCESS

environmental tasks
• treatment of chemicals / waste management

fire protection
• on the site

work safety
• protective equipment
• PPE (mechanical/chemical harm/radiation)
• organizational tasks (site management)

2

Regulations for construction

REGULATIONS FOR CONSTRUCTION PROCESS IN HUNGARY (EXAMPLES)

acts:
• 1997 LXXVIII. Act – On the built environment
• 2001 LXIV. Act – On the protection of the cultural heritage
• 2011 CVIII. Act – On the public procurement

governmental orders:
•191/2009 governmental order – On the construction process

3

Standards

STANDARDS

DEF.:

A **technical standard** is an established norm or requirement.
It is a formal document that establishes uniform engineering or technical criteria, methods, processes and practices.

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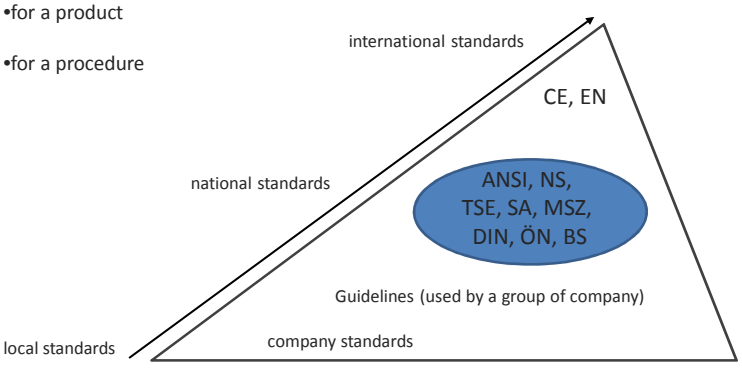
Standards

HIERARCHY OF STANDARDS

•for a product

•for a procedure



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Standards

CITATION OF THE STANDARDS

in regulations

- in general -> all the concerning standards are prescribed
- with name -> a specific standard (the latest version) is compulsory
- with name and date -> a specific standard (the cited version) is compulsory

3

Standards

THE PRINCIPAL OF APPLICATION OF STANDARDS

- the use of the standards is ***not obligatory*** – BUT only positive alteration is accepted

↓

to ensure the chance for development

3

Standards

STANDARDS OF THE EUROPEAN UNION

National standards

Have to be harmonized with the EU regulations (standards)!

If harmonized standard exists and it is applied, the conformance mark can be used…

…on the market in the European Economic Area (EEA)

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Certifications

CONFORMANCE MARK

CE = conformance mark

The manufacturer on his sole responsibility declares, that the product met the EU consumer safety requirements.

Building construction

The building is met with the EU consumer safety requirements if **all used material / structural element** is met with the EU consumer safety requirements :

are marked with CE marking.

or

are uniquely certified.

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Regulations for planning

Basic requirements for construction products

- mechanical resistance and stability
- safety in case of fire
- hygiene, health and environment
- safety and accessibility in use
- protection against noise
- energy economy and heat retention
- sustainable use of natural resources

…for all products at which at least one of the above mentioned must be applied.

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Regulations for planning

UNIQUE CERTIFICATIONS

International certifications e.g.:

ETA = European Technical Approval

in the basis of ETAG = European technical approval guideline

by EOTA = European Organization for Technical Approvals

National certifications e.g.:

EME = Építőipari Műszaki Engedély
(Hungarian national certification by the ÉMI institute)

2

Regulations for planning

CPR (Construction Product Regulation)

305/2011/EU

- after 30/06/2013
- for all construction products in the EU
- if there is a harmonised European Standard or an ETA exists

Declaration of Performance (DoP) must be issued!

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Controlling

CONTROLLING PROCESSES

participant	*contolling process*	*contolling aspect*	
client	quality surveyor	every aspect	INTERNAL CONTROLLING
designers	architectural supervision	aesthetical quality/ accordance with the plan	
contractor	daily controlling routine	every aspect	
authority	before the construction, after the hand over	accordance with the plan	EXTERNAL CONTROLLING
state	during the construction	every legal aspect	

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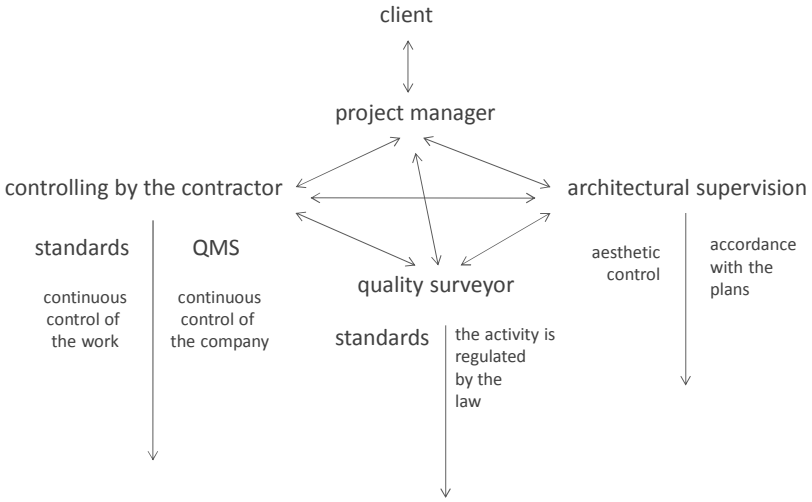
INTERNAL CONTROLLING PROCESS



Controlling

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CONTROLLING BY QUALITY SURVEYOR

Controlling tasks

- control of the plans in accordance with the standards and the regulations
- control of the assignment of the building
- control of the conformance of the applied material (CE, etc.)
- ensure the prosecution of the prescribed tests (e.g. soil mechanics)
- controlling quality prescribed by the standards
- controlling hidden structures and volume of the completed work before getting covered (e.g. reinforcement)
- controlling volume of the completed work

Controlling

4

CONTROLLING BY QUALITY SURVEYOR

Controlling

Administrative tasks

- continuous control of the construction logbook
- note all failures (deficiencies and faults) in the construction logbook
- informs the client if the completed work is according to the contract (volume, standards, prescriptions, etc.) – (Is it suggested for the client to pay all the bills or not?)
- take part in the hand over process

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EXTERNAL CONTROLLING PROCESS

Controlling

Local authority

building consent → compulsory site control involved into the procedure, before any construction work are performed

permission of use → compulsory site visit during the procedure (control of the fulfilled building – control all aspects, that have to be authorized)

construction supervison by the state

→ probable site visit during the construction process

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