

BUILDING REGULATION AND ITS APPLICATION IN SLOVENIA

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EUROPEAN REGULATORY SYSTEM

1. Regulations

- **directly applicable** in all member states, obligatory acts

2. Directives

- demand **measures for implementation on the national level** to the prescribed date. **Directives are the most important and most efficient instruments for implementation and strengthening the internal EU market.**

3. Decisions

- **obligatory** for those **who are concerned**

4. Recommendations and Opinions

- **non obligatory** documents

EUROPEAN "STATE-OF-THE-ART" IN CONSTRUCTION

The regulatory framework differed widely between Member States:

- in some countries:
 - broad functional requirements, extensive use of advisory codes of practice or manufacturers' self-declaration of compliance
- in others:
 - reliance on legally enforceable national standards with extensive third party attestation

NEW APPROACH DIRECTIVES

- Unification of regulative with **prescription of all product properties** was **impossible**
- The solution was introduction of "**new approach directives**" in 1985. Only harmonization of **Essential requirements (ER)**, for which public interest exists was foreseen - **health and safety of users**
- Unique **moduli for conformity assessment of products** were introduced

CONSTRUCTION PRODUCTS DIRECTIVE (CPD)

- One of the "new approach" directives, adopted in 1989 (106/89/EEC), basis for CE marking
- Its aim is to break down regulative barriers and enables free movement of construction products throughout Europe
- Problem: construction products can not be treated like others (e.g. electrical appliances) because its "fitness for use" depends on the place (country) where they will be installed
- National requirements should be taken into account

BUILDING REGULATIONS

Basic principles:

- **Free movement** of construction products is regulated by **European legal system (Construction Products Directive - CPD)**, Member States have to implement it to their **national legal systems (in Slovenia Construction Products Act – ZGPro was adopted before entering the EU - UL RS Nr. 52/2000)**
- Construction regulated in **national building regulations (in Slovenia Construction Act was adopted in 2002 - ZGO-1, UL RS Nr. 110/02)**
- **Other provisions** should be taken into account (eg. from **General Products Safety Act - ZSVP-1, UL RS Nr. 101/03)**

NATIONAL BUILDING REGULATIONS

- In national building regulations Member States should include essential requirements of CPD and are not allowed to put obstacles (additional requirements) for the products marked with CE mark
- Practical problems arose in the states who had well established national building regulations and national classification system for construction products (e.g. Germany) which, in principle, were more strict than CPD

DIFFERENCES BETWEEN CPD AND OTHER DIRECTIVES

- Construction products should have such characteristics that **buildings in which they will be installed**, fulfil **essential requirements** from CPD
- **Moduli** for conformity assessment are **different** than **common moduli** in other directives (**moduli A – H**), **CPD systems 1 – 4**
- The use of **harmonized technical specifications** (standards, technical approvals) is **obligatory**

SPECIALITIES OF CPD

- Requirements for products are fulfilled through technical specifications: harmonized European standards (hEN) and European Technical Approvals (ETA)
- Attestation of Conformity systems (AoC) are prescribed in advance by Commission decision
- Member States have to notify to the Commission all notified bodies (testing laboratories, inspection and certification bodies) taking part in the AoC activities

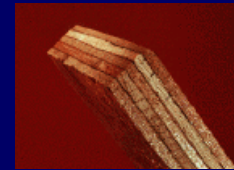
CONSTRUCTION PRODUCTS (1a)

Products are very different:

- basic construction **materials** (cement, steel, aluminium, **timber**, polymers...)



- basic construction **elements/composites** (bricks, concrete, **glulam**...)



- **composite materials** (**wood based panels**, gypsum boards, thermal insulation panels...)

CONSTRUCTION PRODUCTS (1b)

- **structural elements** (floor plates, columns, beams, also from **wood** - e.g. from **cross-laminated wood**)

- **kits** (windows, doors...)



- **whole buildings** (**timber**, concrete and steel **frame buildings**, **log buildings**, cold storage premises...)



CONSTRUCTION PRODUCTS (2)

Definition:

- Construction product is permanently installed into a building, could be important or less important
- Important construction product
 - influences the essential requirements
 - its removal causes substantial degradation of building
 - changing needs construction procedure

Which are essential requirements for CPD?

- protection of health and safety of users (for all directives)
- environment protection and energy saving (only for CPD)

ESSENTIAL REQUIREMENTS (ER)

ER	Description
1	Mechanical resistance and stability
2	Safety in the case of fire
3	Hygiene, health and environment
4	Safety in use
5	Protection against noise
6	Energy economy and heat retention

Additional: Durability

ATTESTATION OF CONFORMITY SYSTEMS (1)

- Different construction products **influence differently** the **safety of the building**
- According to CPD **importance** of the product results in the **Attestation of Conformity System (AoC)**
- All systems are **combination of tasks** which should be performed by **producer**, and those performed by **notified body (NB)**:
 - **Initial Type-Testing = ITT**
 - **Factory Production Control = FPC**
- AoC system is **prescribed** in **technical specification**

ATTESTATION OF CONFORMITY SYSTEMS (2)

	Tasks at conformity assessment	AoC systems					
		1+	1	2+	2	3	4
Producer	Factory production control	yes	yes	yes	yes	yes	yes
	Tests according to the prescribed test plan	yes	yes	yes	no	no	no
	Initial type testing	no	no	yes	yes	no	yes
Notified body	Initial type testing	yes	yes	no	no	yes	no
	Initial visit and assessment of factory production control	yes	yes	yes	yes	no	no
	Regular surveillance of factory production control	yes	yes	yes	no	no	no
	Audit testing of samples	yes	no	no	no	no	no

ATTESTATION OF CONFORMITY SYSTEMS (3)

- In AoC systems 1 and 1+ CE certificate of conformity for the product is needed. It should be obtained by notified certification body
- In AoC systems 2 and 2+ CE certificate of factory production control is needed. It should be also obtained by notified certification body
- In AoC system 3 test report for the initial type testing from the notified testing laboratory is needed
- In AoC system 4 producer should have a documented test report for the initial type testing

NOTIFIED BODIES

- Member state should **notify** to the **European Commission** its **notified bodies**:
 - testing laboratories
 - inspection bodies
 - certification bodies
- Bodies are notified for the **relevant technical specification (TS) only** and not for testing or inspection procedures
- **Before TS is issued notification is not possible!**
- **Accreditation** of notified bodies is **not necessary** but usually demanded by the state authorities

GROUP OF NOTIFIED BODIES

- All bodies, involved in AoC, are equivalent, customer can perform all tasks in any country
- If product has CE mark it can be sold in all Member States without the need for additional national certification and/or testing
- For unifying the work a Group of Notified Bodies (GNB) was established
- Organizational questions are solving by the Advisory Group of Notified Bodies (AG GNB), and technical problems (eg. unifying the procedures) through the work of Sector Groups (SG CPD)

SLOVENIAN NOTIFIED BODIES

Type of notification	Organisation
AB Building Institute NB 1373	ZAG - LJUBLJANA Slovenian National and Civil Engineering
NB 1374 and	IGMAT - Institute for Building Materials IRMA - Institute for Material Research Application d.d.d.
NB 1404 NB 1494	ZAG LJUBLJANA AKTIM

Abbreviations: AB...approval body
NB...notified body

SLOVENIAN WORK IN SECTOR GROUPS

- In sector groups (SG) experts from notified bodies issue **working documents** regarding testing and inspection procedures - "Operating procedures", "Sampling for ITT testing" etc.
- Members of SG should be **representatives of all notified bodies** but due to costs, lack of time etc. it does not happen - **attendance to the meeting depends also on the type of product**
- Sector groups in which **representatives of Slovenia** participate: SG-02 (Cement), SG-06 (Doors and windows), SG-18 (Structural timber products), SG-13 (Prefabricated concrete elements), SG-21 (Building kits), SH-02 (Fire)

MANDATES

- After consultation with Standing Committee for Construction (SCC) European Commission (EC) gives "mandates" to standardization body (CEN) and European Organization for Technical Approvals (EOTA) to make harmonized technical specification for specific product or family of products
- EC prescribes essential requirements relevant for the product
- EC sets an Attestation of Conformity system

HARMONIZED STANDARDS

- Different kinds of standards: basic, for terminology, for processes (eg. testing), for procedures (eg. factory production control), for compatibility, for products, for design (Eurocodes)...
- Speciality of CPD: adoption of standards with requirements for products – harmonized standards
- Fulfilling requirements from harmonized standards enables CE marking
- Annex Z (CPD ZA, other directives ZB, ZC, ZD)

ANNEX ZA

- The same structure for all harmonized standards:
 - ZA.1: **harmonized (obligatory) properties** of the product
 - ZA.2: **Attestation of Conformity system (1+, 1, 2+, 3, 4)** – in the same standard also several AoC systems possible - depending on the **type** of product and **intended use**
 - ZA.3: **content and example of CE mark**

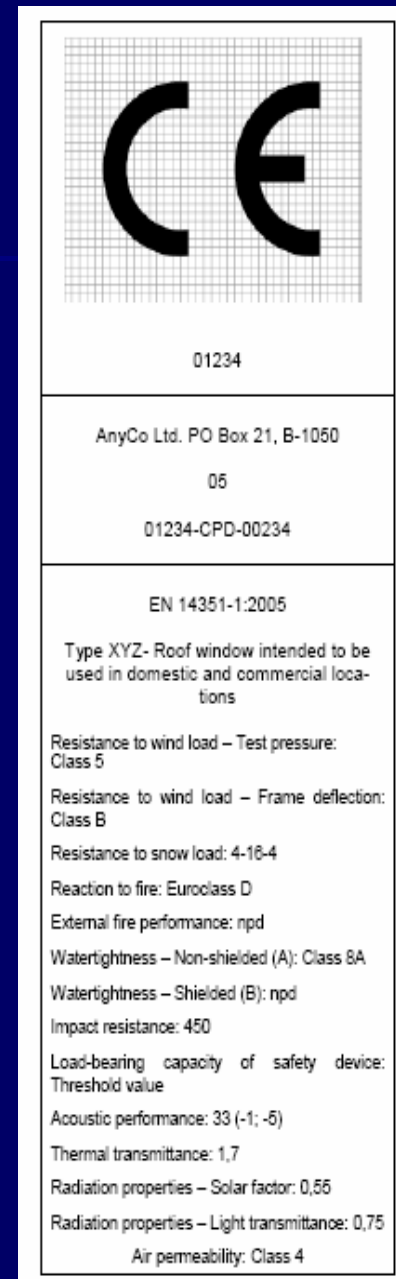
EXAMPLE OF CE MARK

Product: **roof window**

Standard, to which product is conformed with:
EN 14351-1

Important information:

- *name of the producer*
- *year of affixing CE mark*
- *intended use*
- *number of notified body*
- *technical characteristics*



DECLARED VALUES OF TECHNICAL CHARACTERISTICS

- Technical characteristics have to:
 - reach the **threshold**, prescribed in technical specification (values are different for different levels/classes)
 - be defined as **declared values**
- Declared values are often connected with **building regulations in Member States (MS)**
- Option **NPD (no performance determined)**
- **Be careful with NPD option** - installation of such a product in MS with prescriptive national regulation regarding this property/requirement is not possible!

NUMBER OF HARMONIZED STANDARDS

- What is the total number of harmonized standards?
<http://www.cen.eu/cenorm/businessdomains/businessdomains/construction/snapshot20070420.pdf>
- Concerned standards in the last list (20. 4. 2007): **471**
 - Approved and cited in OJ: 247
 - Approved not yet cited in OJ : 79
 - Approved not yet available: 2
- Total approved: **328**
 - Voted drafts waiting for report: 5
 - Drafts in acceptation procedure: 44
 - Drafts: 94
- In the preparation process: **143**

HARMONIZED STANDARDS FOR TIMBER...

- A total number of harmonized standards in "timber area"?

Concerned standards in the last list (20. 4. 2007):

32

Approved and cited in OJ: 16
 (1 doors, 1 shutters, 7 hardware)

Approved not yet cited in OJ : 4
 (1 windows/doors)


- Total approved: **20**

Drafts in acceptation procedure: 3

Drafts: 9
 (1 windows/doors, 5 hardware)

- In the preparation process: **12**

CE MARKING : QUALITY MARK

- Is CE mark also a **quality mark**?
- It assures fulfillment of **minimum requirements**, it does not include the involvement of "**third party**" in all cases
- Possibility of increasing level of control is introduction of "**quality marks**"
- A variety of these marks: **key mark**  , NEMKO mark



, institutes' marks



- Should **not be mixed with CE mark** - they are voluntary
- Relating to AoC: usually it is **system 1** (certificate of the product) or **system 2+** (certificate of FPC)

TECHNICAL APPROVALS (1)

- "European Technical Approval is favourable technical assessment of the fitness for use of a product for an intended use, based on fulfillment of the essential requirements for building works for which the product is used"
- Technical approval is technical specification for the known producer and for specific product/products
- Technical approvals may be granted to a product for which neither a harmonized standard nor a recognized national standard nor a mandate for harmonized standard is issued, or to product which differs significantly from standard - in this category we also treat products, composed from more components ("kits")

TECHNICAL APPROVALS (2)

- Technical approval is **technical specification** for the **known producer** and for **specific product/products**
- **European technical approval (ETA)** consists of all chapters needed for CE marking (**relevant properties, testing needed, quite detailed description of FPC, AoC system, tasks for producer and notified body, description of CE mark...**)
- It is **not** a **passport** for a product to enter the **market**
- **AoC procedures**, prescribed in technical approval **should be performed** (also **certification** if needed)
- **European technical approval (ETA)** can be obtained only by the **member of EOTA**

EUROPEAN TECHNICAL APPROVALS

- There are **two types of European Technical Approvals (ETA)**
 - made on the basis of **Guideline (ETAG)**
 - made on the basis of **Common Understanding of Assessment Procedure (CUAP) - art. 9.2 of CPD**
- European technical approvals are harmonized by **European Organisation for Technical Approvals (EOTA)**, in which all **Approval bodies** shall participate
- All documents (**issued ETA and endorsed ETAG**) **are** available on the website of EOTA:
<http://www.eota.eu>

SLOVENIAN APPROVAL BODY

- **Ministry for Economy** authorised with a decision Nr. 210-9/2002-5 from **27.06.2003** Slovenian National Building and Civil Engineering Institute (ZAG) as an **Approval Body**
- With this decision ZAG gained **responsibilities and rights** from the next activities:
 - issuing, changing, prolonging or deleting **Slovenian Technical Approvals (STS)**
 - issuing, changing, prolonging or deleting **European Technical Approvals (ETA)**
 - as a member of **European Organization for Technical Approvals (EOTA)** represents Republic of Slovenia in this organization

ZAG'S WORK IN THE FIELD OF EOTA

- Till May 2007 ZAG has issued 8 ETAs:
 - 2 for metal anchors (ETAG 001)
 - 2 for plastic anchors (ETAG 014)
 - 6 for ETICS (ETAG 004)
- All ETA drafts are circulating between EOTA members, so ZAG's experts should check and comment them
- ZAG is obliged to inform all EOTA members on Slovenian regulatory demands when ETAG, ETA or CUAP are drafted
- ZAG's representatives attend the meetings of Technical Board (TB), Executive Committee (ExCom) and Plenary meetings (PM)

SLOVENIAN TECHNICAL APPROVALS

- Mainly for the products for which **hEN** is in the **preparatory phase (prEN)** - in that case approvals follow quite strictly the **requirements of prEN**
- Sometimes they are issued **on the demand of producer** or its legal representative (even when ETAG is available) because the **procedure is quicker**.
- In the year 2006 ZAG issued app. **120 Slovenian technical approvals** whereas over **400 applications** were submitted

EUROPEAN INFORMATION SYSTEM

- Legal documents are published in the **Official Journal EU (OJ)**
<http://eur-lex.europa.eu/en/index.htm>
- Other path - through **Comité Européen de Normalisation (CEN)** "business domains" – construction
<http://www.cenorm.be/cenorm/businessdomains/businessdomains/construction/index.asp>
- Lists of notified bodies can be found in **NANDO basis**:
<http://ec.europa.eu/enterprise/newapproach/nando/>

SLOVENIAN INFORMATION SYSTEM

- Legal documents published in the **Uradni list RS**
<http://www.uradni-list.si/main.cp2>
- e.g. **Law on Construction products**
<http://www.uradni-list.si/1/objava.jsp?urlid=200052&stevilka=2448>
- Other path - through **Ministry for Environment and Spatial Planning (MOP)** – building regulation
http://www.mop.gov.si/si/zakonodaja_in_dokumenti/prostor/#c16759
- Standards can be purchased through **Slovenian Institute for Standardization (SIST)**
<http://www.sist.si/index.htm>

CITATION OF TECHNICAL SPECIFICATIONS

Obligatory use of technical specifications is cited in Official Journal (Uradni list) RS:

- there have been 9 citations for using harmonized standards as recognized technical specifications: "List of standards whose application creates the presumption of conformity on construction products for their intended use" (first in **UL RS Nr. 103/29.11.2002**, last in **UL RS Nr. 49/4.6.2007**)
- a list of **Guidelines for European technical approvals** was cited in **UL RS Nr. 58/18.6.2003**

CONCLUSIONS (general)

- Construction Products Directive (CPD) is, according to many parties involved, **very effective tool** for enabling free market for construction products
- On the other hand some **participants (not necessarily producers!)** think that **procedures for getting CE mark** are **costly** and **time consuming**
- A lot of attempts for **revision of CPD** has been initiated, so far **not successfully**
- CPD can not be treated as other directives - **products are assessed when installed** (construction is under the national regulations!)

CONCLUSIONS (Slovenian aspect)

- After abandoning JUS standards and former building regulatory system, Slovenia remained practically without regulations in this field
- The solution was fast implementation of Construction Products Directive into Slovenian legal system (in 2000)
- We found procedures from CPD very useful
- Problems occur mainly due to very long procedures in adopting technical specifications, specially standards - Slovenian technical approvals are needed

THANK YOU FOR YOUR ATTENTION!



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