



CURRENT SITUATION IN ADOPTION OF THE EUROCODES

Country Report – Bosnia and Herzegovina

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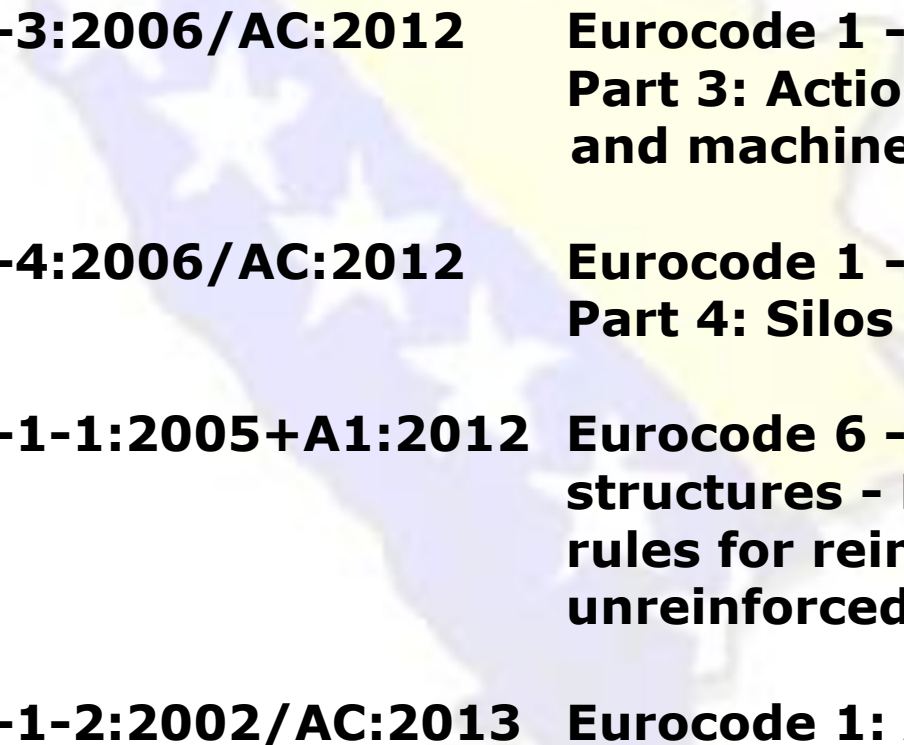


Eurocodes Adoption in Bosnia & Herzegovina

- Institute for Standardization Bosnia and Herzegovina (BAS);
- BAS/TC 21 - Concrete and related products - took over responsibility of adoption of Eurocodes in B&H since 2003 until last year;
- Eurocodes have been adopted by endorsement method;
- None of them are translated and none national annexes have been made so far.



Eurocodes that have not been Adopted yet:

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- EN 1991-3:2006/AC:2012** Eurocode 1 - Actions on structures - Part 3: Actions induced by cranes and machinery
- EN 1991-4:2006/AC:2012** Eurocode 1 - Actions on structures - Part 4: Silos and tanks
- EN 1996-1-1:2005+A1:2012** Eurocode 6 - Design of masonry structures - Part 1-1: General rules for reinforced and unreinforced masonry structures
- EN 1991-1-2:2002/AC:2013** Eurocode 1: Actions on structures - Part 1-2: General actions - Actions on structures exposed to fire



Eurocodes that have not been Adopted yet:

EN 1991-1-6:2005/AC:2013 Eurocode 1 - Actions on structures
Part 1-6: General actions - Actions during execution


EN 1997-1:2004/A1:2013 Eurocode 7: Geotechnical design –
Part 1: General rules

EN 1998-1:2004/A1:2013 Eurocode 8: Design of structures
for earthquake resistance - Part 1:
General rules, seismic actions and
rules for buildings

EN 1998-3:2005/AC:2013 Eurocode 8: Design of structures
for earthquake resistance - Part 3:
Assessment and retrofitting of
buildings



Eurocodes Adoption Status

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- 93.70 % of Eurocodes parts adopted;
 - Thanks to the work by members of BAS/TC 21 – Concrete and Related Products and Prof. Kurtovic as Chairman of the committee.



BAS/TC 58 - Eurocodes

- Since November 2013, BAS/TC 58 - Eurocodes established:

Title: BAS/TC 58 - Eurocodes

Established: November 28, 2013

Chairman: Dr. Sanin Dzidic, PE

- Currently 17 members from different sectors and stakeholders, designers, construction industry, universities, research institutions, government representatives...



BAS/TC 58 - Eurocodes

Scope of the BAS/TC 58 – Eurocodes

Same as CEN mirror committee

CEN/TC 250 - Structural Eurocodes

"Standardization of structural design rules for building and civil engineering works taking into account the relationship between design rules and the assumptions to be made for construction products, execution and control."



Plan for Year 2014

- Adopting the translation of Guidance Paper L;
- Harmonizing the terminology;
- Translation of EC 0 and creating of the corresponding National Annex (financial support).



EUROCODES APPLICATION STATUS

- Universities (Faculties, Schools and Departments of Civil Engineering and Architecture) included Eurocodes in their curriculums and syllabuses for structural courses;
- However, very often the curriculums and syllabuses include Eurocodes as well as national codes and standards in parallel, for the reasons that will be explained in further elaboration.



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- ✓ Eurocodes are integrated in curriculum since 15 years ago – Structural Engineering;
- ✓ At the very beginning - lectures on concrete structures (concrete and prestressed concrete);
- ✓ At that time just Eurocode 1 and 2 were included;
- ✓ The lectures were adopted according to the contemporary stage of Eurocodes (e.g. Pre-norm);
- ✓ Regular updates of teaching materials;



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- ✓ Eurocodes in lectures on concrete structures were followed by masonry, steel and timber structures (Eurocodes 3, 5 and 6);
- ✓ Inclusion of Eurocode 8 in lectures on Earthquake Resistant Design began early, since 12 years ago;
- ✓ The adoption of goals, principles for structural regularity and design procedures, especially EC8 Part 1, later EC8 Part 2 as well;
- ✓ Lack of national parameters typical for implementation of EC8



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- ✓ National codes and rulebooks are still present;
- ✓ Existing design procedures are material dependent. There is no unique design concept as in Eurocode;
- ✓ Risk: Mixing of design concepts;
- ✓ Eurocodes versus National Codes



EUROCODES APPLICATION STATUS LIMITATIONS

- Legal limitations;
- Average structural engineers' lack of fluency in European foreign languages;
- Lack of translated Eurocodes in BHS;
- Lack of sufficient number of books and handbooks regularly updated to the issues of Eurocodes in BHS;
- Lack of the continuing education, extra courses and professional development and trainings for application of Eurocodes;



EUROCODES APPLICATION STATUS

- Structural Design Process is still mainly conducted based upon the old codes and JUS Standards;
- Use of Eurocodes is usually based upon the Investor's request (European Investors), or personal decision of the structural designer;
- Average structural engineer are familiar with **basics** of Eurocodes.



EUROCODES APPLICATION STATUS LIMITATIONS

- Significant effects by the economical crises;
- Mixing of design concepts: Eurocodes and National codes;
- Lack of National Documents;
- In conclusion, lack of any systematic approach!



EUROCODES APPLICATION STATUS LIMITATIONS

- Material testing procedures;
- Current situation: Building industry use common (old) testing procedures according to national rules;
- Introduction of new testing procedures compatible with Eurocodes is a big challenge and requires a lot of efforts.



EUROCODES APPLICATION STATUS LIMITATIONS

Legal Limitations

- ❖ Example 1- PBAB '87 and EC 2;
- ❖ Example 2 – CPR 305/2011, CPD 89/106/EEC and FB&H Law on Construction Products (Official Gazette of FBiH" No. 81/09 and Decree on Technical Features that Built Facilities must Comply with in Terms of their Safety and Manner of Usage and Maintenance thereof (Official Gazette of FBiH No. 29/07 and 51/08).



EUROCODES APPLICATION URGENT NEEDS

- Harmonization of Legislation in the field of expertise;
- Determination of typical national parameters and National Annexes:
 - Loading – characteristic values;
 - Snow
 - Wind
 - Earthquake – Zones – PGA (peak ground acceleration).



EUROCODES APPLICATION URGENT NEEDS - RESOURCES

- Further experts to be attracted in the membership in BAS/TC 58-Eurocodes;
- Cooperation of the BAS/TC 58 with relevant Institutes and their data base;
- Full Support by BAS;
- Political and Governmental Support in BiH and EU in the process of harmonization of legislation;



EUROCODES APPLICATION URGENT NEEDS - RESOURCES

- Exchange of Experience and Lesson Learned with neighboring and EU Countries in process of Eurocodes adoption and production of national parameters and National Annexes;
- Assistance and sponsorships to the Universities and research work related to National Annexes, Study Tours;
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EUROCODES APPLICATION URGENT NEEDS - RESOURCES

- Translation of the Eurocodes to BHS (modalities);
- TAIEX and Twinning Activities or (similar) in support of adoption and implementation of Eurocodes to our country;
- Continuing Education of the structural engineers through workshops, seminars, round tables and conferences and train the trainers concept.



and of course and at the end of the day

THE BUDGET !!!???





Thank you for your attention!

