

15th ISRM Congress and 72nd Geomechanics Colloquium, 9-14 October 2023

Seminar date: 10 October, 9:00-18:00

**“ROCK ENGINEERING DESIGN IN TOMORROW’S GEOTECHNICAL TOOLBOX:
the second generation (2024) of Eurocode 7 and the integration of rock engineering”**

Organisation: Rock Engineering Platform of CEN/TC250/SC7

Summary

The Structural Eurocodes (EN 199x) are a suite of European standards for the design of buildings and civil engineering works, published in 2006 by the European Committee for Standardization (CEN) and with implementation starting in 2010. EN 1990 (the Eurocode) sets out the basis of structural design, with the other Eurocodes dealing with different materials and specific aspects of the design; EN 1997 (Eurocode 7) deals with geotechnical design. Although initially developed for structures involving soils, the scope of Eurocode 7 also includes rock engineering design.

In 2010, CEN began a process of evolving the Eurocodes in order to: i) incorporate improvements that reflect the state-of-the-art in engineering design and the needs of the civil engineering market; ii) improve the ease-of-use of the standards; iii) harmonize practice between countries. The revised EN 1990 presents substantial improvements, so much so that its title has been changed to “Basis of structural and geotechnical design”. A major target of the EN 1997 revision was that the second generation of the code treats soil and rock on an equal basis. The second generation of the Eurocode 7 is now nearly finished and will be subject to formal voting in the second quarter of 2024.

The evolution of the Eurocode 7 has been accompanied by a large group of rock engineering experts from across Europe working under the auspices of CEN TC250/SC7: in the task group WG1/TG3 – Rock Mechanics from 2011 to 2020, and in the Rock Engineering Platform (REP) since 2020. This seminar is promoted by the REP.

The REP recognises that a large proportion of the rock engineering community has had little contact with the Eurocodes, despite their use in design being mandatory in many European countries. With this in mind the REP proposes the organisation of this informative seminar, directed precisely at an audience of rock engineering practitioners and with the aim of presenting the main aspects of the second generation of the Eurocode (EN 1990) and of the Eurocode 7 (EN 1997). The seminar will present:

- i) the main differences between the first and the second generations of the Eurocodes, in particular of Eurocode 7, and the changes of particular significance to rock engineering;
- ii) how customary rock mechanics and rock engineering fit in the context of limit state design;
- iii) the most relevant aspects of parts 1 (general rules), part 2 (ground properties) and part 3 (geotechnical structures).
- iv) design examples;
- v) an overview of the applicability of the Eurocodes to the design of underground structures.