

Replaces, together with the code SIA 261/1, Section 4 of the code SIA 160, Edition 1989

Einwirkungen auf Tragwerke
Actions sur les structures porteuses
Azioni sulle strutture portanti

Actions on Structures

261

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FOREWORD

The present code SIA 261 is directed towards design engineers. Also addressed are owners and those involved in site supervision and the execution of construction works.

SIA 261 is part of the Swiss structural codes. It follows in general the different parts of the European Standard EN 1991 *Actions on Structures* and, together with SIA 261/1, includes the actions listed in the code SIA 160 (1989).

The Swiss structural codes comprise the following:

- SIA 260 Basis of structural design
- SIA 261 Actions on structures
- SIA 262 Concrete structures
- SIA 263 Steel structures
- SIA 264 Composite steel and concrete structures
- SIA 265 Timber structures
- SIA 266 Masonry
- SIA 267 Geotechnical design.

It is planned to add to the Swiss structural codes a code on the conservation of structures.

The present code differs from Section 4 of SIA 160 mainly in the following points:

- Instead of representative values, short- and long-term values, characteristic values of actions are provided. Reduction factors for occasional, frequent and quasi-permanent values of variable actions are given in SIA 260.
- Actions imposed by the ground are treated in more detail.
- The magnitude and presentation of roof shape coefficients for snow loads have been changed.
- The reference value of the dynamic pressure due to wind corresponds to a return period of 50 instead of 30 years. Force and pressure coefficients are given in Appendix C.
- For live loads in buildings, concentrated loads are given in addition to distributed loads.
- Normal road traffic is treated using a single load model. The axle group is slightly changed in geometry and is applied to two lanes of traffic instead of one. The distributed loads have been significantly increased, in particular for relatively narrow structures. Load models for exceptional transports are dealt with in SIA 261/1.
- For normal gauge rail traffic a third load model has been introduced together with a factor to classify standard load models. Vehicle loads and correlated acceleration, braking and centrifugal forces are considered as groups of actions. The dimensioning values of derailment loads have been significantly increased.
- Forces on barriers for pedestrians as well as the impact of road and rail vehicles are treated in a more detailed manner.
- Ground classes have been introduced to account for the influence of ground conditions on earthquake actions. Response factors to take into account the ductility of structures are given in SIA 262 to 267.
- Crane track loads as well as friction and recovery forces at support bearings are treated in SIA 261/1.

Project Management Swisscodes and Drafting Panel for SIA 261

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BAV Swiss Federal Office of Transport
EPFL Swiss Federal Institute of Technology, Lausanne
ETHZ Swiss Federal Institute of Technology, Zurich

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Acceptance and coming into force

The central committee for codes and regulations accepted the present code SIA 261 on 1 October 2002.

It comes into force on 1 January 2003.

It replaces, together with code SIA 261/1, Section 4 of the code SIA 160 *Actions on Structures*, Edition 1989.

Interim regulations

Up to 30 June 2004 the code SIA 160, Edition 1989, can still be used, but only together with the structural codes to which it refers.

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