

Eurocode 8: Design of structures for earthquake resistance

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Introduction

The six Parts of EN 1998 form a comprehensive set of requirements that provide a unified approach to the seismic design of structures and their foundations. The stated purpose of EN 1998 is to ensure that in the event of earthquakes:

- human lives are protected;
- damage is limited; and
- structures important for civil protection remain operational.

EN 1998 covers not only building structures, but also bridges and other facilities such as chimneys, towers, tanks and pipelines (both buried and above ground). Dams, offshore structures, nuclear power stations and long span suspension bridges are however specifically excluded from its scope.

Table 8.1 shows the different parts of EN 1998 and the years of publication of the UK national annexes, which are available for all Parts except Part 3. Part 1 (EN 1998-1) contains general material applicable to all types of structure covered by EN 1998, including the definition of seismic actions. Part 1 also contains the main rules specific to the design of building superstructures in concrete, steel, steel–concrete composite, timber and masonry. The use of base isolation bearings to provide seismic protection is also covered by Part 1. Part 5 covers geotechnical matters, including the design of foundations, and therefore, like Part 1, applies to all ground supported structures. Parts 2, 4 and 5 provide additional rules for specific structural types other than buildings. Part 3 of EN 1998 deals with the assessment and retrofit of existing buildings, which is an important issue for seismic regions of the world, where