Chapter C. Good practices to create a model

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The different levels of analysis and the complexity associated with the model have already been defined in the previous chapter before the modeling stage. This chapter highlights the simplifications that can be used to create a model that is structurally representative of the real-life structure and the loads it is subjected to.

The different levels of investigation and complexity associated with the model have already been defined before the modeling phase in chapter B.

This chapter presents the possible simplifications one can adopt when creating a model that is structurally representative of the design of the actual structure, its behavior, and the stresses it is subjected to.

C.1 Input data and units

C.2 Modelling of the main elements

C.3 Finite elements and meshing

C.4 Modelling of the non-structural elements or the equipment

C.5 Boundary conditions

C.6 Connections – links – assembly

C.7 Eccentricity

C.8 Combined cross-sections (beam/deck)

C.9 Materials

C.10 Behaviors specific to shear and torsion

C.11 Loads modeling

C.12 Further information related to volumetric elements

C.13 Further information related to non-linear calculations

C.14 Further information related to prestress

C.15 Further information related to phase calculation

C.16 Further information related to structural dynamics and seismic calculations

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