B2 - Uniaxial and Biaxial Reinforced Concrete Design

The B2 application allows you to perform cross-section analysis for bending with longitudinal force, as well as with shear force. Additionally, you can produce crack width evidence (loading), perform stress analysis or calculate effective rigidity and run an analysis of shear joints.

Design

- EN 1992-1-1:2004
- NEN EN 1992-1-1/ NA:2007
- NBN EN 1992-1-1/ NA:2010
- ČSN EN 1992-1-1/NA:2007

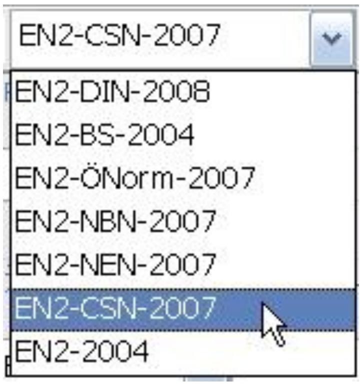
The use of reduced material factors for precast components is optional. These material peculiarities can also be considered in accidental and earthquake design situations.

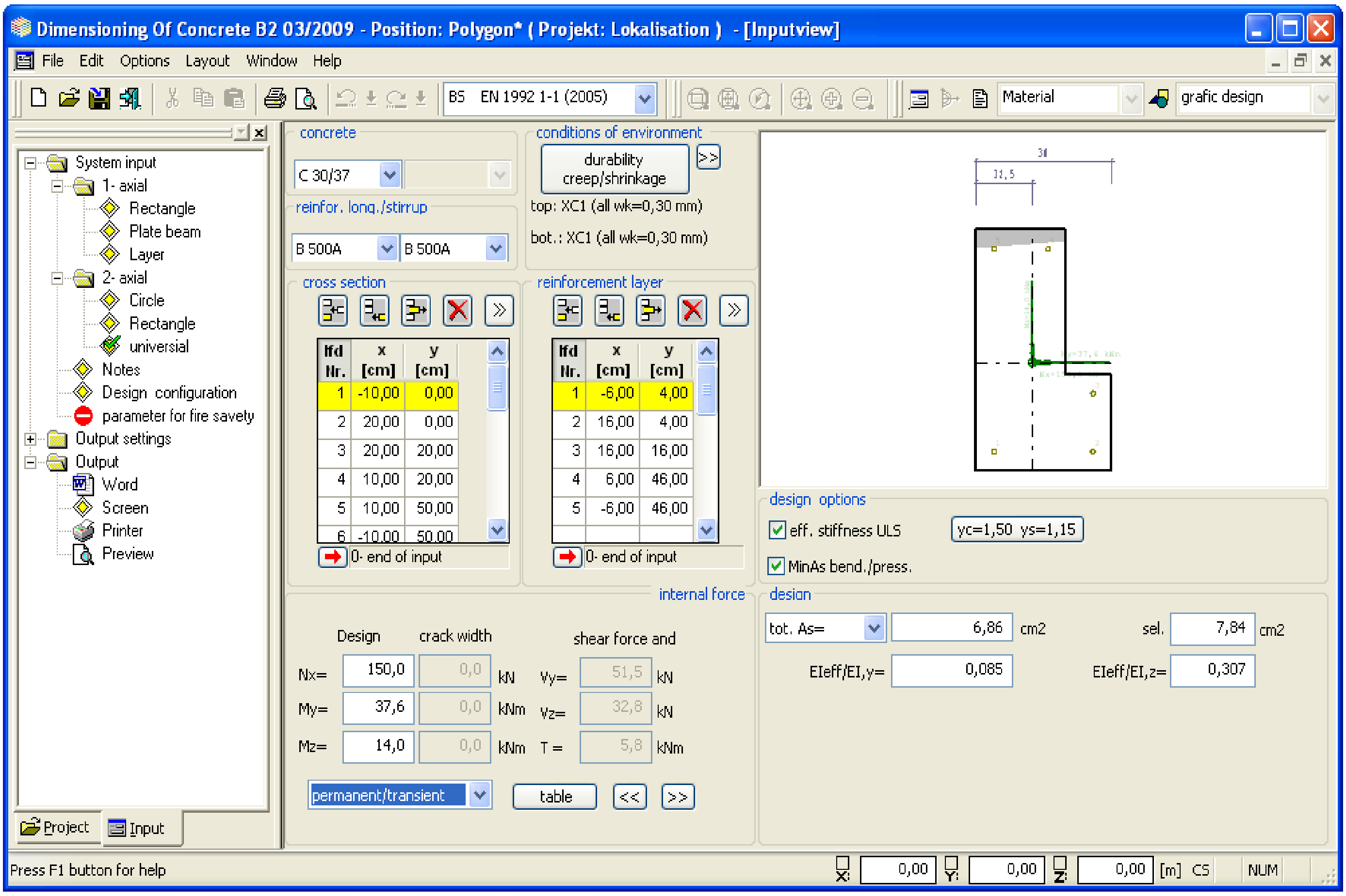
The given exposure classes allow you to calculate the durability requirements (minimum concrete class, concrete cover and requirement class for crack width evidence) in dialogs.

You can optionally consider tension rigidity and the effects of creep and shrinkage in the calculation of effective rigidity.

When performing a bending design calculation, you can optionally include the concrete area displaced in the compression zone of the steel, which is of particular importance where high-strength concretes are concerned. The calculation includes several combinations of action-effects that you enter via table-input.

You can prepare N/M-design diagrams for the uniaxial symmetric design of circular and rectangular cross sections.





lfd Nr.	x [cm]	y [cm]
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2	20,00	0,00
3	20,00	20,00
4	10,00	20,00
5	10,00	50,00
6	-10,00	50,00

lfd Nr.	x [cm]	y [cm]
1	-6,00	4,00
2	16,00	4,00
3	16,00	16,00
4	6,00	46,00
5	-6,00	46,00

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Table of available cross sections

Cross section	Effect of actions	ULS bending + longitud. force	ULS/SLS effective rigidity	ULS shear force + torsion	Stress analysis steel/ concrete	Crack width evidence
T-beams	Uniaxial	X	X	X	X	X
Rectangle 1	Uniaxial	X	X	X	X	X
Rectangle 2/ box	Uniaxial and biaxial	X	X	-	X	_
Circle/ annulus	Uniaxial and biaxial	X	X	X	X	X
Layers cross section	Uniaxial	X	X	X	X	X
General cross section	Uniaxial and biaxial	X	X	-	-	-