

B9

Reinforced Concrete Corbel

Application options

The B9 application is suitable for the design of corbels with loads applying directly from above ("corbel with direct load introduction").

The following direct loads are available:

- Vertical load
- Additional horizontal load

Standards

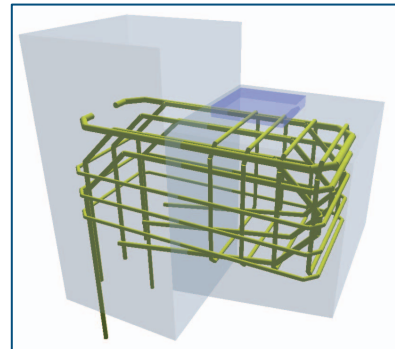
- DIN EN 1992
- ÖNORM EN 1992
- BS EN 1992
- NTC EN 1992
- EN 1992
- DIN 1045-1

The calculation includes the following:

- Safety against compressive web fracture
- Compressive strain under load
- Required A_s of the tensile and web reinforcement
- Anchorage and lap lengths of the reinforcement
- Internal forces in the corbel section
- Reinforcement drawing

Basis of calculation

The calculation is based on a strut-and-tie model. The National Annexes are taken into account.



The screenshot shows the software interface with the following data:

| material | console |
|----------|---------------------------|
| C30/37 | bk= 24,0 cm |
| B500A | jk= 23,0 cm |
| | hk= 25,0 cm |
| | hk _f = 21,0 cm |

| concr. cover | column | slab of introduct. of load |
|--------------|-------------|----------------------------|
| c = 2,5 cm | bs= 24,0 cm | bp= 10,0 cm |
| | ds= 22,0 cm | lp= 10,0 cm |

| loads | reinforcement |
|--------------------------|----------------------------------------------------------------------------|
| vertical Fed= 91,50 kN | tensile stirrups: number 1, Dm 10, A _c (cm ²) 1,57 |
| horizontal Hed= 20,00 kN | tensile loops: number 1, Dm 8, A _c (cm ²) 1,01 |
| a = 8,0 cm | longitud. stirrups: number 3, Dm 8, A _c (cm ²) 1,51 |
| hs= 2,0 cm | web stirrups: number 3, Dm 6, A _c (cm ²) 1,70 |
| | vert. stirrups: number 4, Dm 6, A _c (cm ²) 2,26 |
| | distance of column longit. reinf. dr = 3,0 cm |

| edge of console |
|-------------------------------------------------------------|
| V _{zd} = 91,50 kN M _{yd} = 11,72 kNm |
| Ac tension sel. 4,09 req. 1,86 cm ² |
| Ac splitting sel. 1,70 req. 0,93 cm ² |
| by web stirrups |

system calculated.