

B10

Reinforced Concrete Half Joint

The B10 application allows you to calculate notched supports.

Standards

- DIN EN 1992-1-1: 2012/2013/2015
- ÖNORM EN 1992-1-1:2011
- BS EN 1992-1-1: 2004/2009/2015
- EN 1992-1-1
- NTC EN 1992-1-1:2008
- DIN 1045 / DIN 1045-1

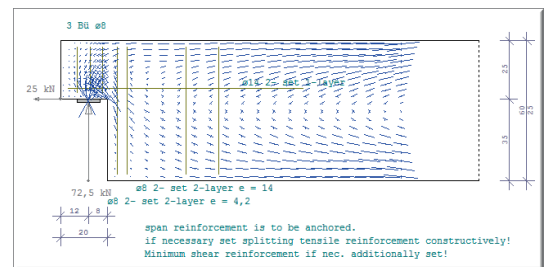
When using precast beams in reinforced concrete frame structures, dapped beam ends are often required in the supporting area. Because anchorage of the diagonal tie is difficult due to the geometrical conditions in strut-and-tie models with an inclined reinforcement portion of 100 %, a

combined strut-and-tie model comprising perpendicular and inclined suspension reinforcement is selected under normal conditions.

- Calculation as per DAfStb¹ Booklet 399
- Combined framework model of perpendicular and diagonal suspension reinforcement
- Freely selectable portion of diagonal reinforcement
- An additional load near the support is taken into account (transfer immediately in the support)
- FE modeling to check the supporting effect
- Representation of the main stress from the FE model

- Calculation of the reinforcement with representation of the reinforcement layout

¹ German Committee for Reinforced Concrete



B10 Reinforced Concrete Half Joint 02/2016 - Item: B10-001 EN2 (Project: Localization) - [input]

File Edit Options View Window Help

material
 C45/55
 B500A

concrete cover
 c = 3,0 cm

beam
 b0 = 25,0 cm
 h0 = 60,0 cm
 bm = 0,0 cm
 hp = 0,0 cm

console
 hk = 25,0 cm
 lk = 20,0 cm
 ϕhi = 0

support
 F_{ed} = 72,50 kN e1 = 8,0 cm load introduction:
 H_{ed} = 25,00 kN bp = 25,0 cm
 F1_{ed} = 0,00 kN l_p = 10,0 cm

reinforcement
 ratio of incl. reinf. = 10 % mit 40,0 ° angle
 dist. up. reinf. layer top do = 5,0 cm
 bottom du = 5,0 cm
 susp. stirrup-layer preselect d1 = 0,0 cm
 Result : **system calculated.**

default diameter
 suspension stir. du_V = 8 mm 2 - set
 inclined stir. du_S = 20 mm 2 - set
 horizontal stir. du_H = 14 mm 2 - set
 console stir. du_K = 8 mm

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