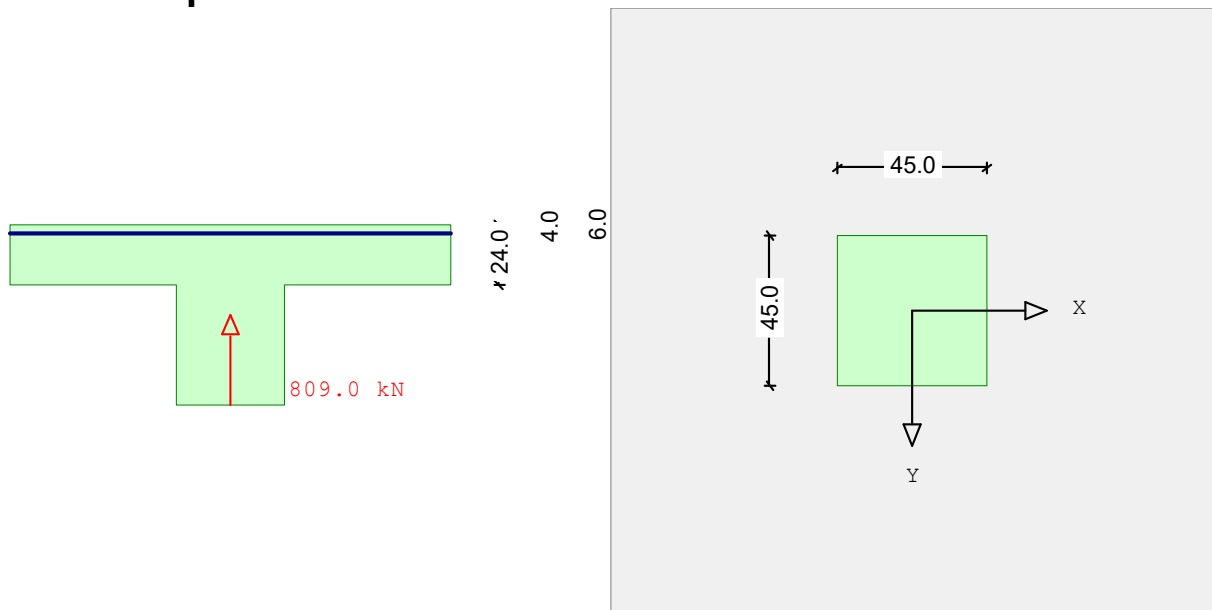


DBV Beispiel 4.3.1.2 DIN 1045-1:2008



Punching shear verification according DIN 1045-1:2008

Col. type : Inner column
 Concrete : C35/45
 ReinfSteel : B500M

Punching force	VEd	809.0 kN		
Prestressing force	Npd	0.0 kN/m		
Column dimensions	cx	0.450 m		
(if circle = 0)	cy	0.450 m		
Slab thickness/eff.height	h	0.240 m	d	0.190 m
Punching reinforcement angle		90°		
critical perimeter	u.crit	3.59 m		
outer perimeter	u.out	4.72 m		
outer perimeter	d.out	1.38 m	lw	0.18 m

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Component: DBV Beispiel 4.3.1.2 DIN 1045-1:2008

Result

referential lateral force vEd	259.1 kN/m	beta	1.15
sustain lateral force vRd,ct	205.9 kN/m	kappa	2.00
reduction acc. to spreadsheet 525 vEd,a	188.5 kN/m	beta.red	1.10
sustain lateral force vRd,ct,a	189.7 kN/m	kappa .a	0.92
sustain lateral force vRd,max	308.8 kN/m		
req. punching reinf. req.Asw	14.35 cm ²	awj = 0.10 m	uj = 2.40 m
req. punching reinf. req.Asw	6.22 cm ²	awj = 0.24 m	uj = 3.29 m
req. reinforcement above req asx	31.42 cm ² /m	req asy	31.42 cm ² /m
Longitudinal rein. ratio rho	0.0166		
min. reinforcement below req asx	0.00 cm ² /m	req asy	0.00 cm ² /m
Min.reinf.(13.3.2(12)) req.As1	11.56 cm ² /loaded area		