

MEMO 522a

BSF 225

REINFORCEMENT IN BEAM END WITH
MAXIMUM LOAD 225KN
DESIGN

Dato: 17.04.2013

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Dok. nr.: K4-10/522aE

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Control: ps

BSF 225 - REINFORCEMENT IN BEAM END WITH MAXIMUM LOAD 225KN

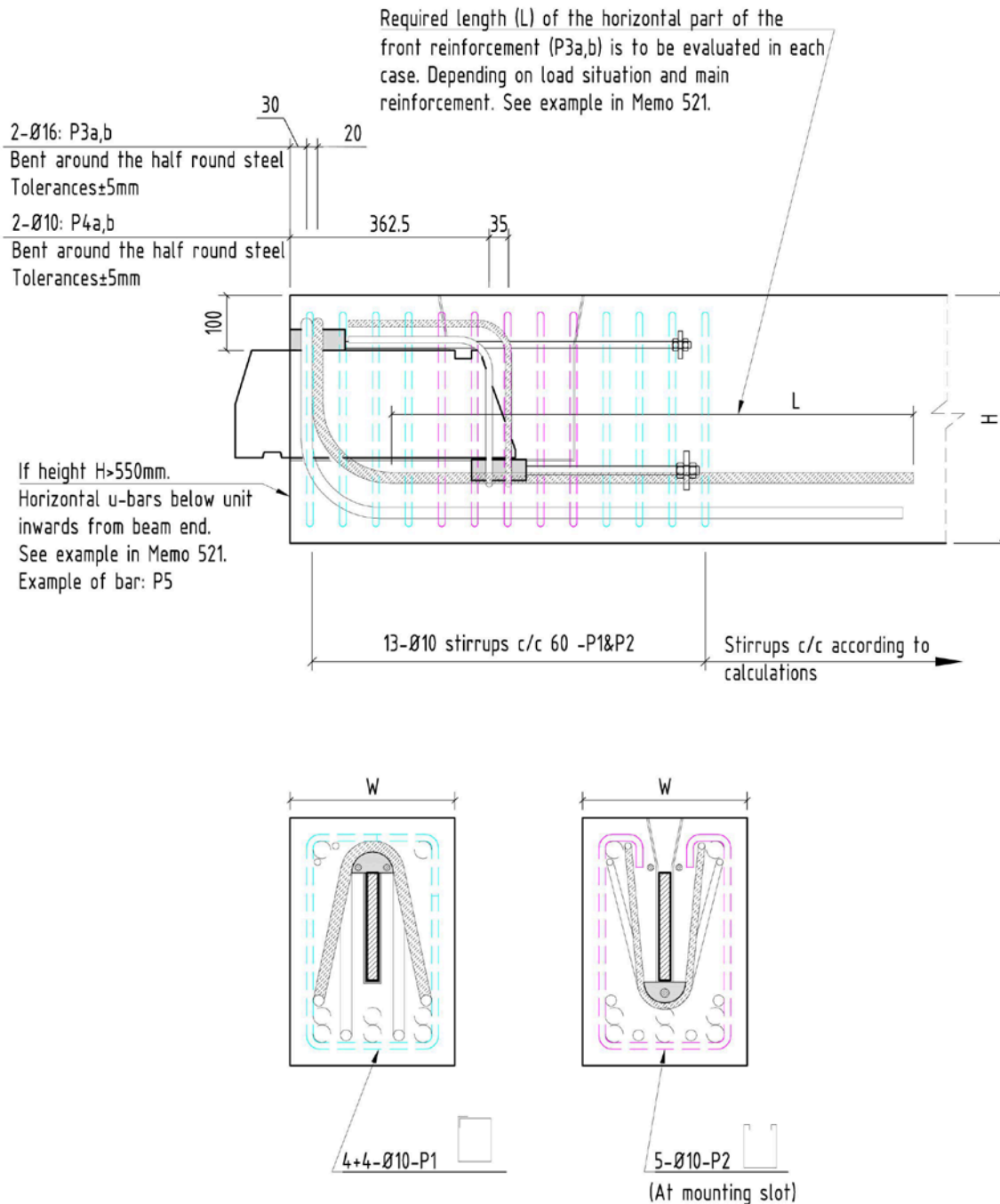


Figure 1: Reinforcement in beam end.

The basis for the illustrated reinforcement is found in the example calculations in Memo521. The amount of reinforcement and final shape of several of the bars has to be evaluated in each case. This can be done according to the procedures outlined in the Memo. Concrete quality C35 and beam dimension:

$W \times H = 300 \times 450$ is used in the example calculation. This corresponds to the approximate minimum cross section of the beam in order to utilize the full capacity of the unit.

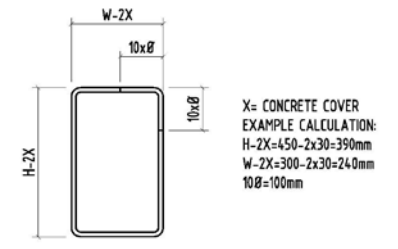
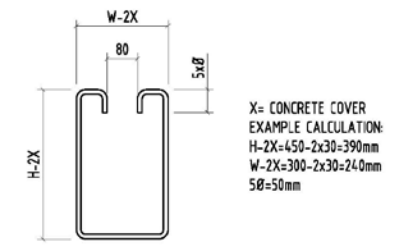
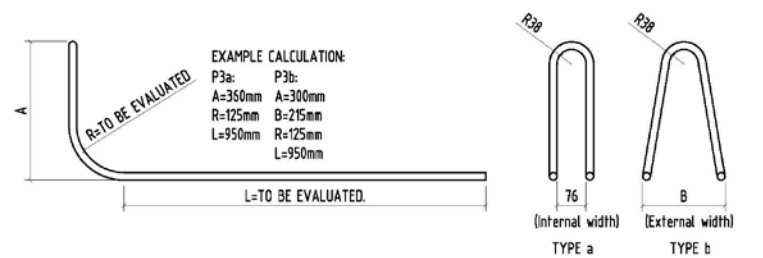
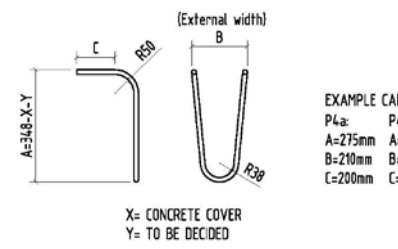
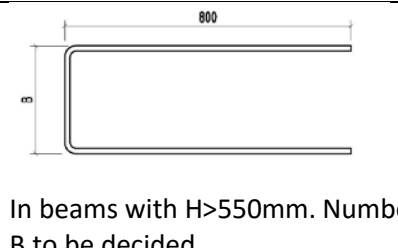
Pos.	\varnothing	No. pr. unit	Bar schedule	Grade
P1	$\varnothing 10$	8	 <p>X= CONCRETE COVER EXAMPLE CALCULATION: H-2X=450-2x30=390mm W-2X=300-2x30=240mm 10Ø=100mm</p>	500C (EC2, Annex C)
P2	$\varnothing 10$	5	 <p>X= CONCRETE COVER EXAMPLE CALCULATION: H-2X=450-2x30=390mm W-2X=300-2x30=240mm 5Ø=50mm</p>	500C (EC2, Annex C)
P3a,b	$\varnothing 16$	1+1	 <p>EXAMPLE CALCULATION: P3a: A=350mm, R=125mm, L=950mm P3b: A=300mm, B=215mm, R=125mm, L=950mm</p> <p>(Internal width) TYPE a (External width) TYPE b</p>	500C (EC2, Annex C)
P4a,b	$\varnothing 10$	1+1	 <p>EXAMPLE CALCULATION: P4a: A=275mm, B=210mm, C=200mm P4b: A=300mm, B=145mm, C=235mm</p> <p>X= CONCRETE COVER Y= TO BE DECIDED</p>	500C (EC2, Annex C)
P5	$\varnothing 12$		 <p>In beams with $H > 550$mm. Number to be decided. B to be decided.</p>	500C (EC2, Annex C)

Table 1: List of reinforcement.

REVISION HISTORY	
Date:	Description:
17.04.2013	First Edition (for ETA)
12.06.2013	Updated before ETA. Corrected reinforcement quality notation from: B500C to 500C.
28.08.2013	Included revision signature.
27.02.2015	Included a nut on the front side of the steel plate anchoring the threaded bars. (To ensure correct position of the plate when casting the concrete).
24.05.2016	New template