

MEMO 522c

BSF 450

REINFORCEMENT IN BEAM END WITH
MAXIMUM LOAD 450
DESIGN

Dato: 17.04.2013

Siste rev.: 24.05.2016

Dok. nr.: K4-10/522cE

Sign.: sss

Sign.: sss

Control: ps

BSF 450 - REINFORCEMENT IN BEAM END WITH MAXIMUM LOAD 450KN

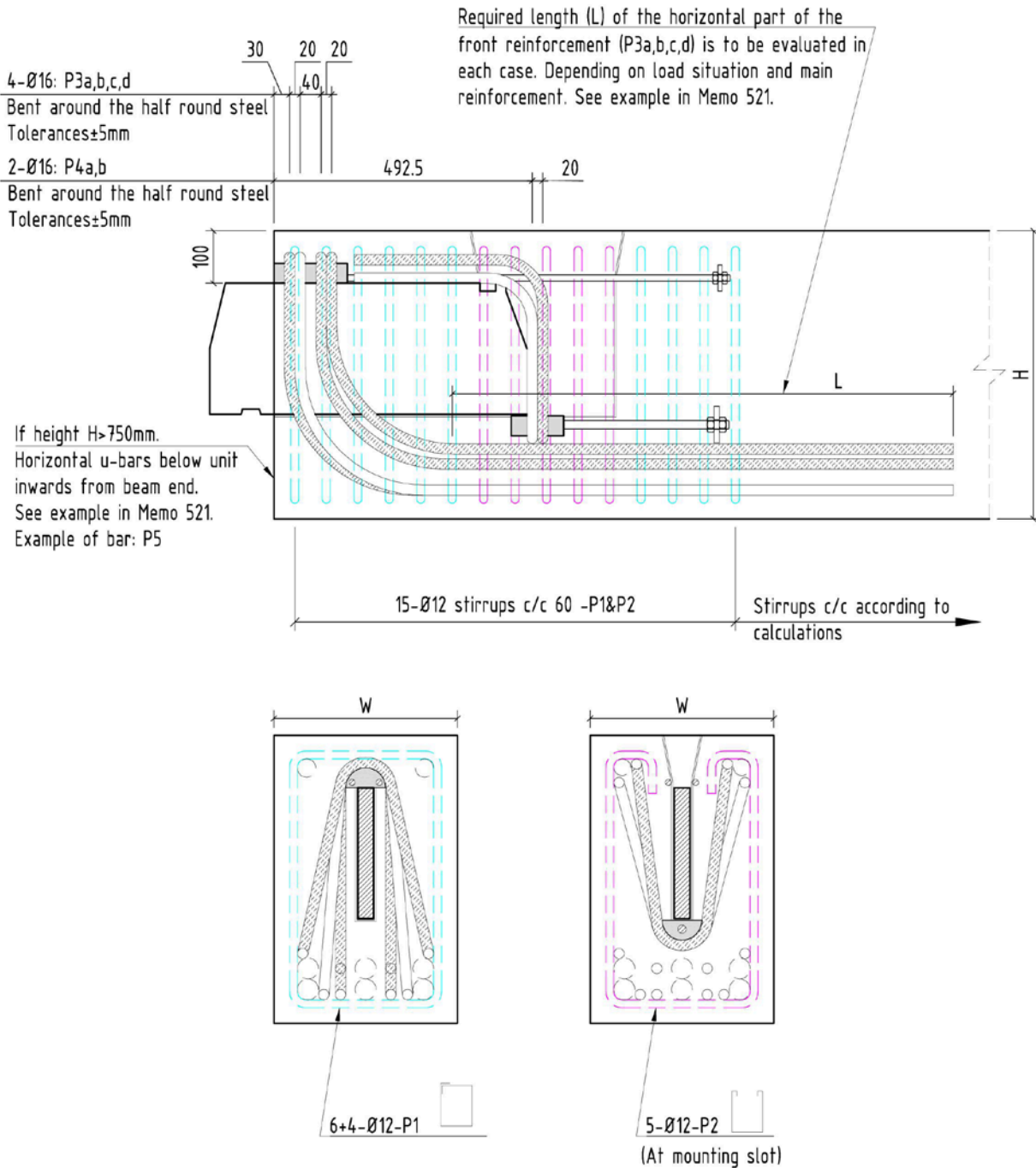


Figure 1: Reinforcement in beam end.

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×H=350×550 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.

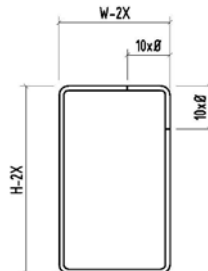
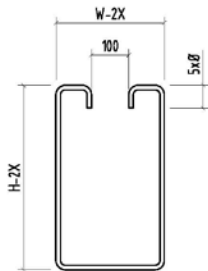
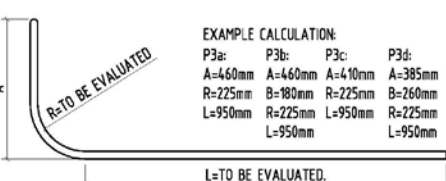
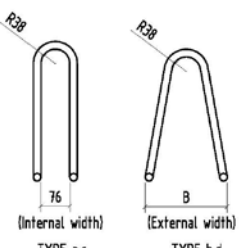
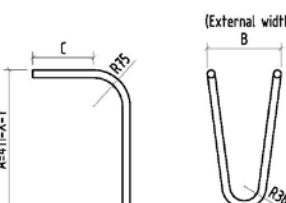
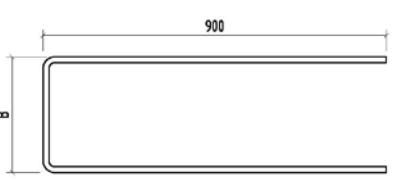
Pos.	∅	No. pr. unit	Bar schedule	Grade
P1	∅12	10	 <p>X= CONCRETE COVER EXAMPLE CALCULATION: H-2X=550-2x30=490mm W-2X=350-2x30=290mm 10∅=120mm</p>	500C (EC2, Annex C)
P2	∅12	5	 <p>X= CONCRETE COVER EXAMPLE CALCULATION: H-2X=550-2x30=490mm W-2X=350-2x30=290mm 5∅=60mm</p>	500C (EC2, Annex C)
P3a,b,c,d	∅16	1+1+1+1	 <p>EXAMPLE CALCULATION: P3a: A=460mm R=225mm L=950mm P3b: A=460mm R=225mm L=950mm P3c: A=410mm R=225mm L=950mm P3d: A=385mm R=225mm L=950mm</p> 	500C (EC2, Annex C)
P4a,b	∅16	1+1	 <p>EXAMPLE CALCULATION: P4a: A=330mm B=260mm C=255mm P4b: A=365mm B=195mm C=275mm</p> <p>X= CONCRETE COVER Y= TO BE DECIDED</p>	500C (EC2, Annex C)
P5	∅12		 <p>In beams with H>750mm. Number 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