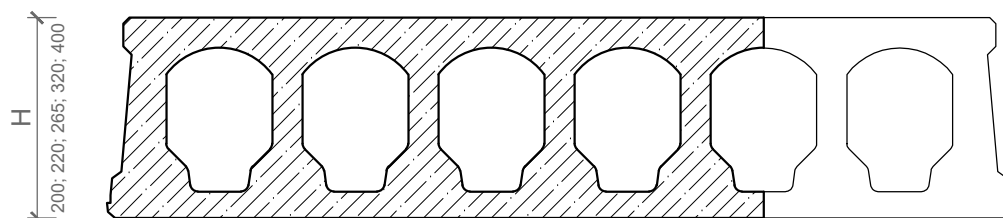


Projekti laius (B) ≤ 600 mm  
Design width (B) ≤ 600 mm

Arvestuslik müügihind laius = 600 mm  
Estimated selling width = 600 mm



Projekti laius (B) > 600 mm  
Design width (B) > 600 mm

Arvestuslik müügihind laius = 1200 mm  
Estimated selling width = 1200 mm



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Phone: (+372) 623 0310

JONISE NIMETUS / DRAWING NAME

Õõnespaneelide hinnastamise alused  
Hollow core slabs pricing principles

TOODE NIMETUS / PRODUCT NAME

Eelpingestatud Õõnespaneelid  
Prestressed Hollow Core Slabs

# Õõnespaneelide valmistustolerantsid

## Hollow core slab production tolerances

HCE/HCS (mm)

Mõõde/Measurement	200	220	265	320	400
Pikkus/Lenght	+/- 25				
Laius/Width	+/- 5				
- Üldjuhul/Regular slab	+/- 5				
- pikilõigatud paneel, sobituspaneel/Lenghtwise cut slab	+/- 25				
Kõrgus/Height	+ 12,5 - 10	+ 13,5 - 12	+/- 15		
Ava asukoht/Position of opening	+/- 25				
Ava suurus/Size of opening	+ 50 / - 10				
- tehtud värskesse betooni/Made in fresh concrete	+/- 10				
- tehtud kivinenud betooni/Made in hardened concrete					
Plaadi min. nimpaksus (õõnsuse all ja peal)/Min. thickness of the slab (above and under the core)	+15 -10				
Ribi min. nimpaksus/Min. thickness of the web					
- üksik ribi/Single web	- 10				
- paneeli kohta summaarselt/Per slab in total	- 20				
Tõmbesarruse asend vertikaalsuunas/Placement of prestress strands					
- üksik tross/Single strand	+/- 10	+/- 12	+/- 15		
- keskmine paneeli kohta/Average per slab	+/- 7	+/- 7	+/- 7		
Betoonkaitsekiht/Concrete cover	- 10				
Trosside libisemine */Slippage of strnads*					
- Ø 9,3 mm					
o Üksik/Single	1,60				
o keskmine paneeli kohta/Average per slab	1,23				
- Ø 12,5 mm					
o Üksik/Single	2,65				
o keskmine paneeli kohta/Average per slab	2,04				

\* - tugineb arvutustele EN 13369 järgi, kohandatuna AS'i Framm poolt valmistatavatele õõnespaneelidele./Based on calculations by EN 13369 adjusted to hollow cores slabs produced by AS Framm.

Antud tolerantsid on vastavuses standarditega EN 1168 ja EN 13369 ning BÜ 9 juhendiga./Given tolerances are in accordance with standards EN 1168, EN 13369 and BÜ9 manual.

Ehitaja peab teostama õõnespaneelide vee-eraldusavade kontrolli ja vajadusel ummistunud avade puhastamise või üle puurimise, et tagada õõnsustes oleva vee väljapääs ning vältida talvisel perioodil elemendi õõnsuste jäätumist.

Contractor must implement weep hole inspection on site, perform clearing or redrilling where necessary to ensure a path for water to exit the core to avoid freezing in low temperatures.



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JOONISE NIMETUS / DRAWING NAME

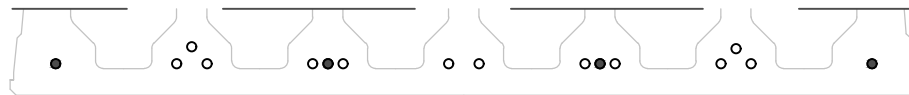
Õõnespaneelide tootmise tolerantsid  
Hollow core slabs production tolerances

TOODE NIMETUS / PRODUCT NAME

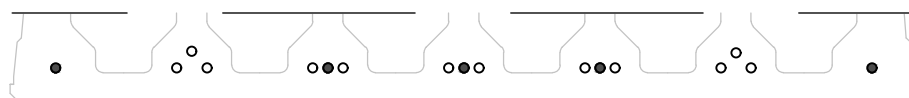
Eelpingestatud Õõnespaneelid  
Prestressed Hollow Core Slabs

Alumised trossid  
Lower strands

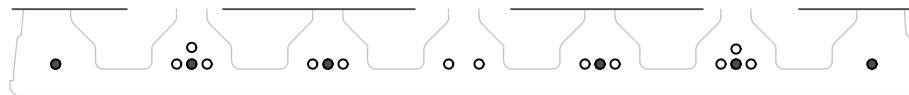
4 trossi  
4 strands



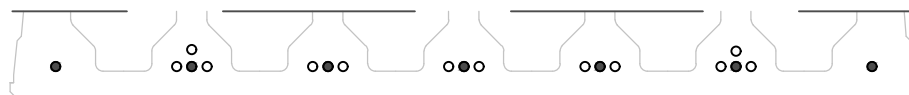
5 trossi  
5 strands



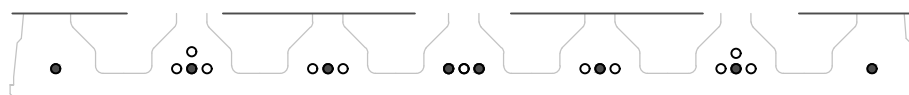
6 trossi  
6 strands



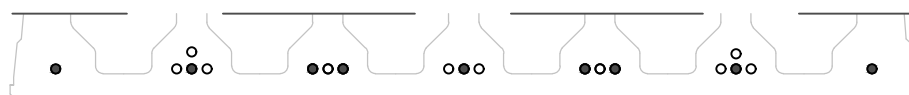
7 trossi  
7 strands



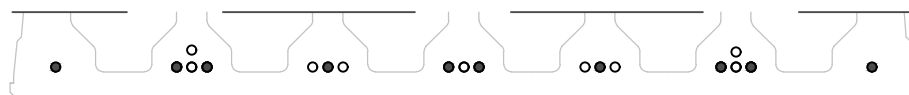
8 trossi  
8 strands



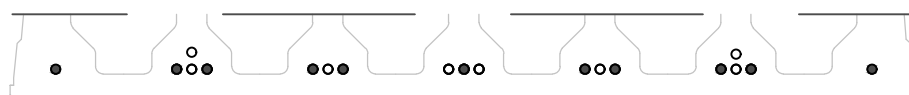
9 trossi  
9 strands



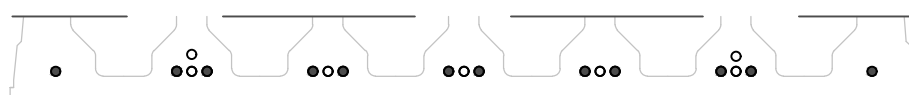
10 trossi  
10 strands



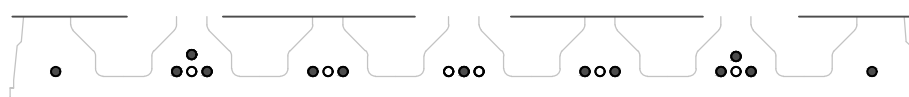
11 trossi  
11 strands



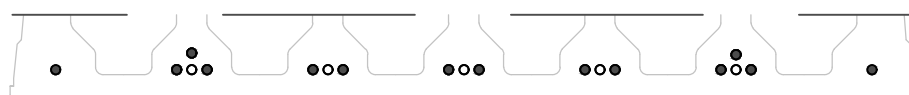
12 trossi  
12 strands



13 trossi  
13 strands



14 trossi  
14 strands



Ülemised trossid  
Upper strands

2 trossi  
2 strands

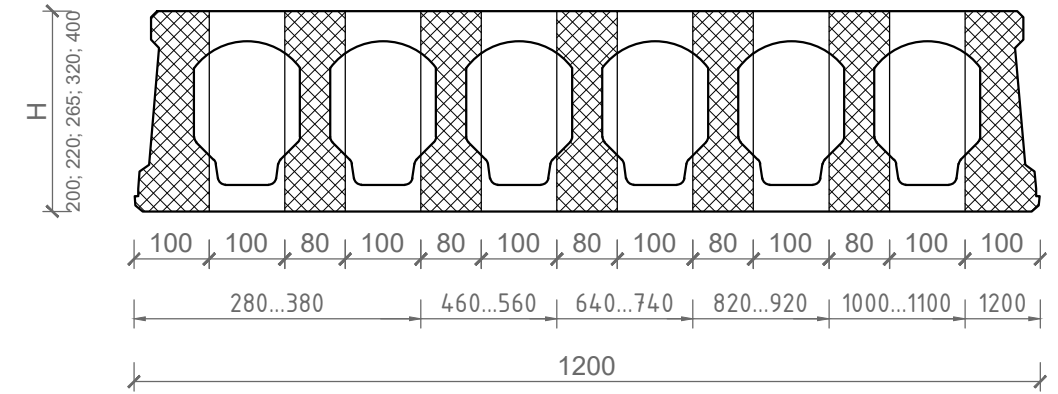


4 trossi  
4 strands

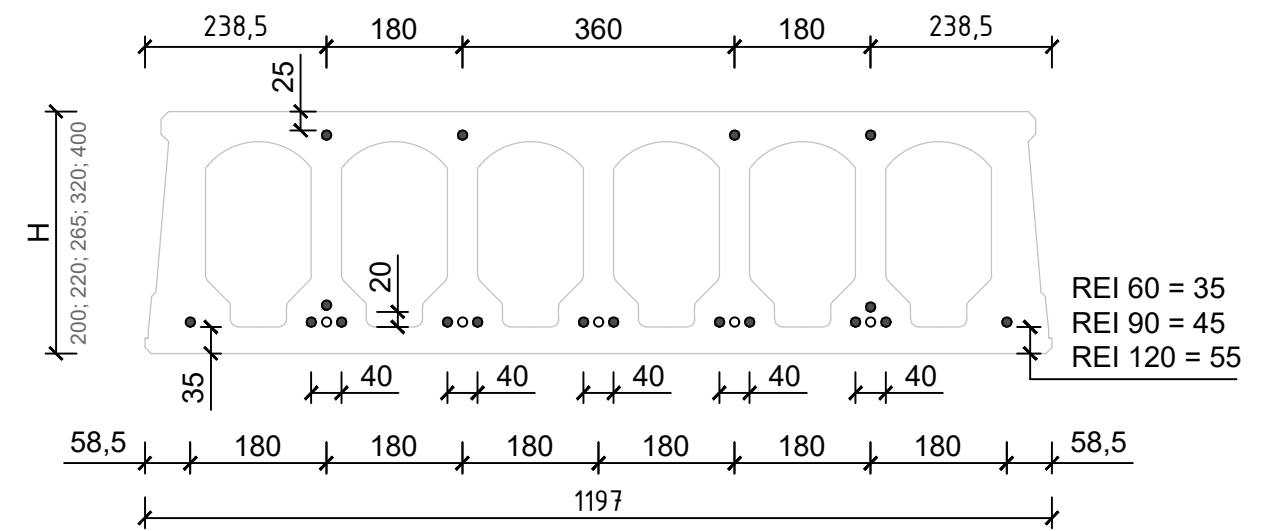


Trosside paiknemine  
Strand positions

Õõnespaneeli lubatud vertikaallõiked. Varjutatud tsoonis lõikamine ei ole lubatud.  
Hollow core slab allowed vertical cuts. Cuts are not allowed in the hatched area.



Trosside paiknemine  
Strand positions



Tulepüsivus on tagatud lõikamata ja avadeta paneelidel  
Fire resistance is guaranteed for slabs of full width and without openings

Trossi tehnilised andmed/ Strand parameters  
Ø12,5mm - 1640/1860 MPa



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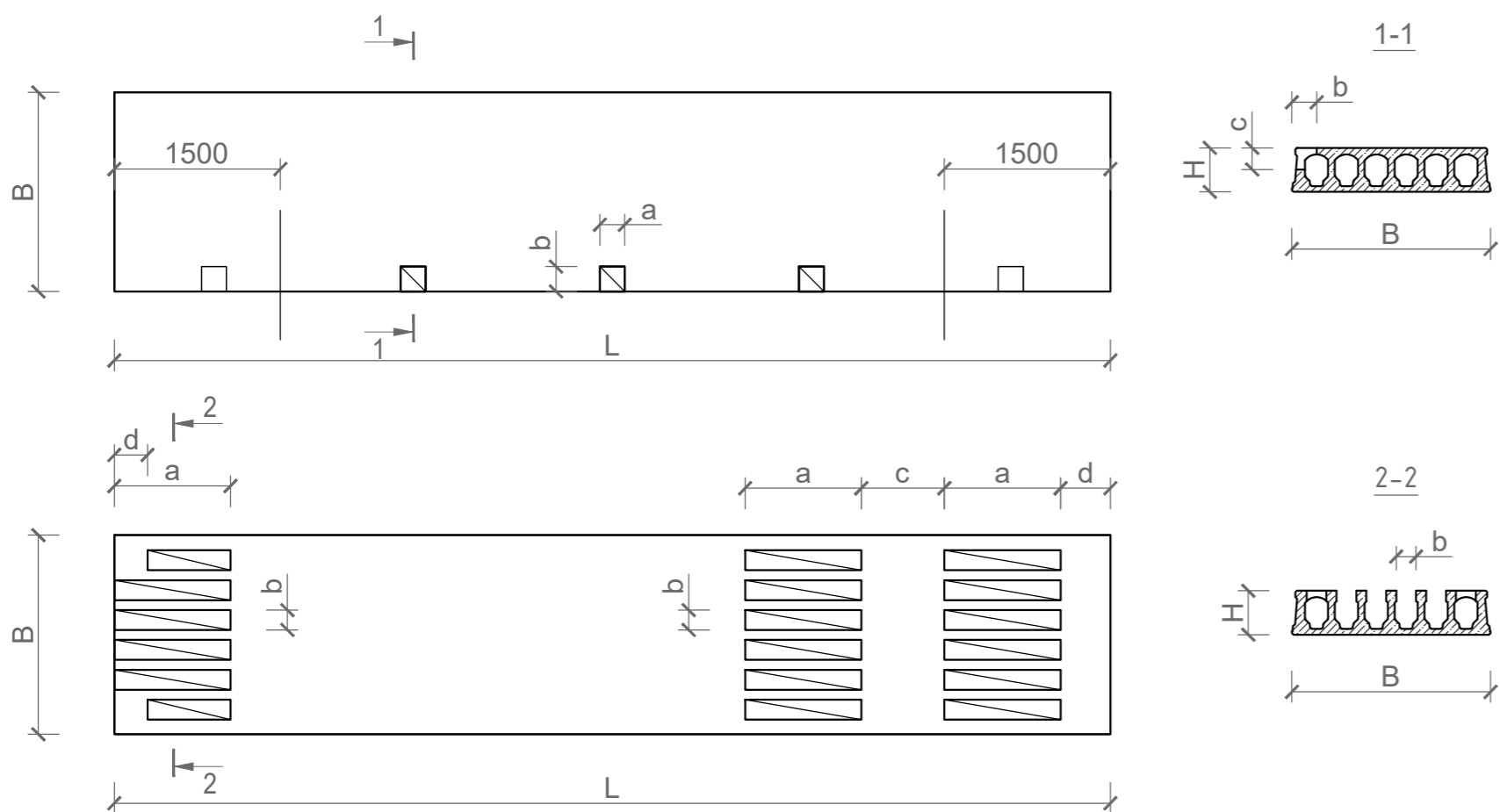
JÕONISE NIMETUS / DRAWING NAME

HCS paneeli trossiskeemid ja lõikamisvõimalused  
HCS Slab strand positions and cutting limitations

TOODE NIMETUS / PRODUCT NAME

Eelpingestatud Õõnespaneelid  
Prestressed Hollow Core Slabs

## Taskud / õõnsuste osaline avamine Partial openings



H = 200; 220; 265; 320; 400 (mm)

$a_{\min} = 150$  (mm)

$b_{\min} = 150$  (mm)

$c_{\max} = \frac{1}{2} H$  (mm)

□ - süvis markeeritakse, aga teostatakse objektile paigaldaja poolt

□ - recess will be marked and cut on site by the installation crew

H = 200; 220; 265; 320; 400 (mm)

$a_{\max} = 700$  (mm)

b = 120 (mm)

c = 500±200 (mm)

$d_{\min} = 300$  (mm)

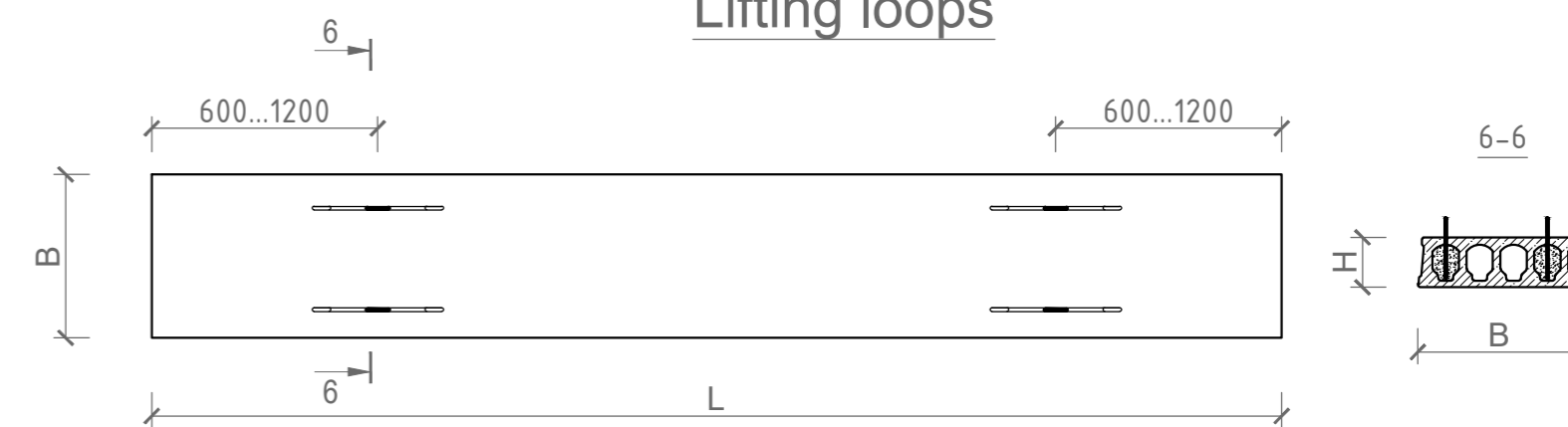
Äärmisi õõsi ei avata otsani ja õõsi ei avata pikemalt kui "a" väärtus, et tagada tõsteohutus.

Ilma erivajaduseta, mitte näha ette enam kui kahe õõne avamine

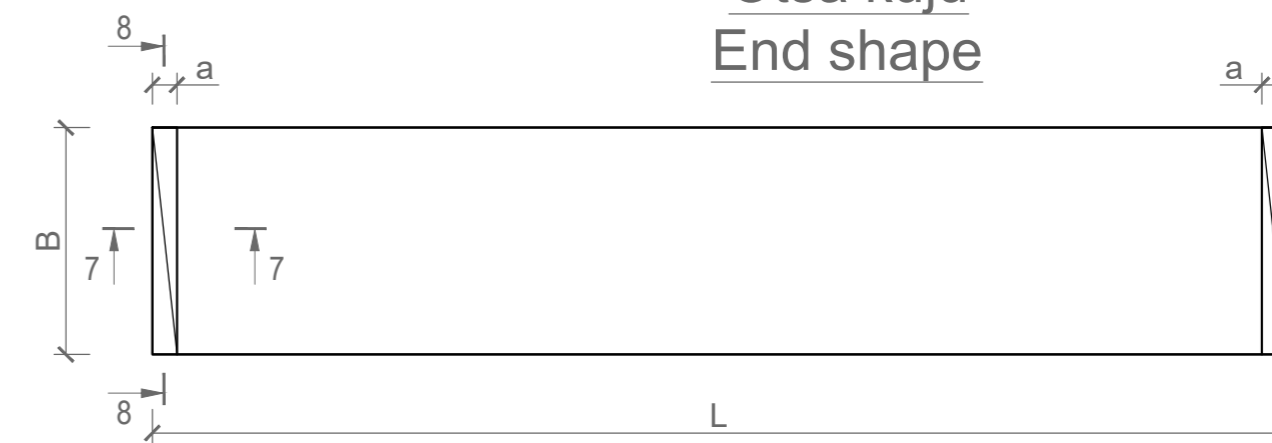
Extreme cores will not be opened to the end and cores will not be opened more than the value of "a" to ensure lifting safety.

Without special need no more than two cores should be opened

## Tõsteaasad Lifting loops



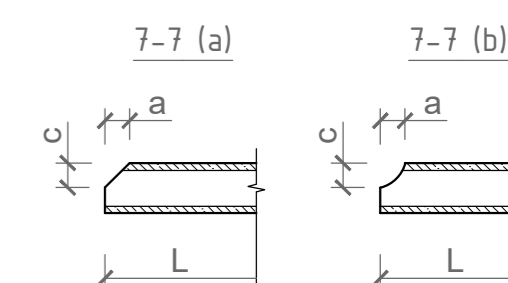
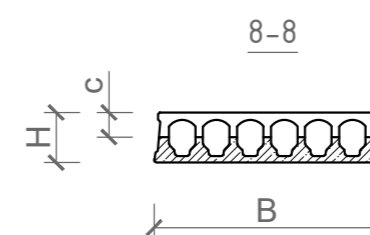
## Otsa kuju End shape



H = 200; 220; 265; 320; 400 (mm)

$a_{\max} = \frac{1}{2} H$  (mm)

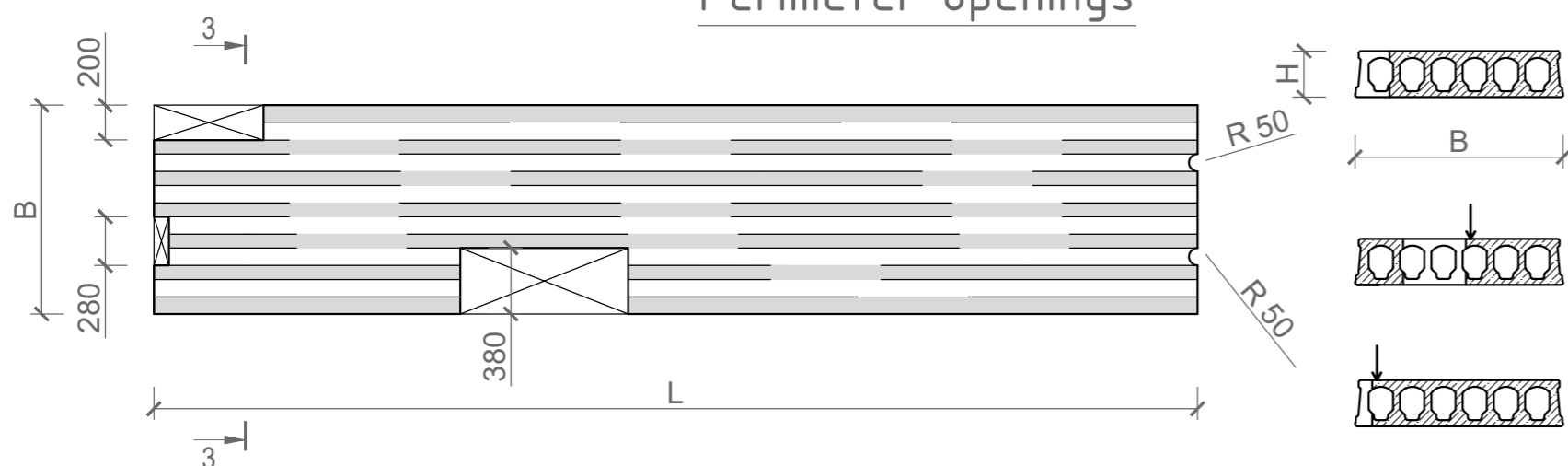
$c_{\max} = \frac{1}{2} H$  (mm)



Otsa kuju peab olema plaanijoonisel tuvastatav.

End shape must be distinguishable on plan drawing.

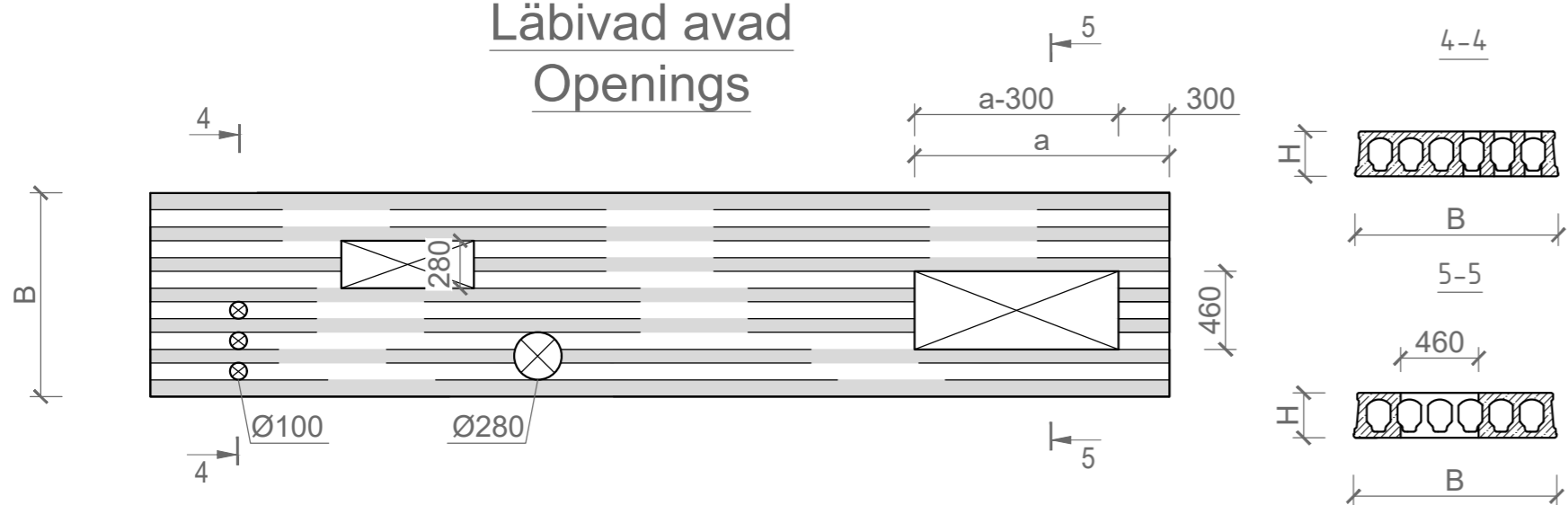
## Perimeetri avad Perimeter openings



Lõigatud paneeli või ava serva koormamisel peab projekteerija vajadusel ette nägema tugevdused.

When loading a cut slab or the edge of an opening designer must use reinforcement where necessary.

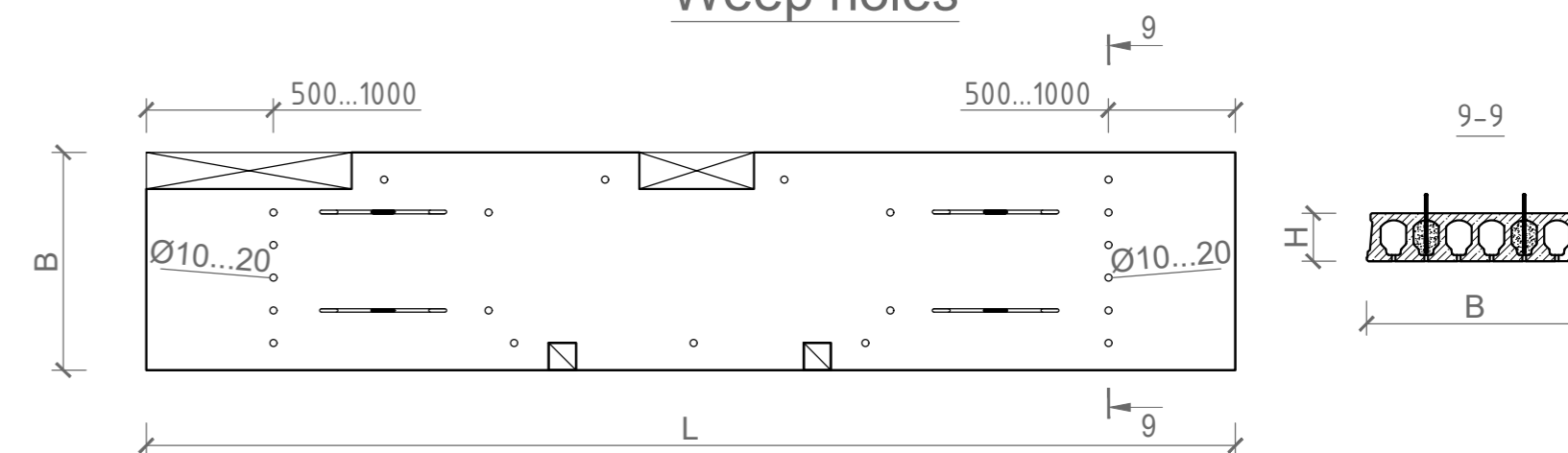
## Läbivad avad Openings



## LEGEND

- - ava sügavus max  $\frac{1}{2}$  elemendi kõrgusest  
recess depth (max  $\frac{1}{2}$  slab height)
- ⊗ - läbiv ava  
hole

## Dreeniavad Weep holes



Dreeniavade kontroll ja vajadusel ülepuurimine tuleb teostada objektile ehitaja poolt. Platsil teostatavate avade ja süviste jaoks puurib dreeniavad ehitaja.

Weep hole checkup and redrilling when necessary must be performed on site by construction crew. For openings and recesses made on site, contractor must drill weep holes.



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JÕONISE NIMETUS / DRAWING NAME

HCS paneelide tootmise võimalused  
HCS slab production possibilities

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TOODE NIMETUS / PRODUCT NAME

Eelpingestatud Õõnespaneelid  
Prestressed Hollow Core Slabs