

Vulkan

1:96 scale

There are many pre-designs
of Vulkan launcher.

This is next one:

stage A(x8) - h=45 m, d=3,9 m
stage B - h=57 m, d=7,75 m
stage C - h=27 m, d=6,7 m
escape
system - h=3,8 m, d=1,1 m

Model 2

H ~920 mm

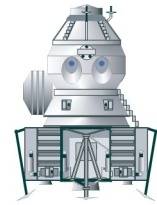
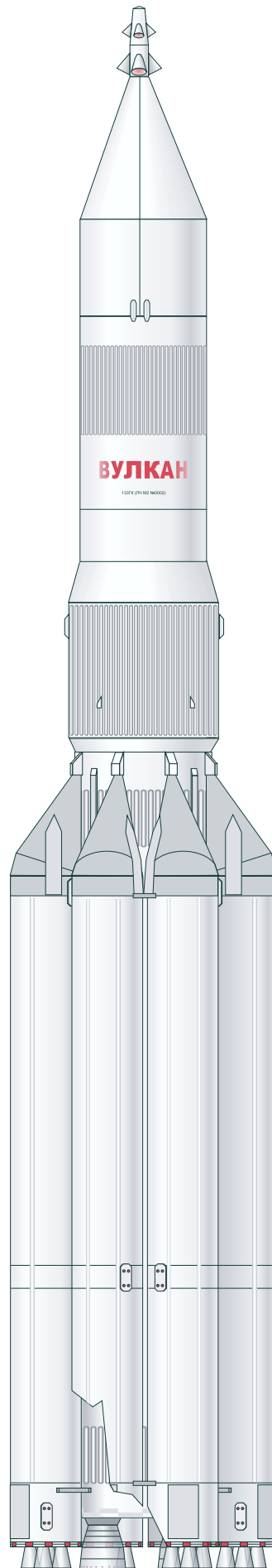
Paper used:

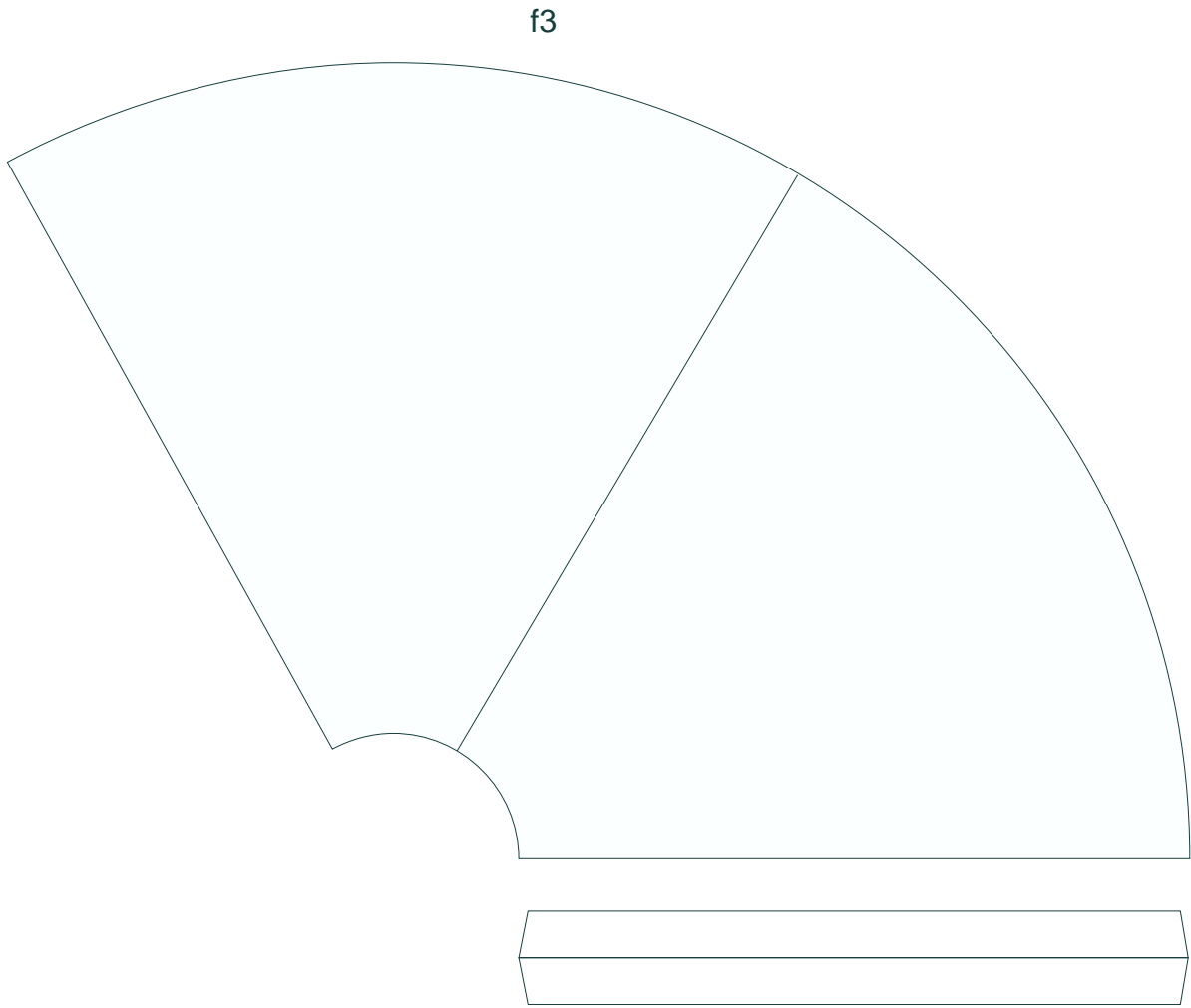
0,15 mm - 130 gr

0,26 mm - 200 gr ("cardstock")

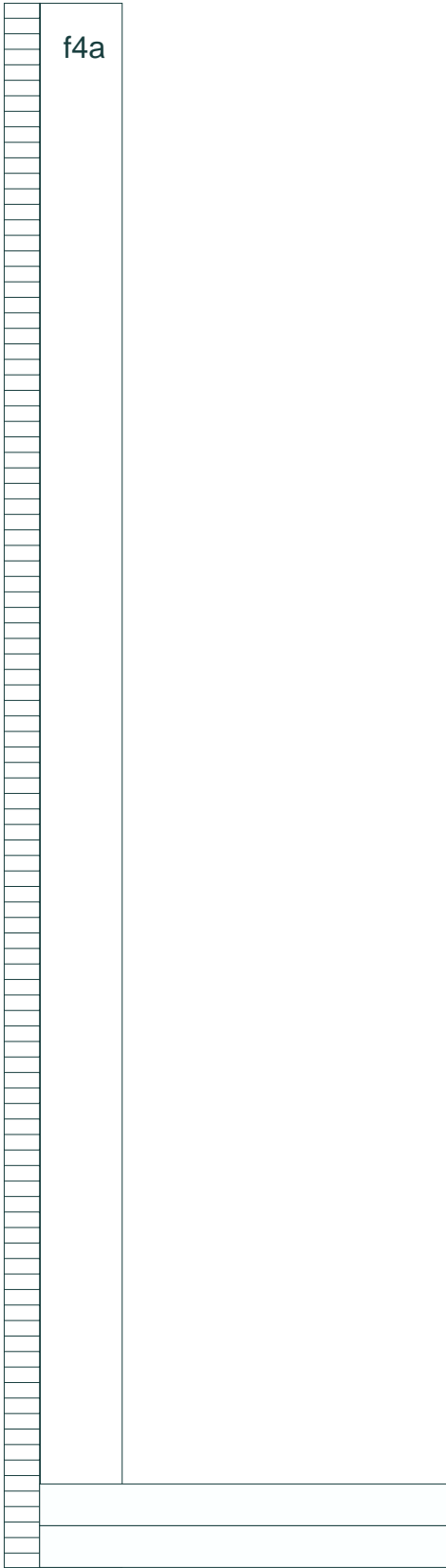
Glue: PVA

Many thanks to Anatoli Metzger
for his compliant consent to examine drafts
by test building!

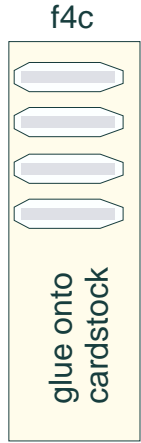
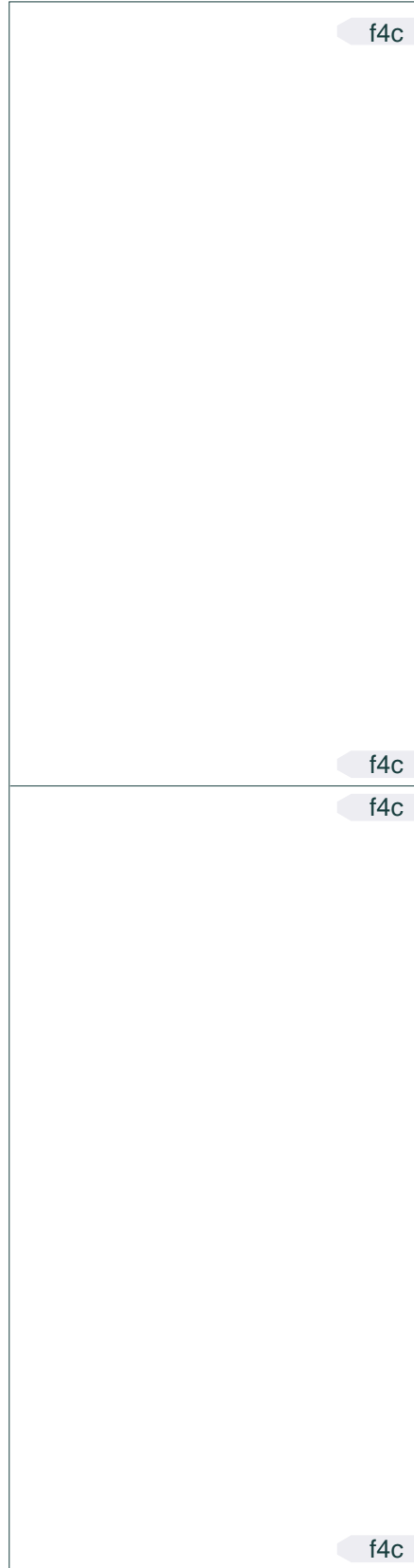




10 cm



f4



10 cm

c2a

c2b

c2

c2j

ВУЛКАН

133ГК (ЛЧ М2 №0002)

10 cm

Stage C

c2d

c2e

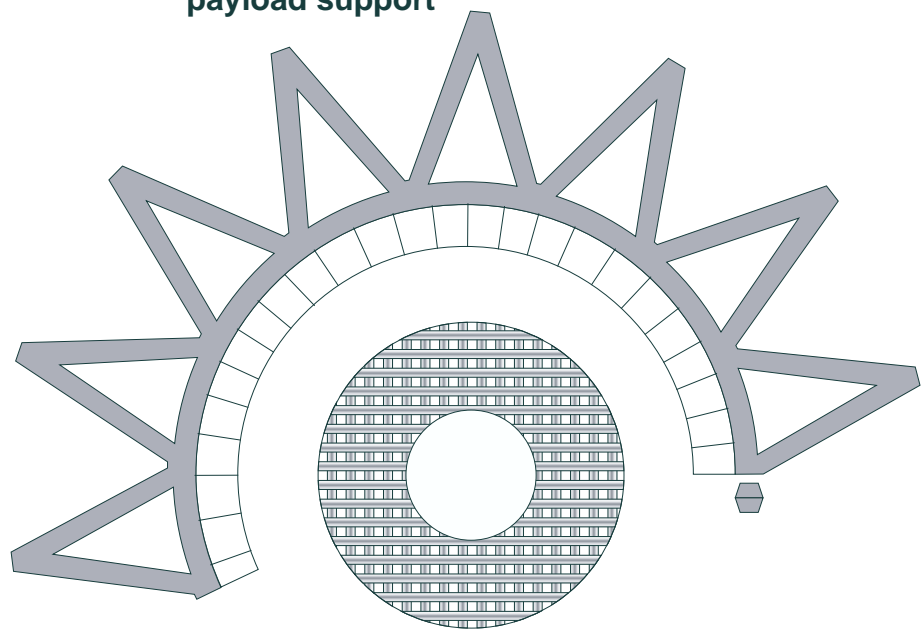
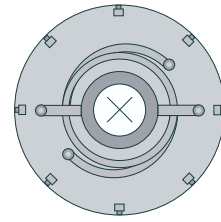
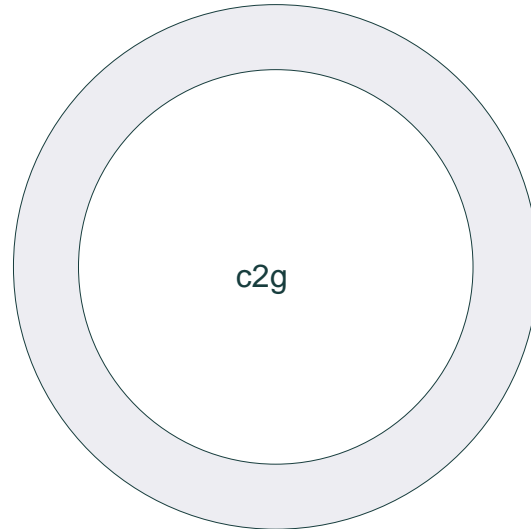
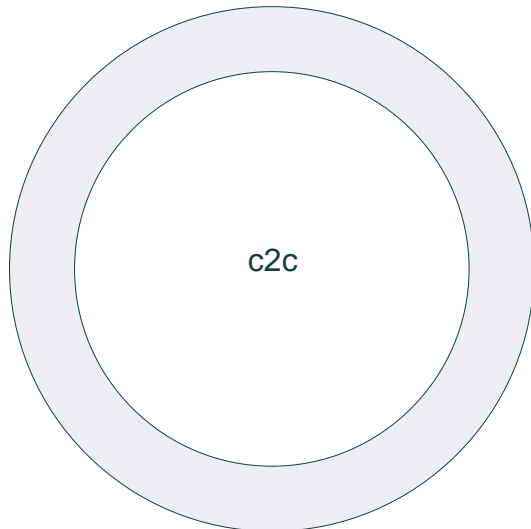
c2c

c2g

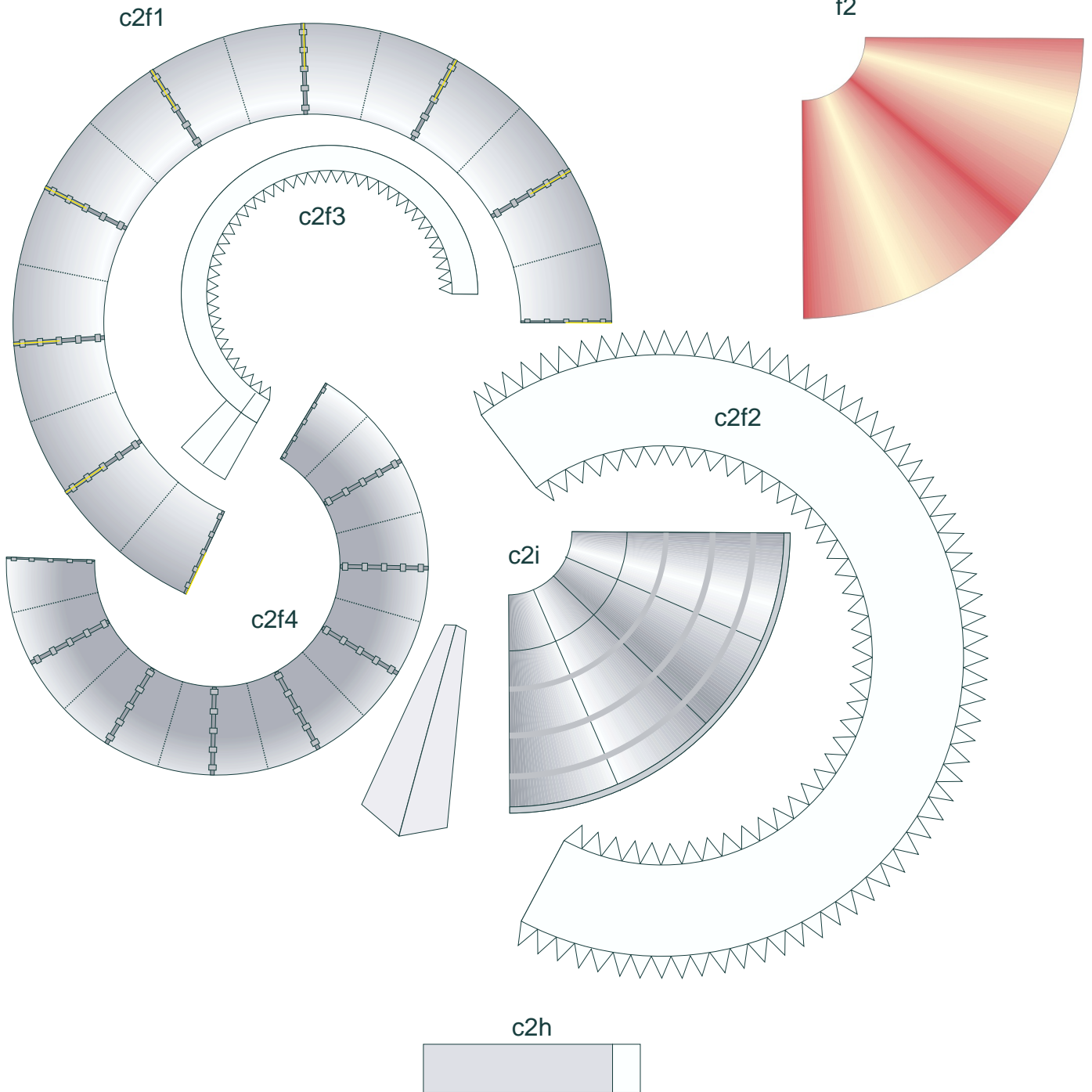
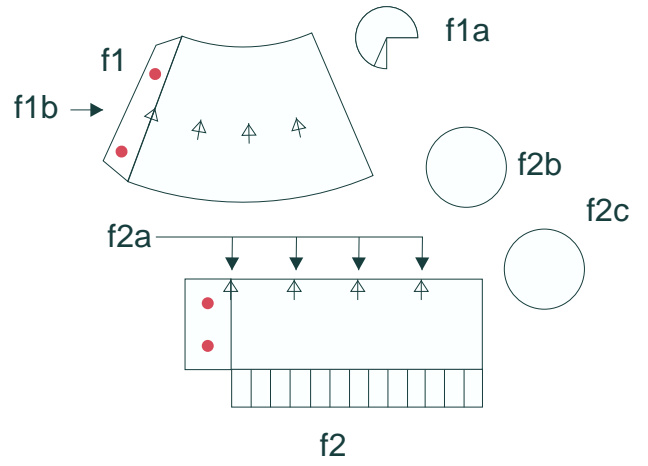
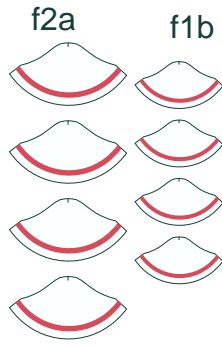
c2f5

payload support

10 cm



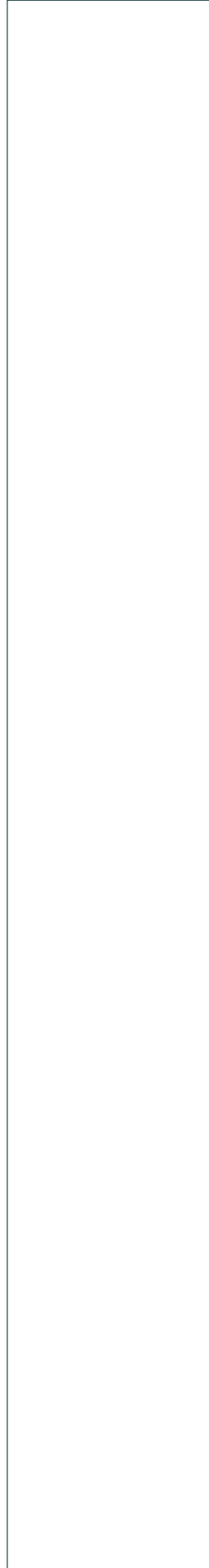
Resque system



**Engine part
of stage C**



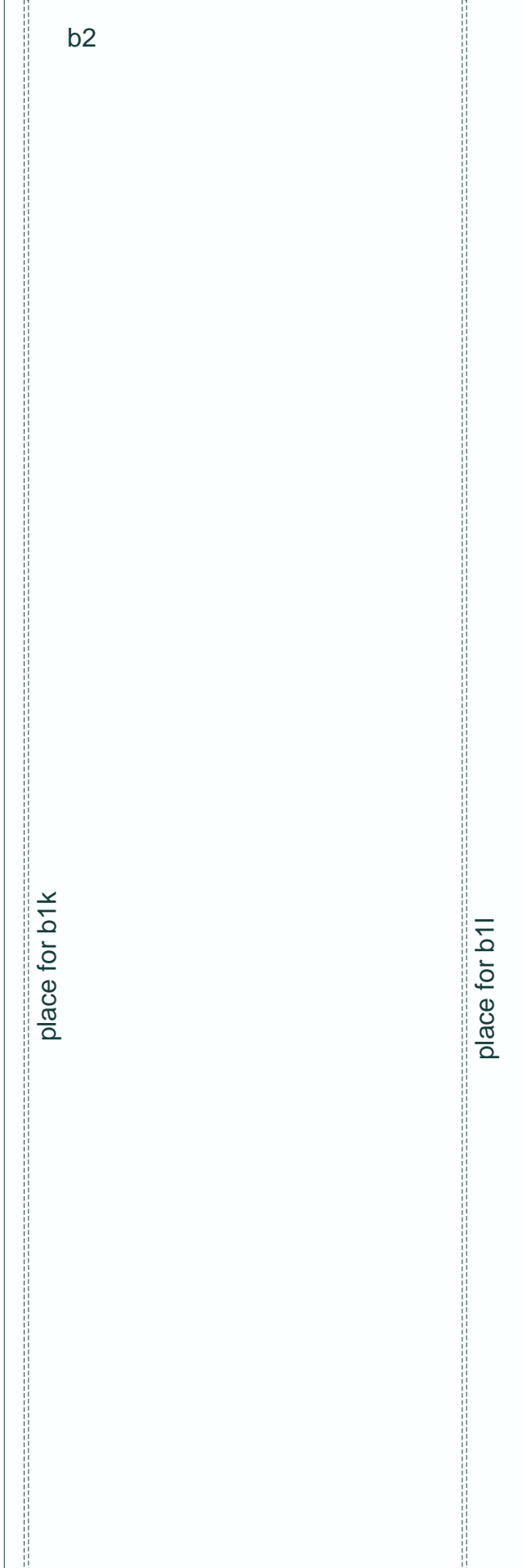
b1g



b1e



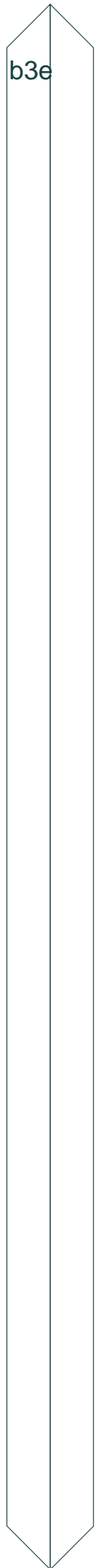
b1f



b2

place for b1k

place for b1l



b3e

10 cm

b1i

b1h

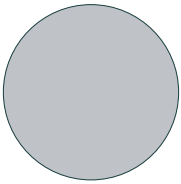
b2a

b2c

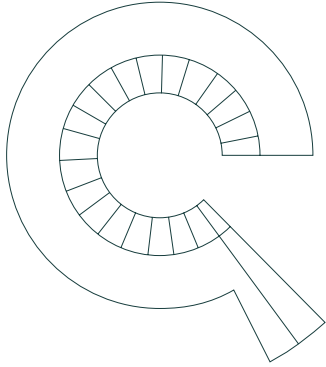
b1n

10 cm

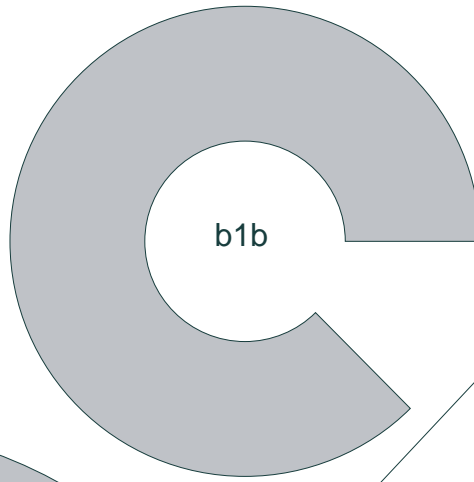
b1a



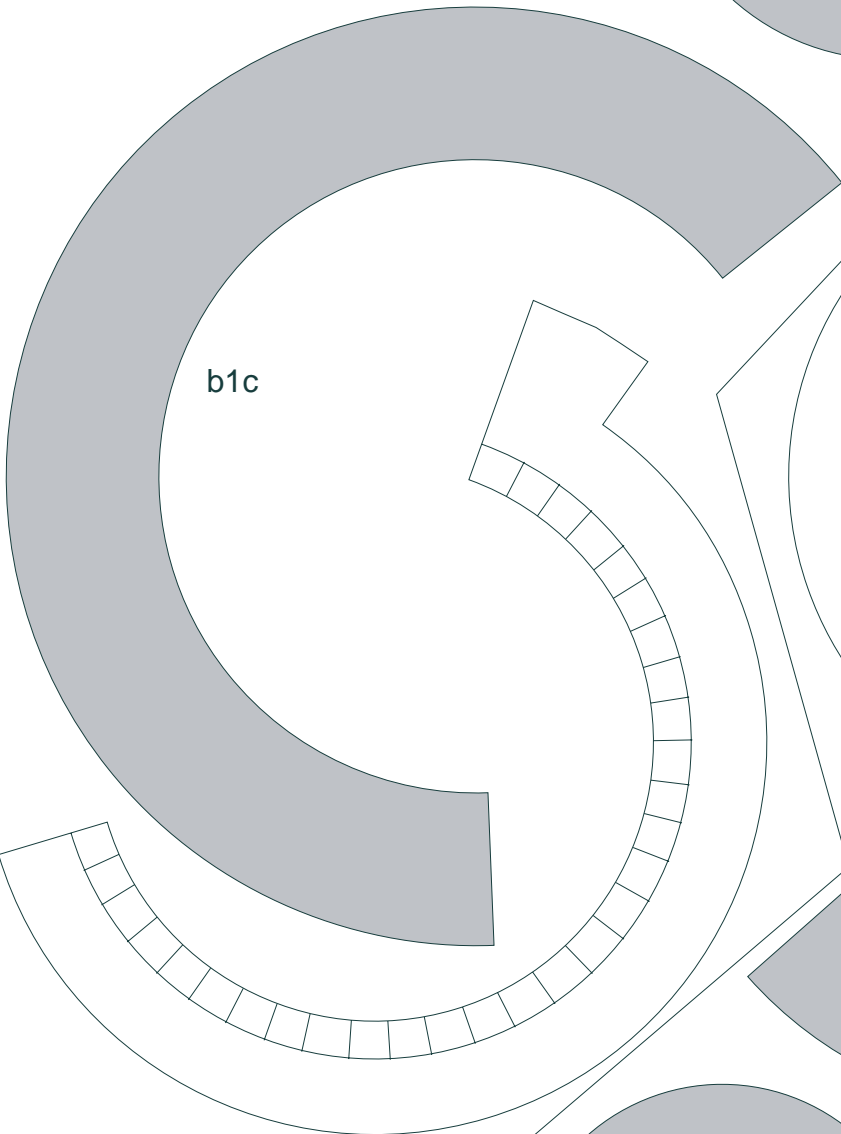
connector b1a/b1b



b1b

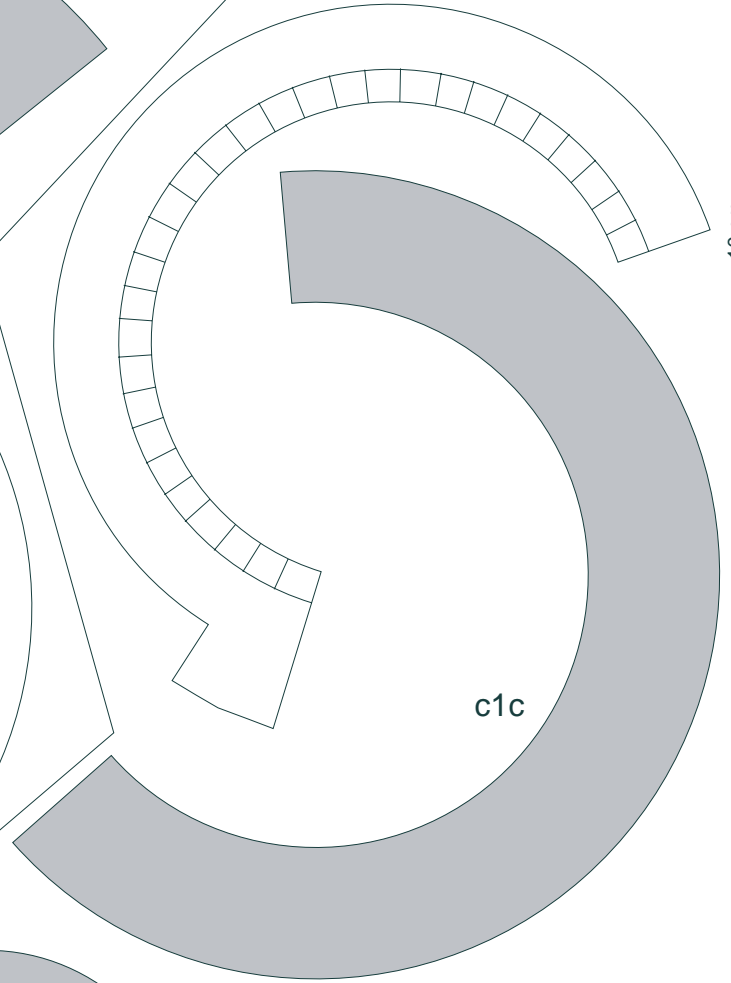


connector c1b/c1c

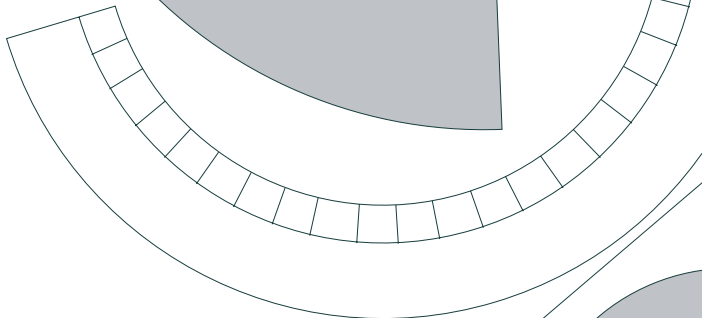


b1c

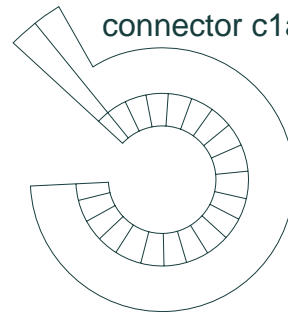
c1c



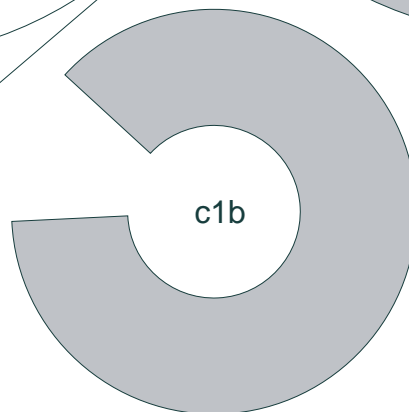
connector b1b/b1c



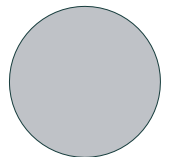
connector c1a/c1b



c1a

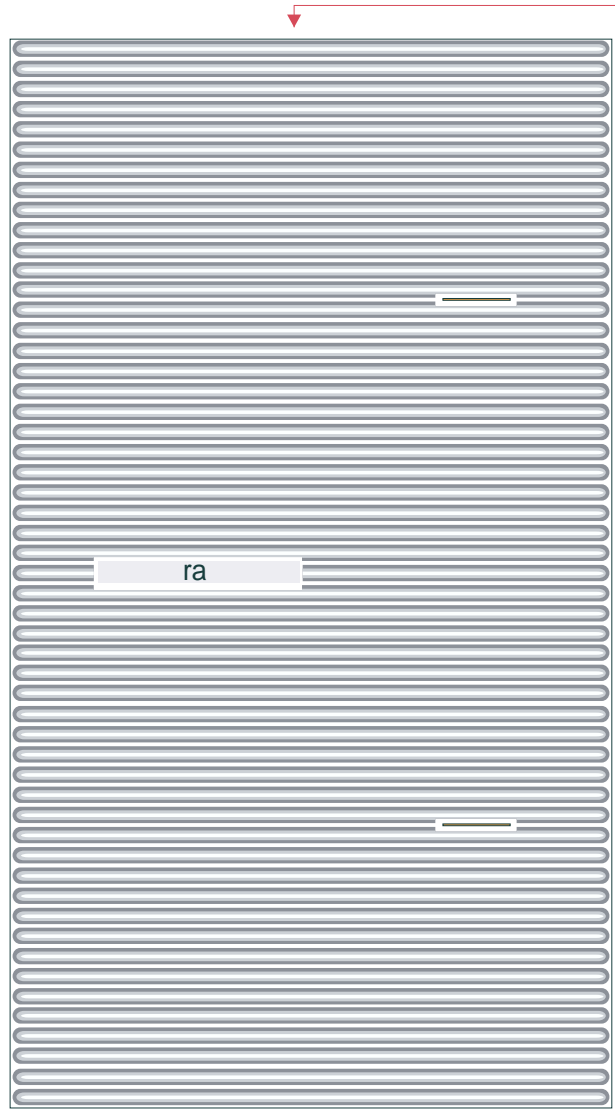
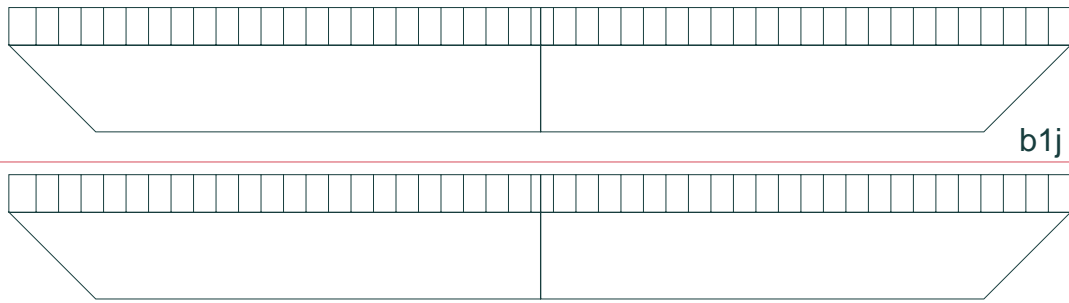


c1b



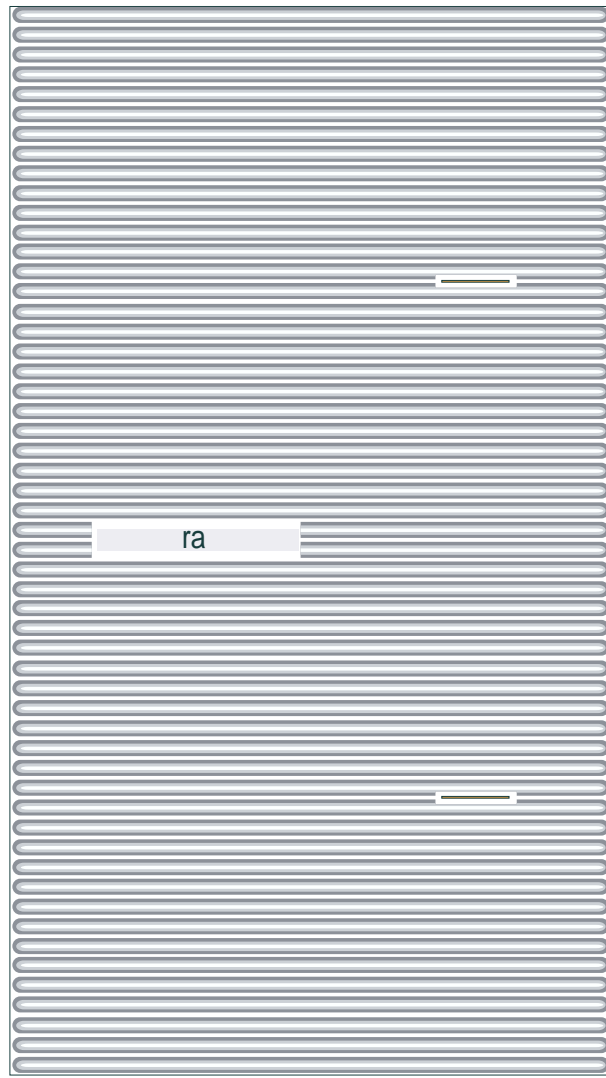
tops of lox tanks
for stages C and B

10 cm.

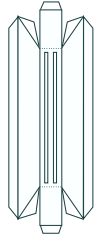
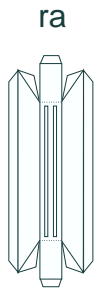


b1 (left)

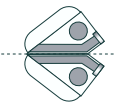
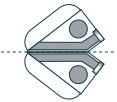
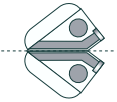
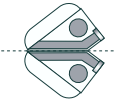
first glue halves of b2



b1 (right)



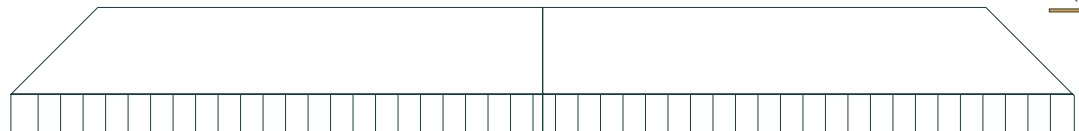
dr



insert "dr" from backside of "b1"

slots for "dr"

10 cm



b1m

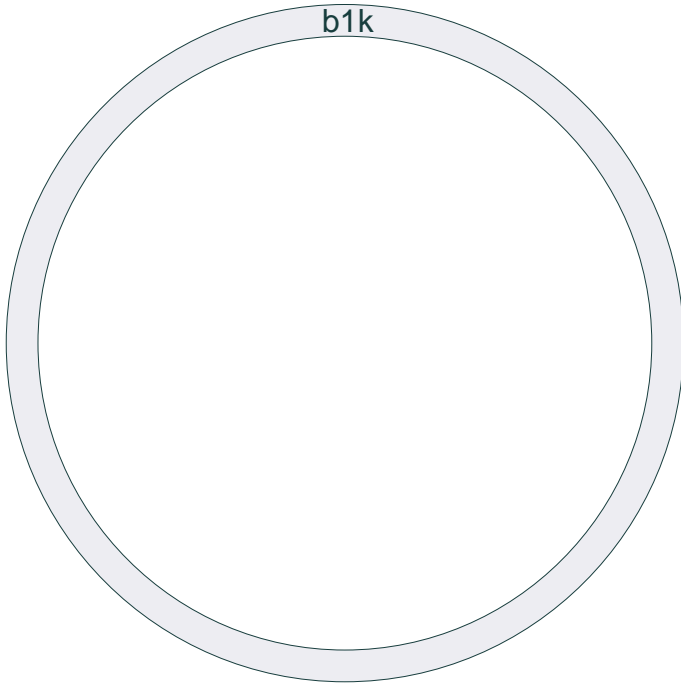
strip for gluing of cylinder b2



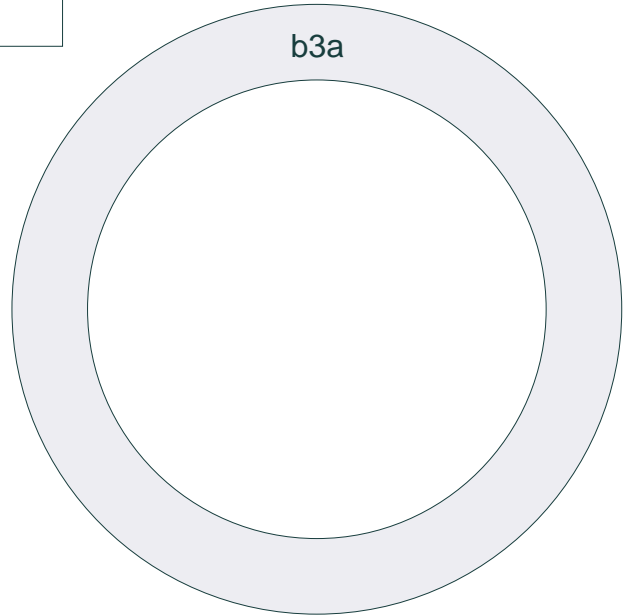
strip for gluing of cylinder c2



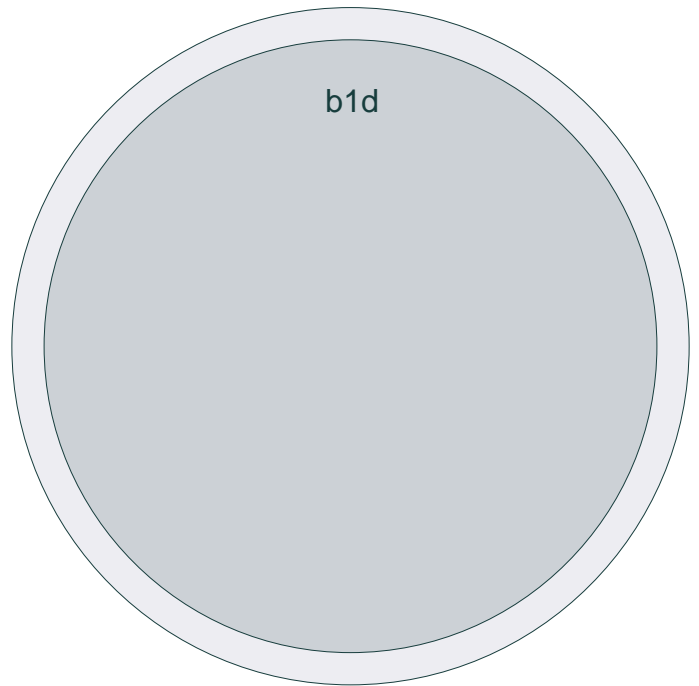
b1k



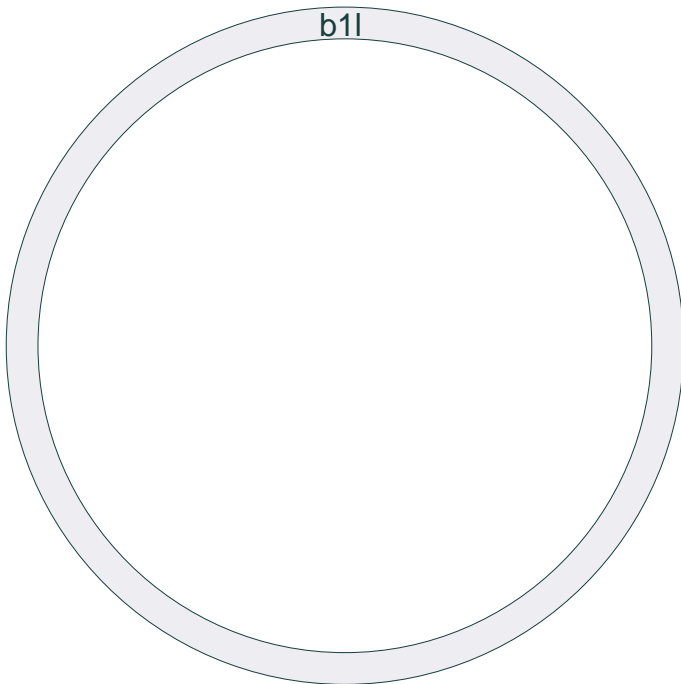
b3a



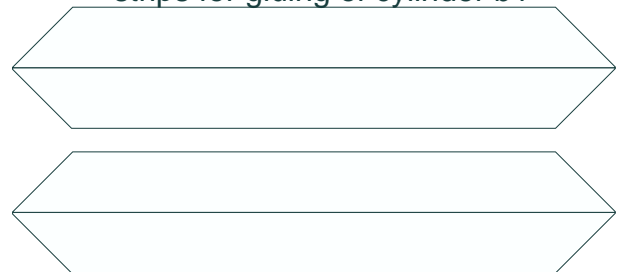
b1d



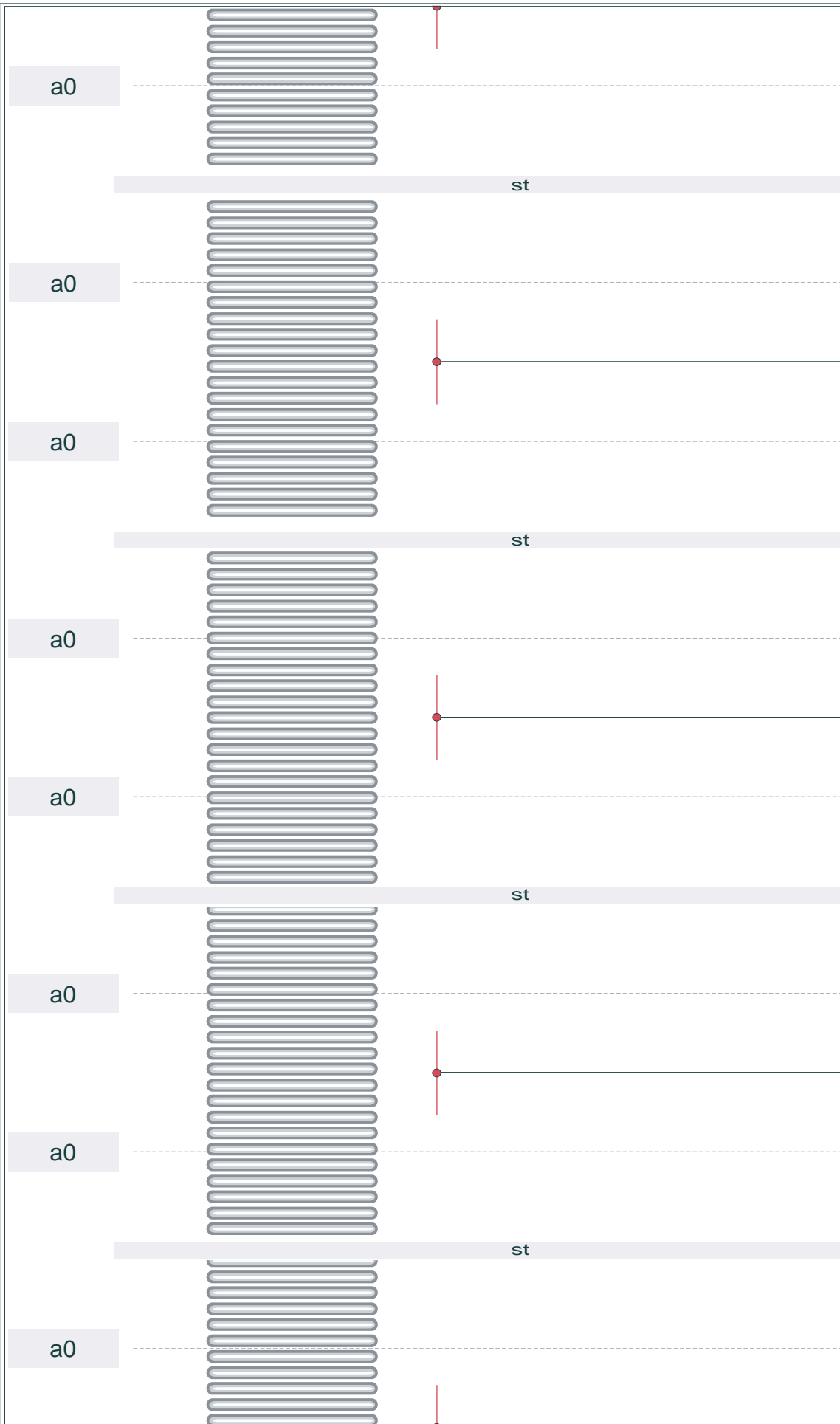
b1l



strips for gluing of cylinder b1



10 cm



b3

b3c

b2b

b3b

st

st

st

st

10 cm

points of gluing b7

st

st

st

st

st

st

b4



b4c

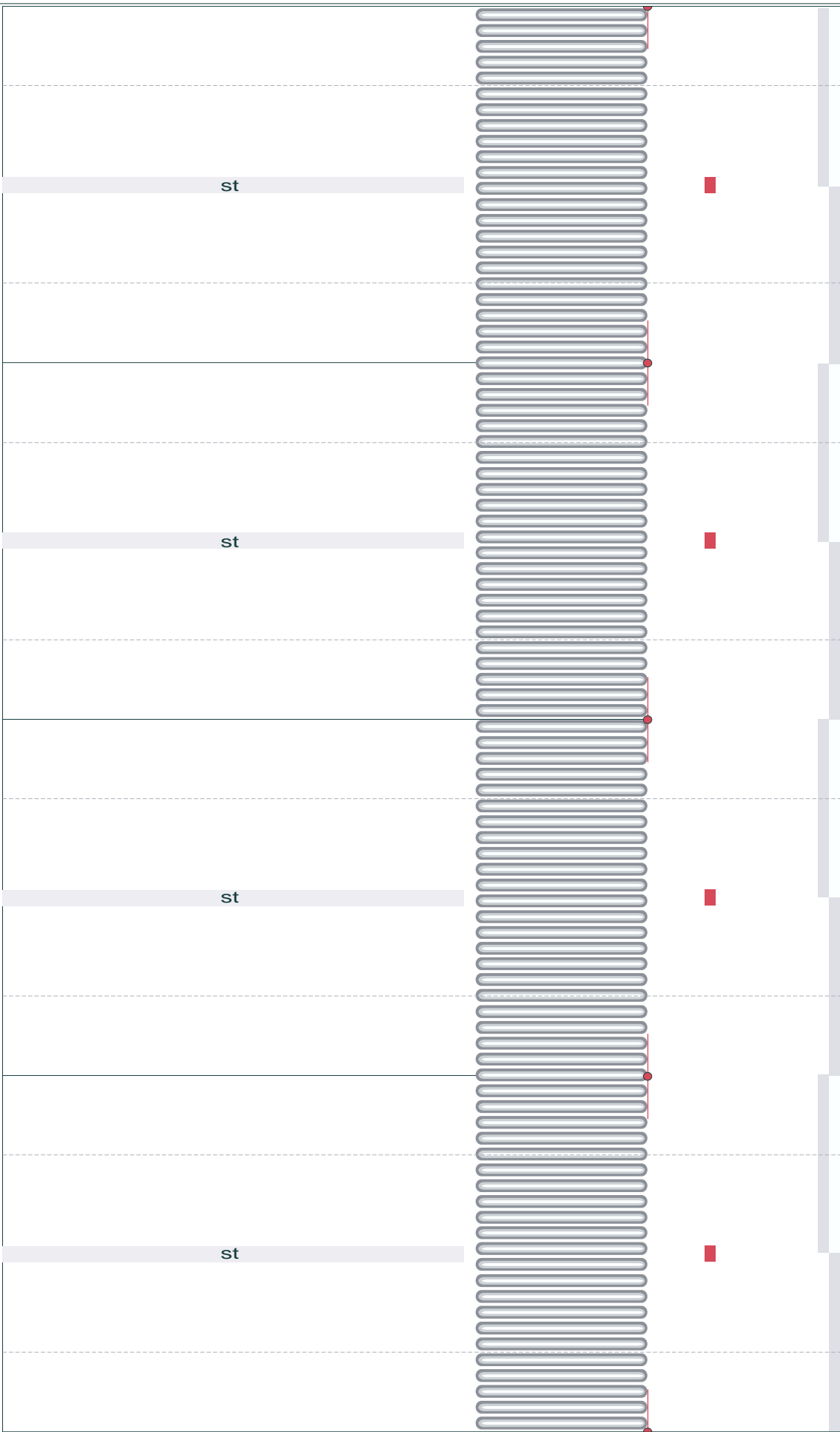


b4b

10 cm

b5b

b5



combine with mark on b5d

points of gluing b7

points of gluing a7

b5c

10 cm

strip for gluing of cylinder b3

strip for gluing of cylinder b4

strip for gluing of cylinder b5

b3d

b4a

b4d

b5a

combine with mark on b5

b6

b6

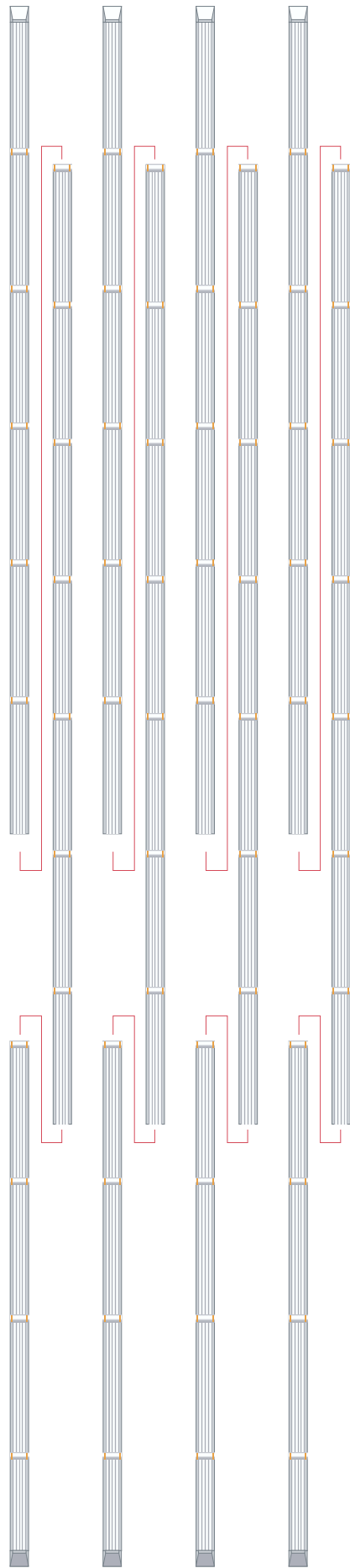
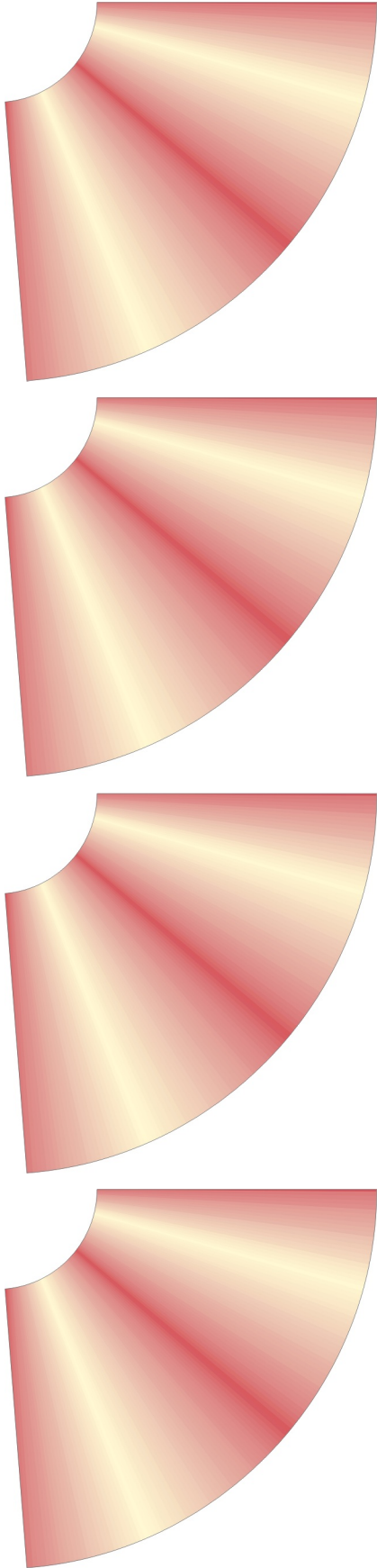
b6

b6

b5d

10 cm

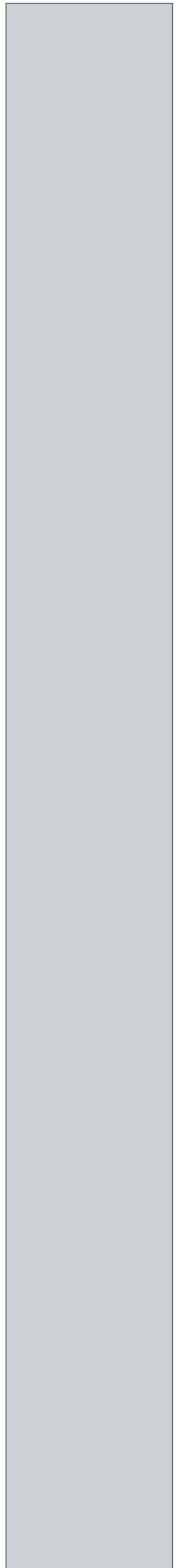
bush into nozzle of stage B



st

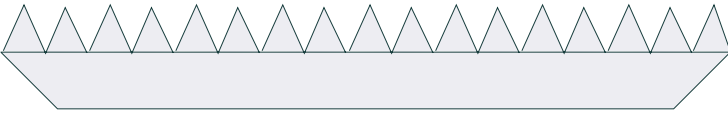
b5e

laminare to ~1 mm



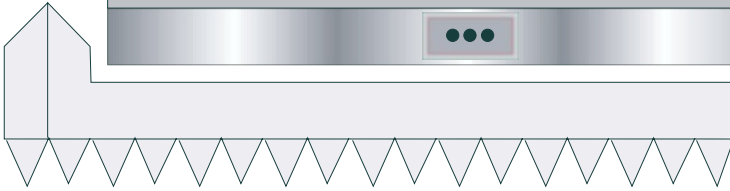
10 cm

b6i



top

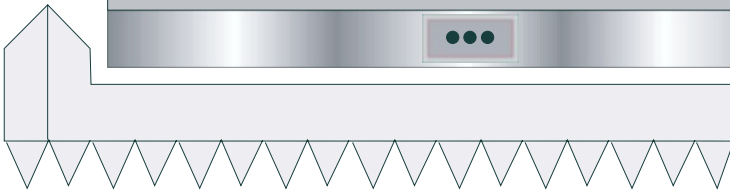
b6g



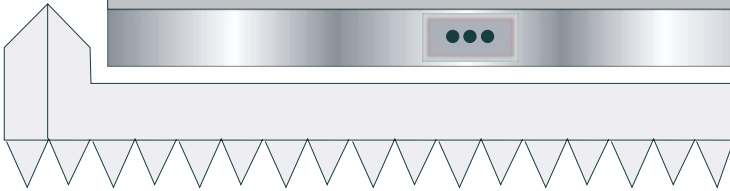
b6f



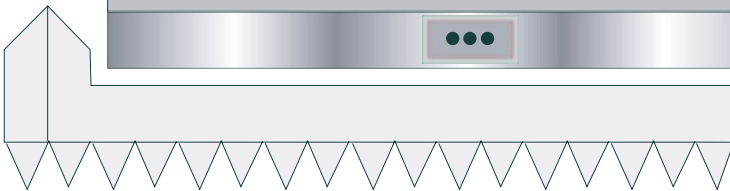
top



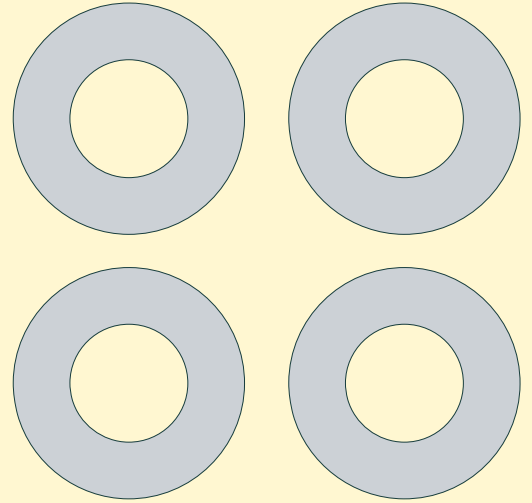
top



top

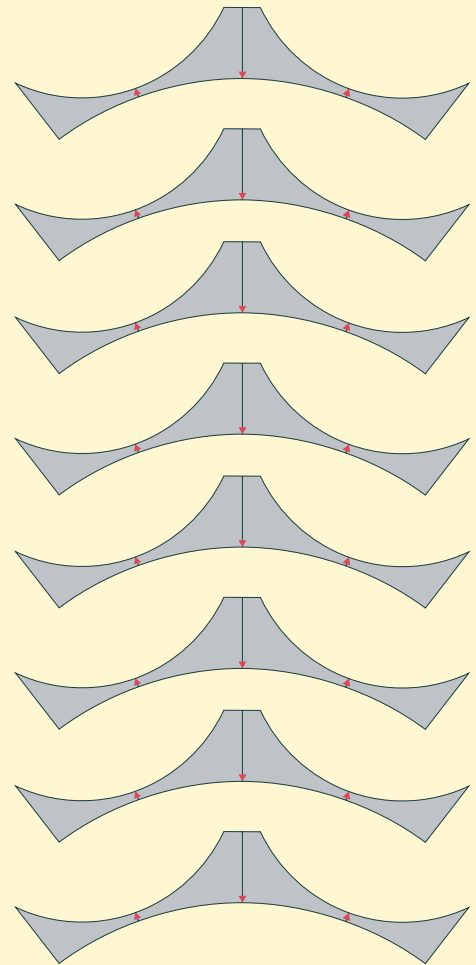


b6h



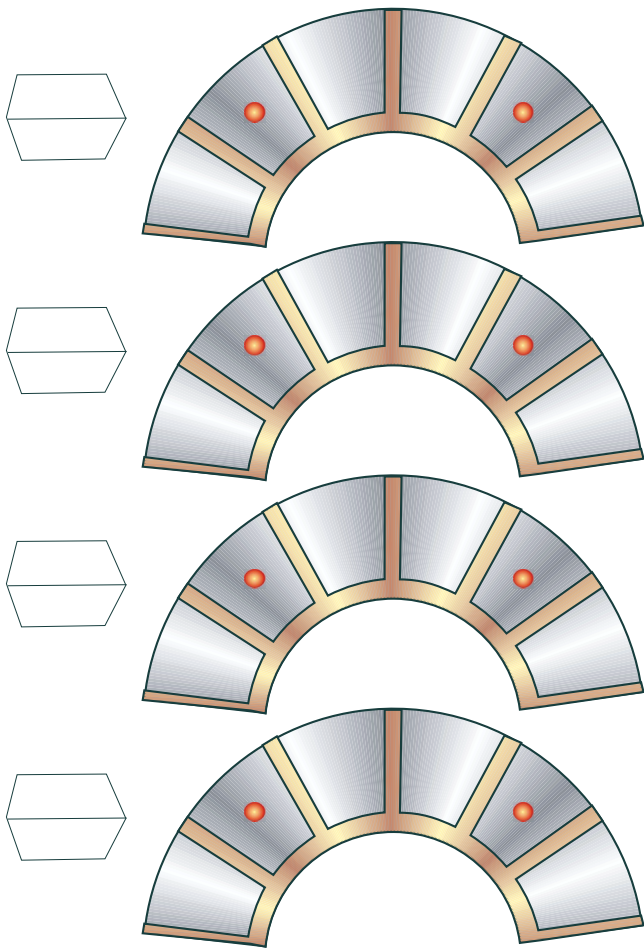
Glue onto cardstock

b7

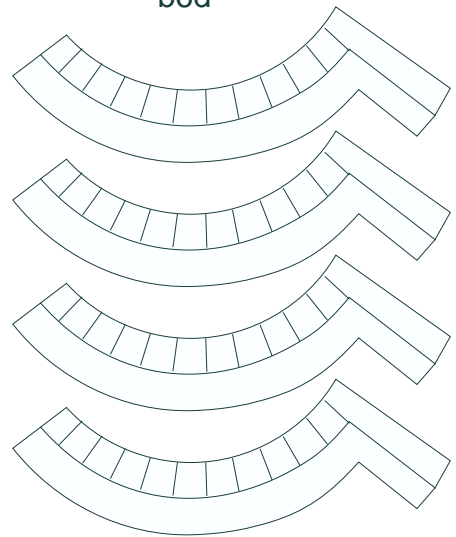


10 cm

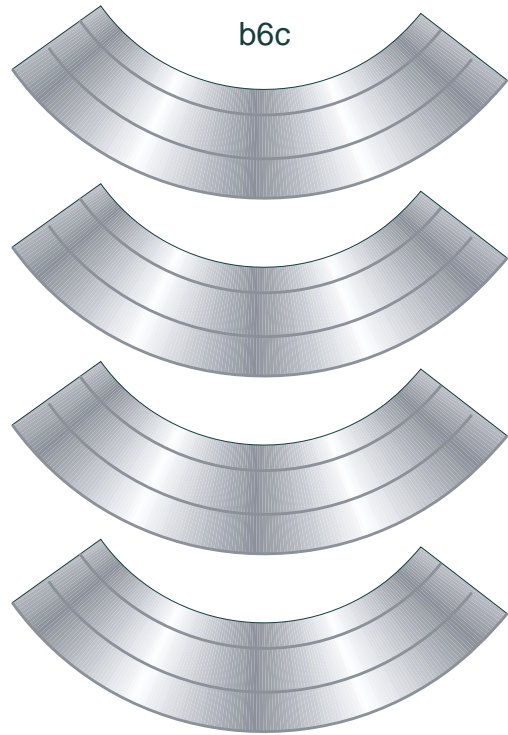
b6e



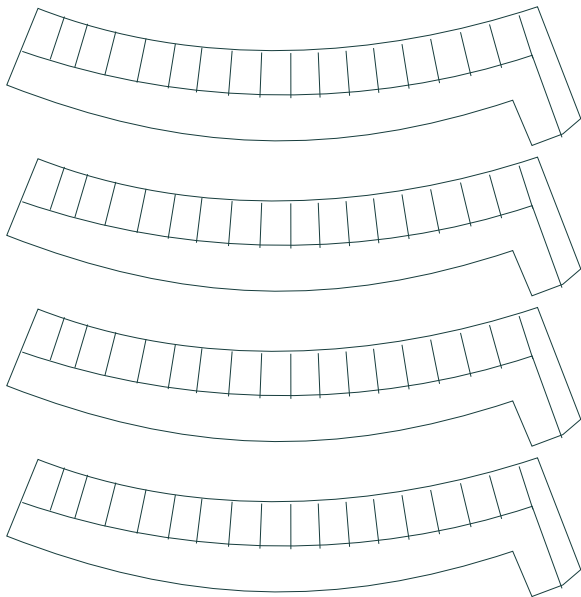
b6d



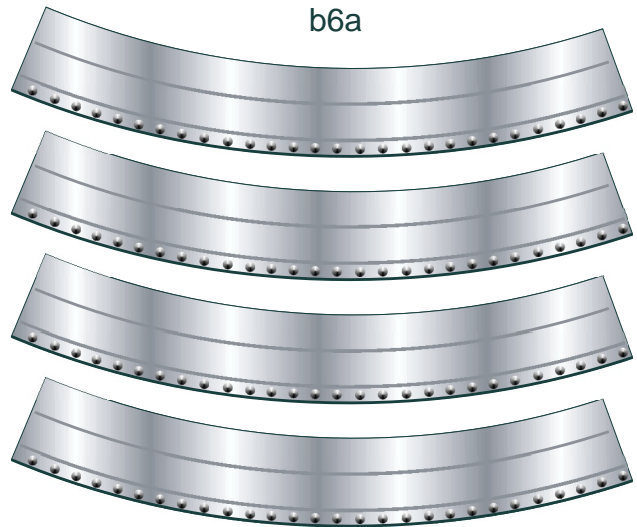
b6c



b6b



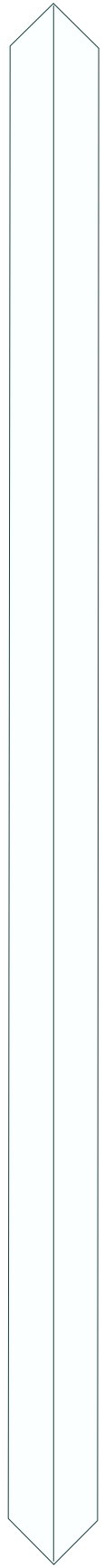
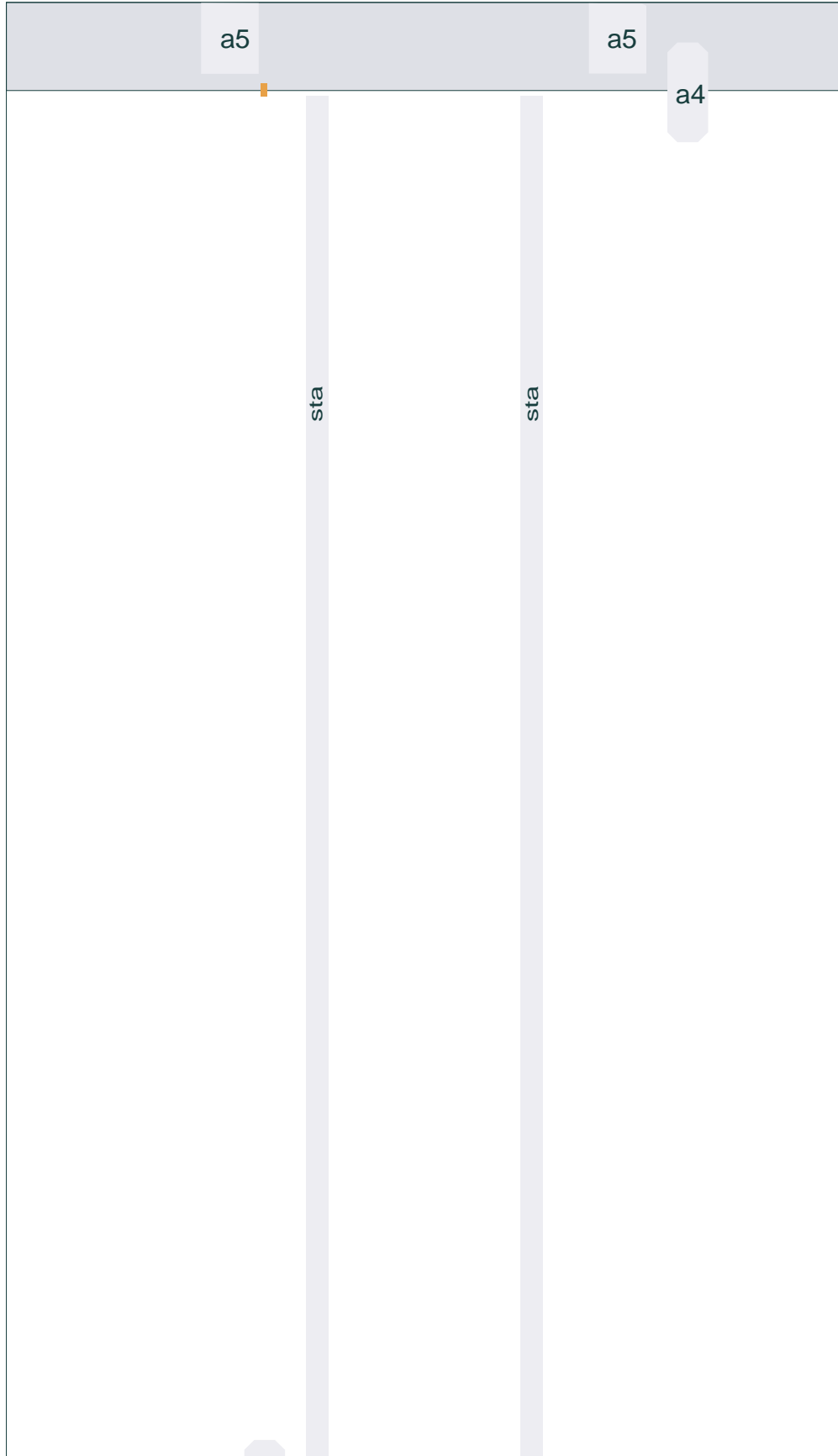
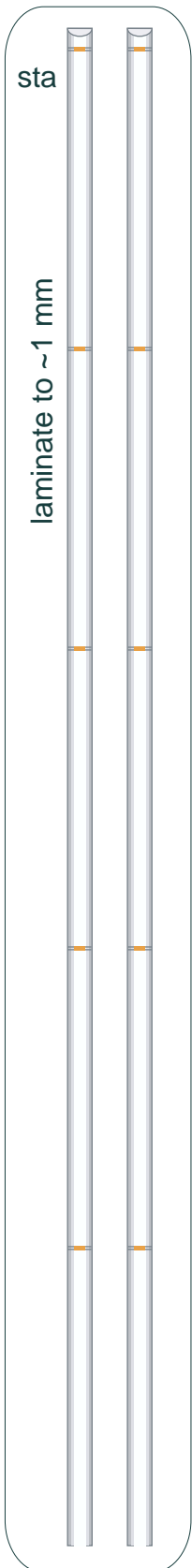
b6a



10 cm

place for right end of a6

a2



10 cm

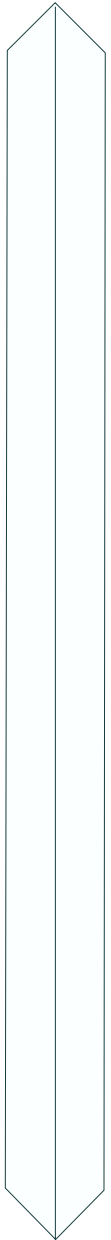
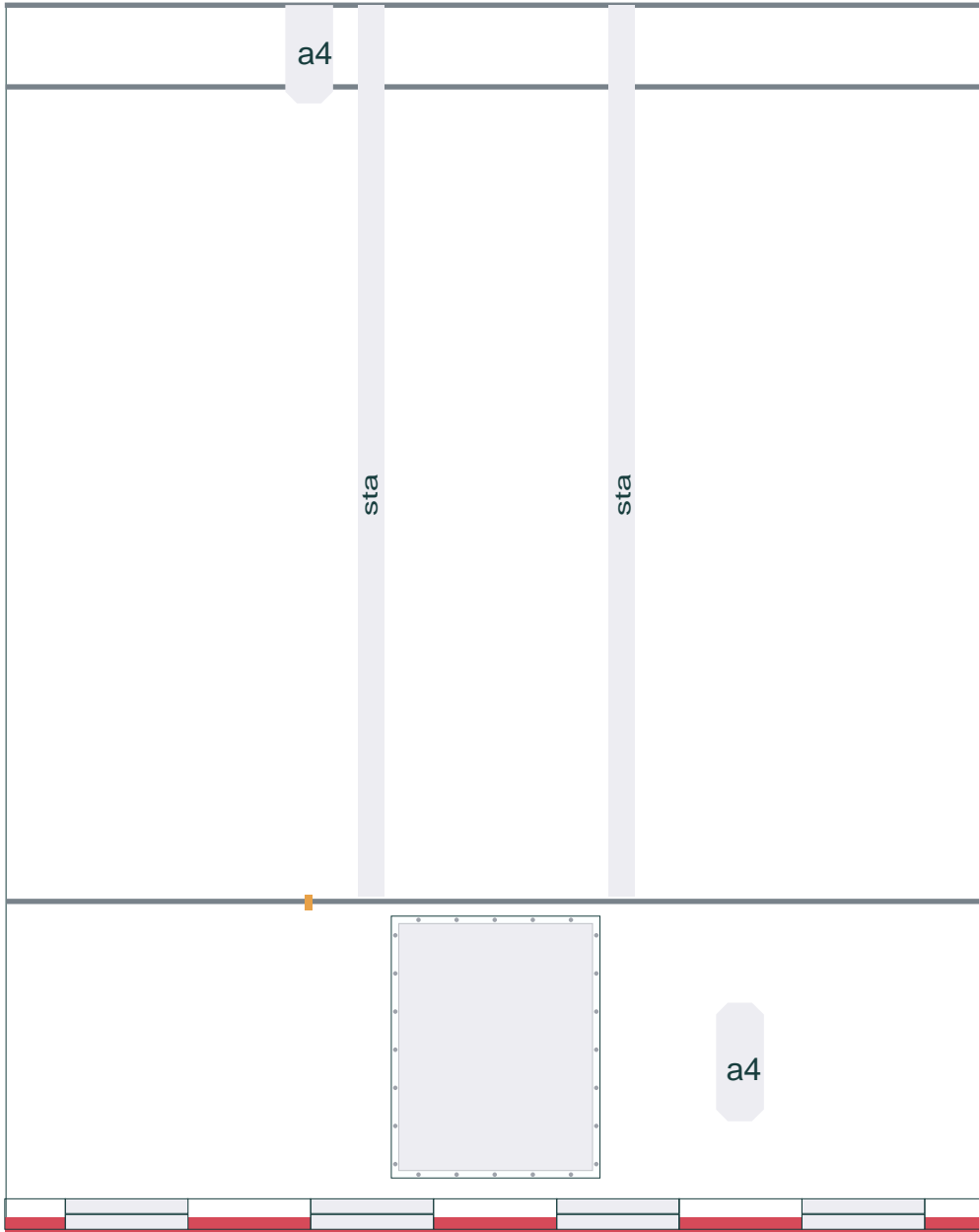
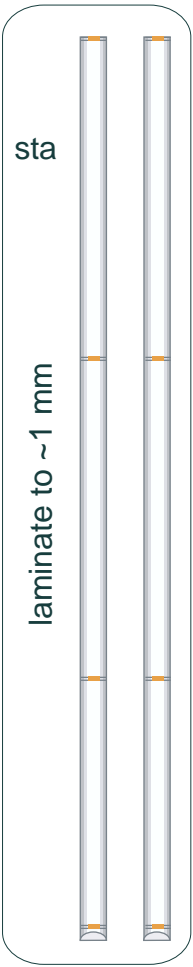
Stage A. Blocks 2, 4, 6, 8 (4 copies)

a3

a4

sta

laminare to ~1 mm



10 cm

place for right end of a6

a2a



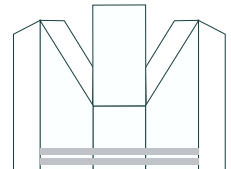
a2c



a3b



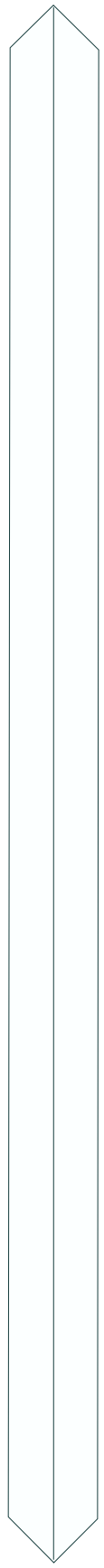
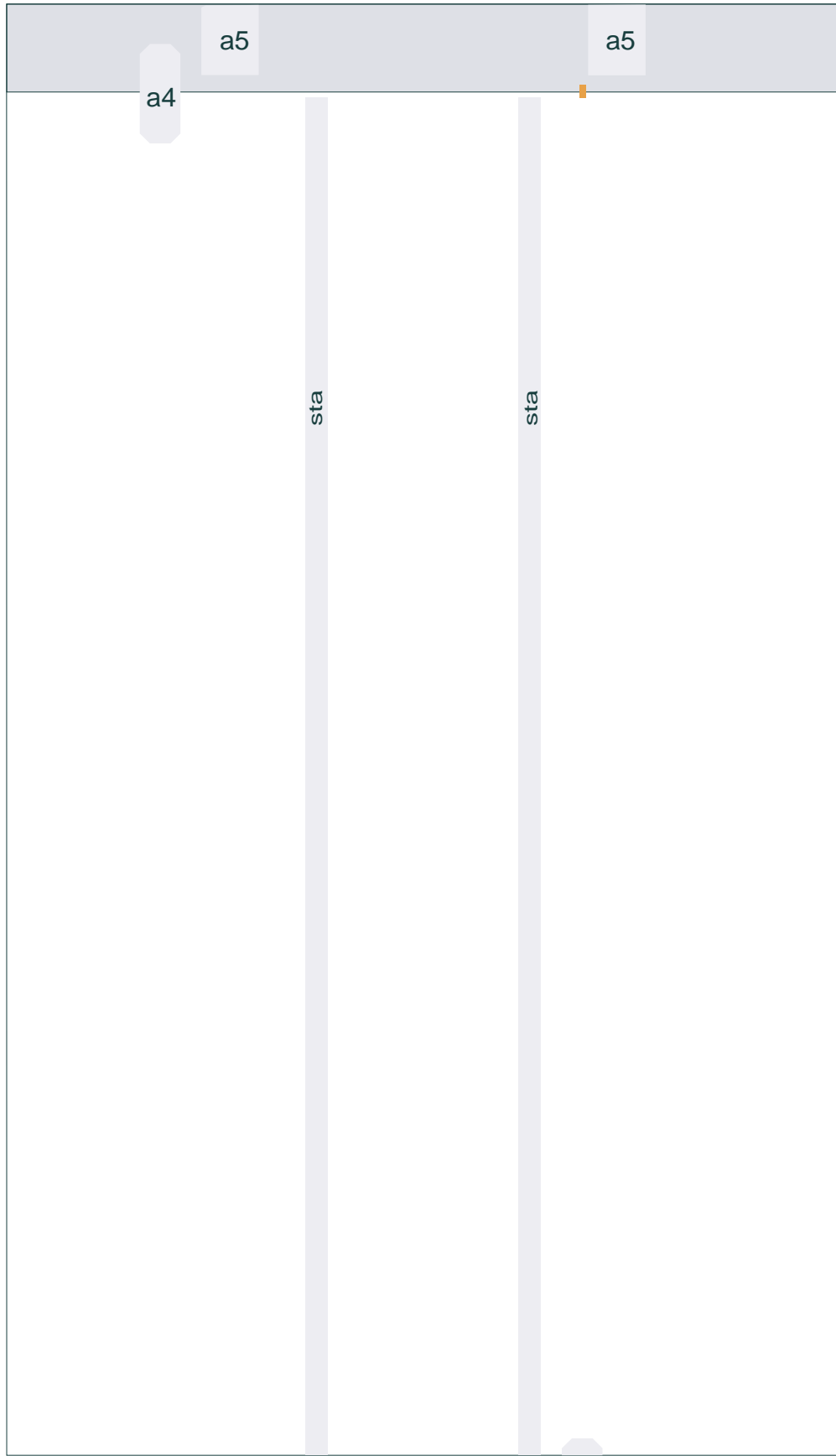
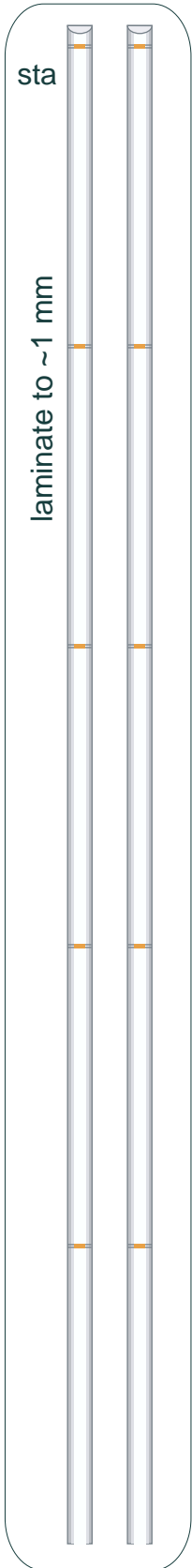
a0



Stage A. Blocks 2, 4, 6, 8 (4 copies)

a2

place for left end of a6



10 cm

Stage A. Blocks 1, 3, 5, 7 (4 copies)

a3

a4

sta

laminare to ~1 mm



sta

sta

a4



place for left end of a6

a2a



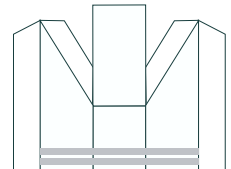
a2c



a3b

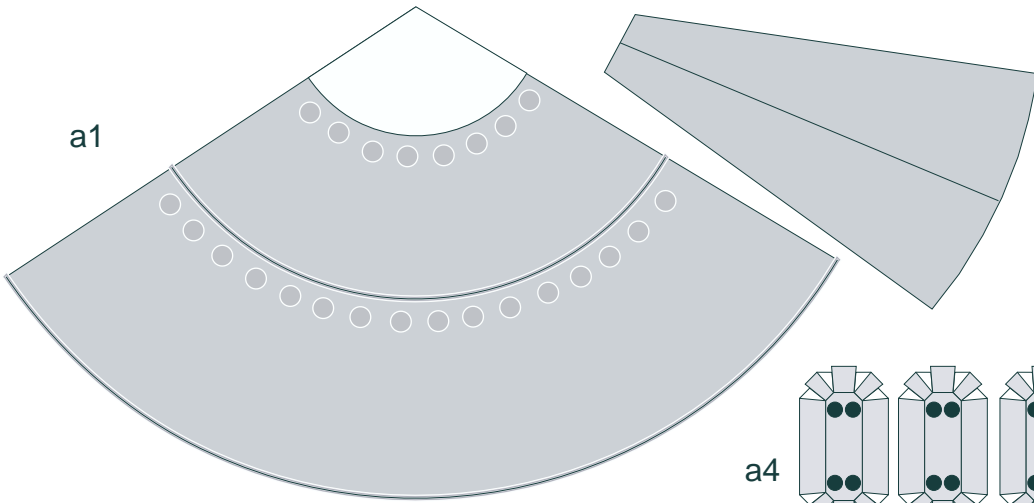


a0



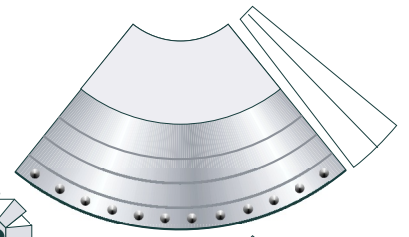
10 cm

Stage A. Blocks 1, 3, 5, 7 (4 copies)

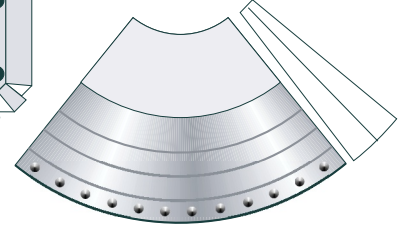
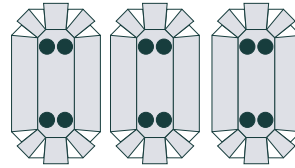


a1

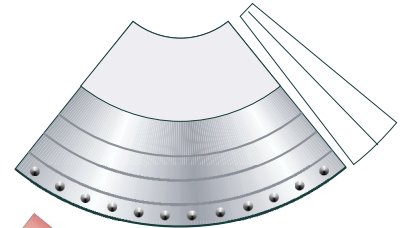
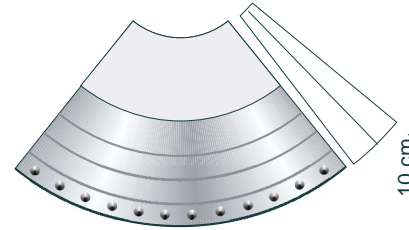
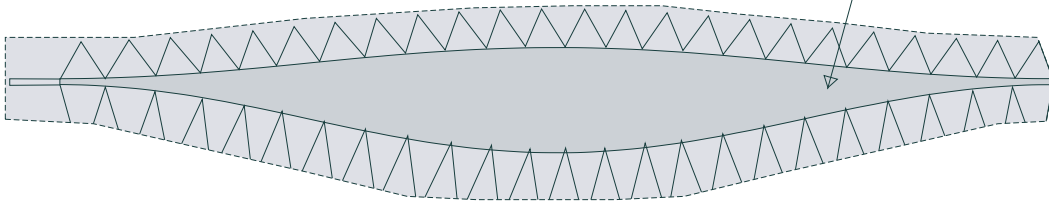
a3d



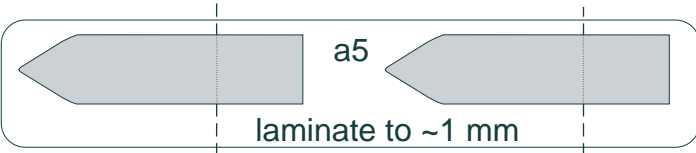
a4



a1a

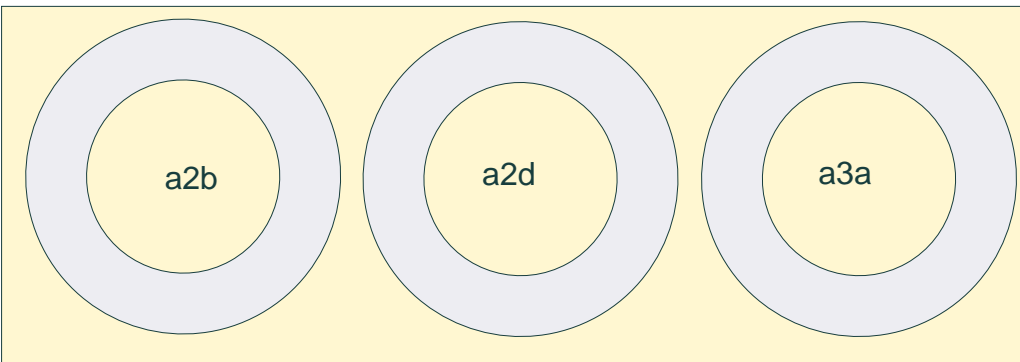


10 cm



a5

laminare to ~1 mm



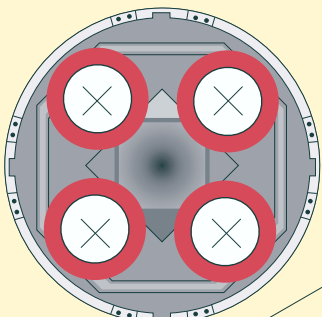
a2b

a2d

a3a

Glue onto cardstock

a3c



a6 tube 2 x 16 mm (x 8)

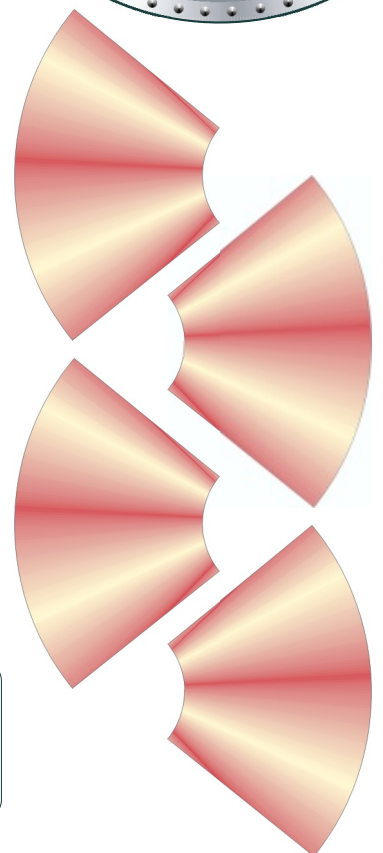
flatten 2mm of the both ends

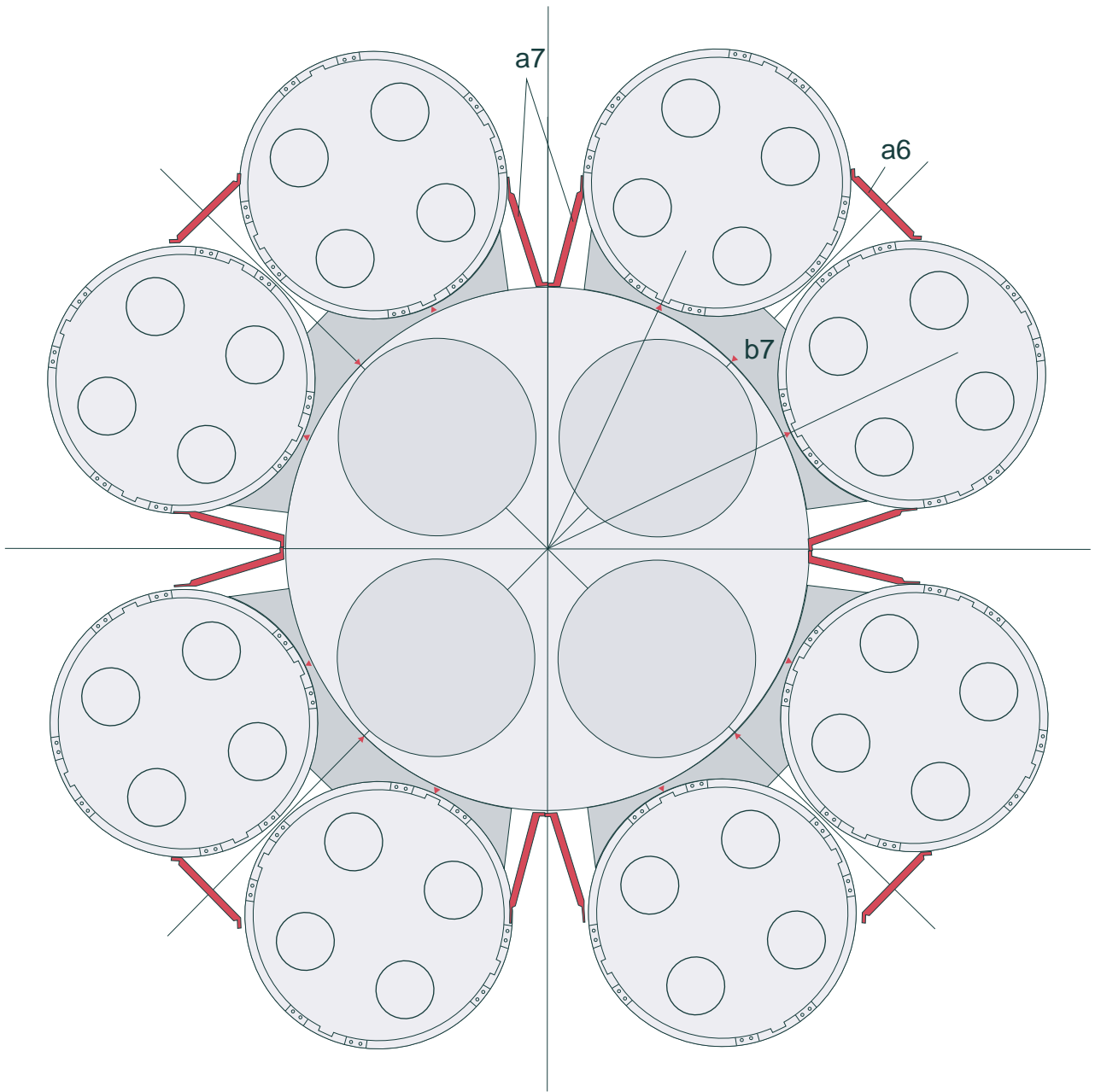
a7 tube 2 x 19 mm (x 8)

flatten both ends (2mm left, 3mm right)

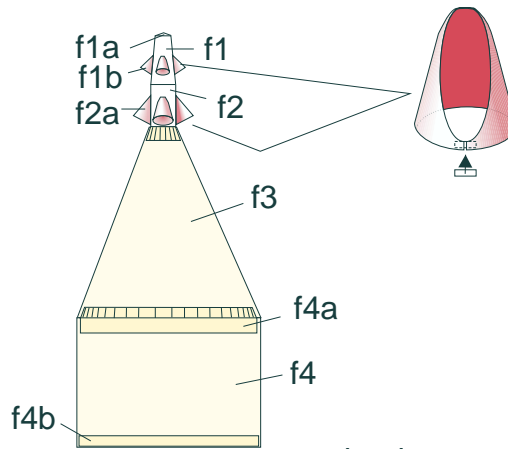
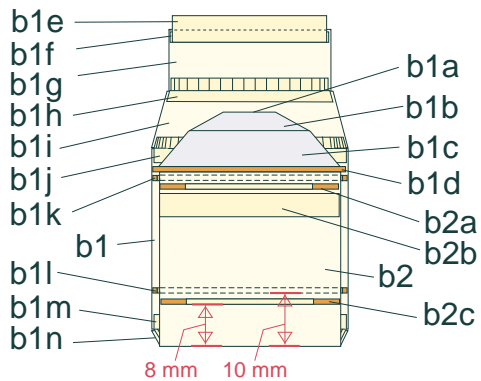
combine with seam of a3

option
nozzles d=2mm
on a4
x12

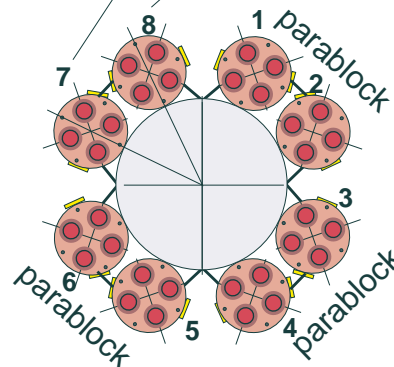
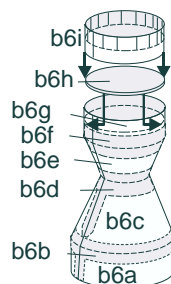
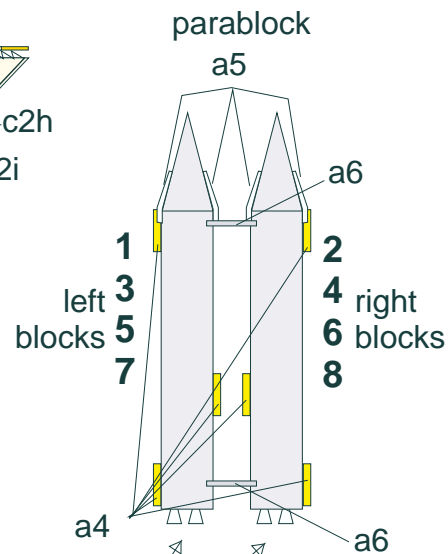
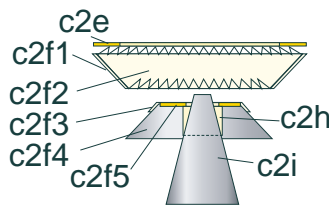
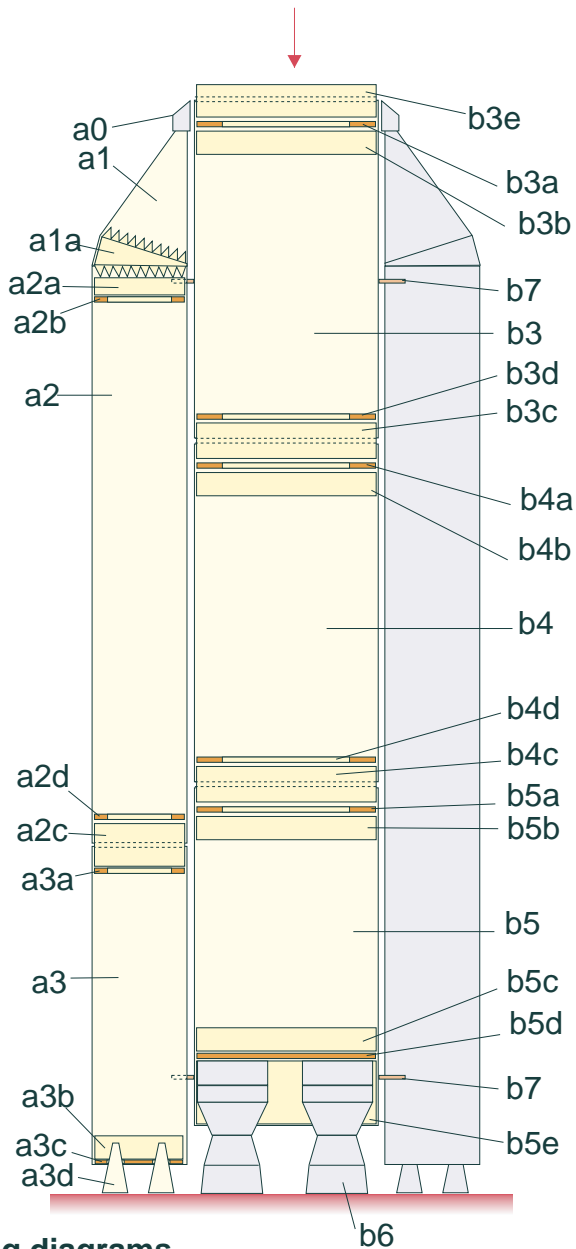
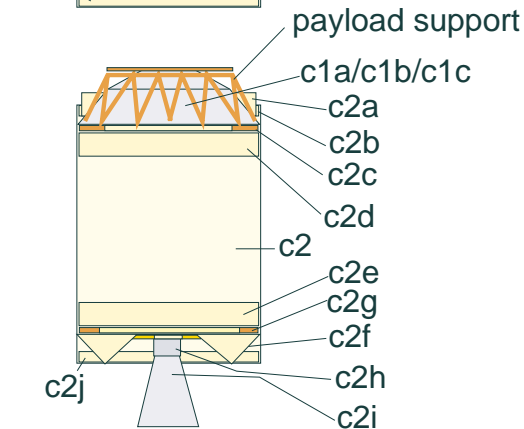




First glue b7 onto body of Stage B
 then glue blocks of Stage A
 then glue a6 (between blocks of stage A - tops and bottoms
 of para-blocks) and supports a7 (between blocks of stage A
 and stage B - only bottom)



- 1 - glue b1 + b1m, b1n
- 2 - glue b2 + b2a, b2b, b2c and b1k, b1l
- 3 - insert b2 into b1 (from top of b1)
- 4 - glue b1d, b1j and top of LOX tank (b1a - b1c)
- 5 - glue next top parts of b1
- 6 - assembly b1+b2 and b3 by b3e



Assembling diagrams