

Production scenario for SciFi detector modules:

Day 1 (at winding centre)

Step 1:

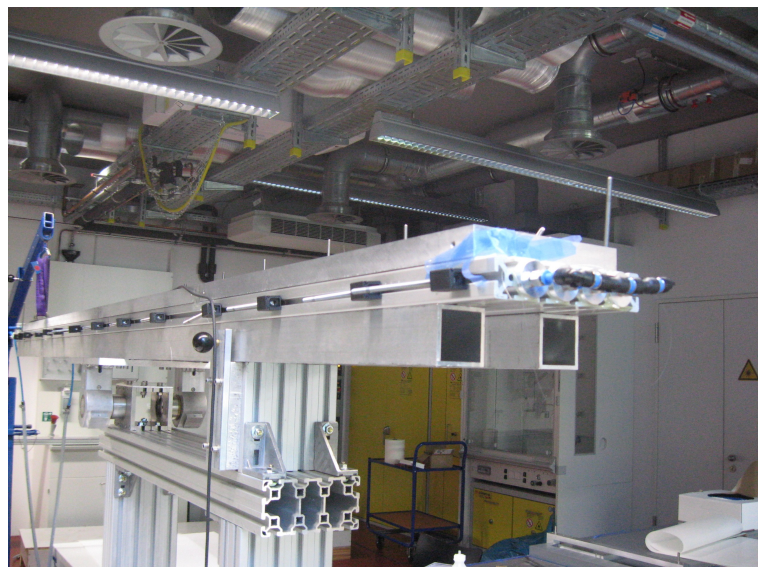
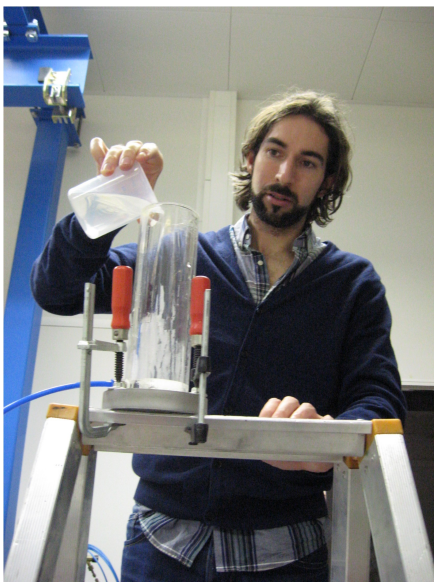
Cast fibre mat

Work load:

1. clean mould (cleaning, applying non-sticking layer, heating)
2. glue fishing line
3. close casting form
4. mix glue
5. fill glue
6. remove mat from mould (after curing)

Estimated working time per fibre mat: 2 hours for two technicians

Curing time: 2 days



Day 2 (at winding centre)

Step 2:

Polish fibre ends

Work load:

1. Align fibre mat on milling machine
2. polish fibre ends
3. same for second end

Estimated working time per fibre mat: 1 hour for one technician

Curing time: ---



Step 3:

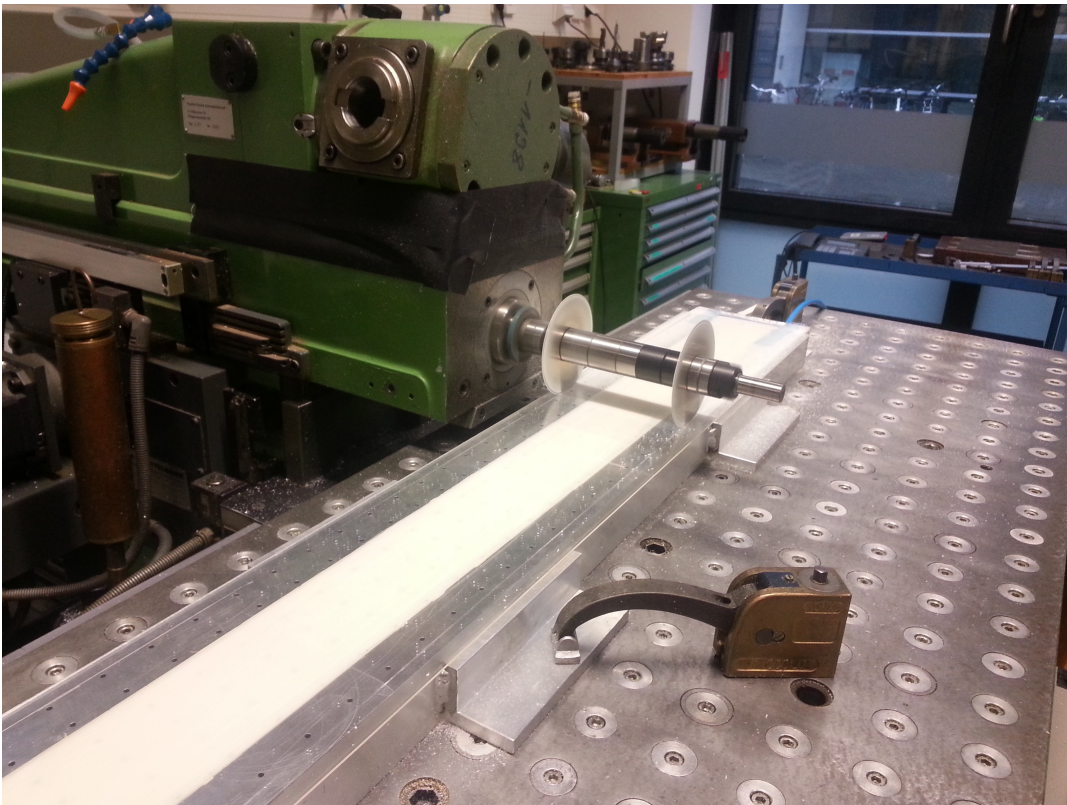
Longitudinal cut

Work load:

1. Align fibre mat on milling machine
2. polish fibre ends

Estimated working time per fibre mat: 1 hour for one technician

Curing time: ---



Step 4:

Glue mirror

Work load:

1. Align fibre mat in gluing jig
2. prepare glue
3. glue mirror

Estimated working time pre fibre mat: 0.5 hours for one technician

Curing time: 1 day (???)

Day 3 (either winding centre or module assembly centre)

Step 5:

Glue end-pieces

Work load:

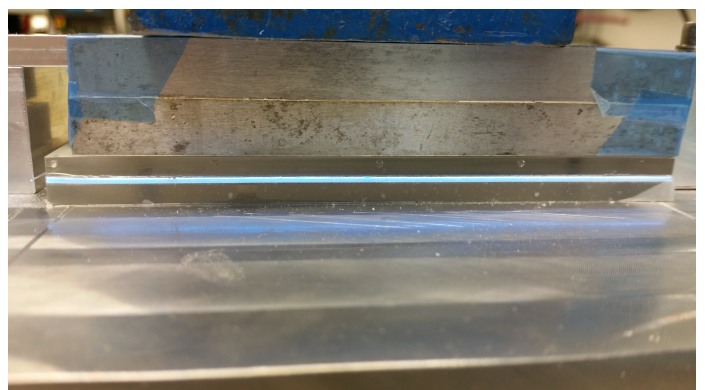
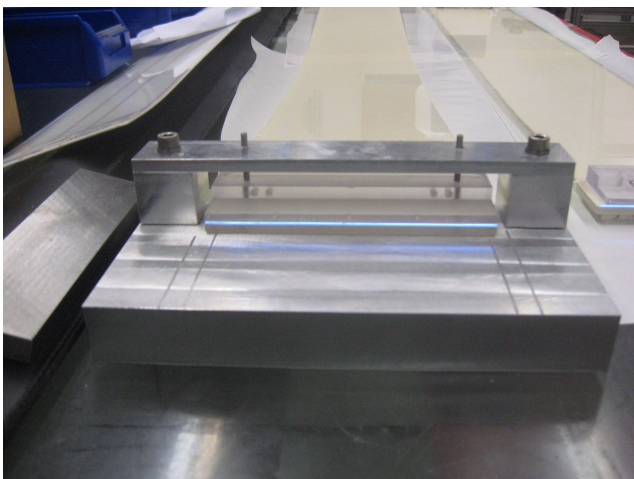
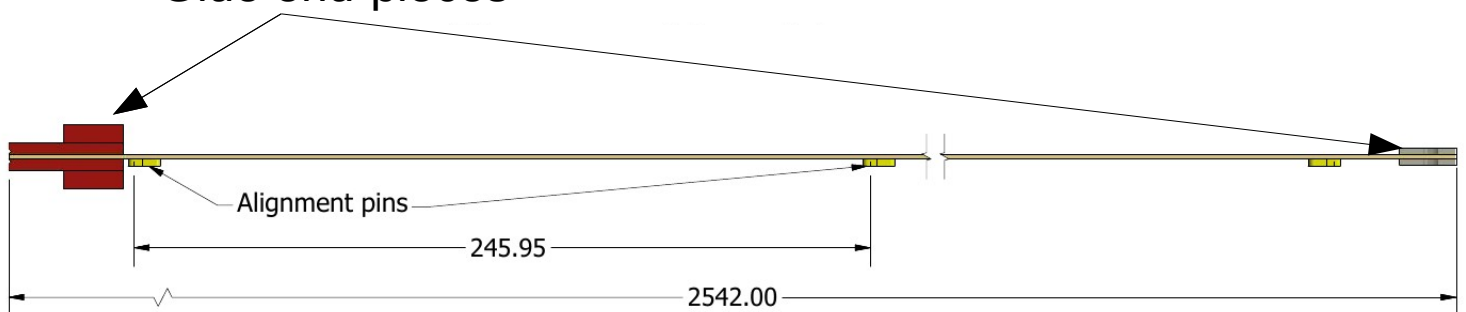
1. prepare gluing jig (cleaning)
2. prepare end-pieces (grinding)
3. prepare glue
4. align and glue end-pieces in jig
5. apply pressure

Estimated working time pre fibre mat: 0.5 hours for two technicians

Estimated working time: 4 hours

Curing time: 2 hours

Glue end-pieces



Day 4 (module assembly centre)

Step 6:

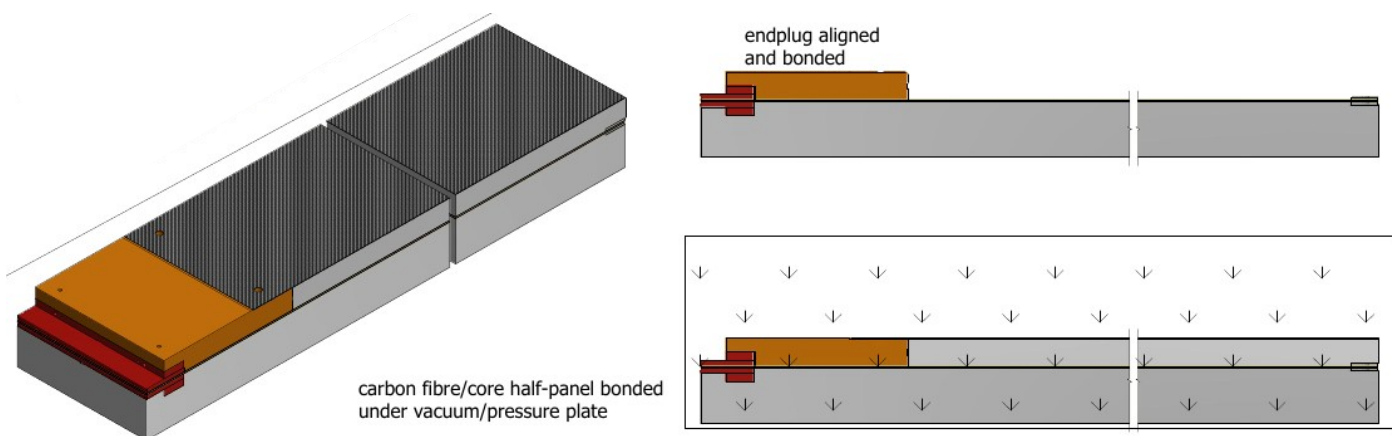
glue end-plug & honeycomb on flat side of fibre mat

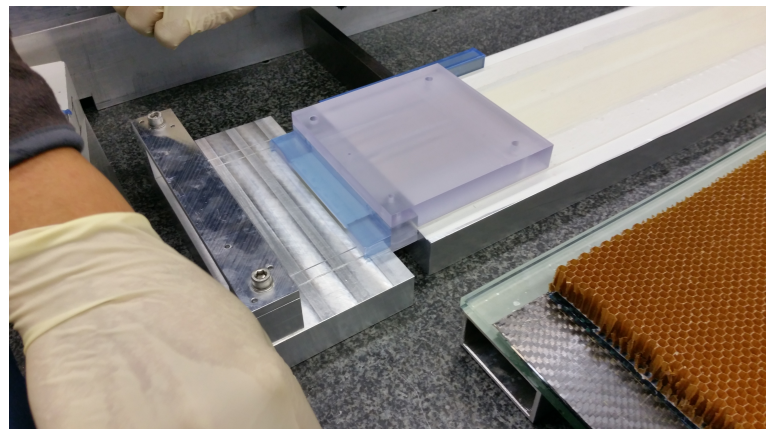
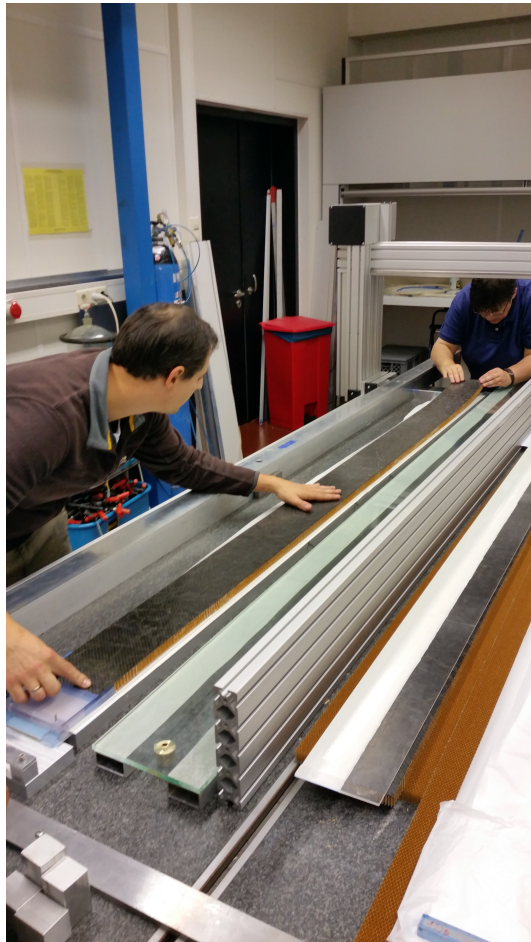
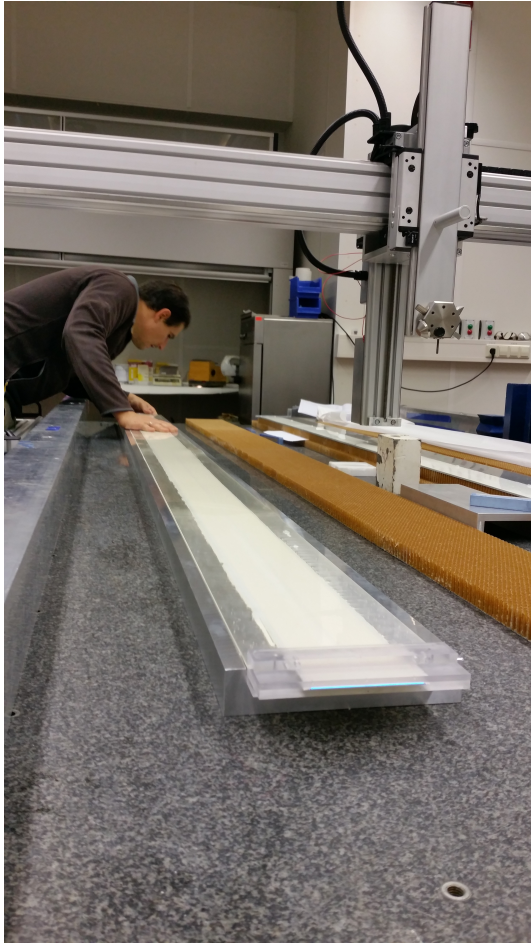
Work load:

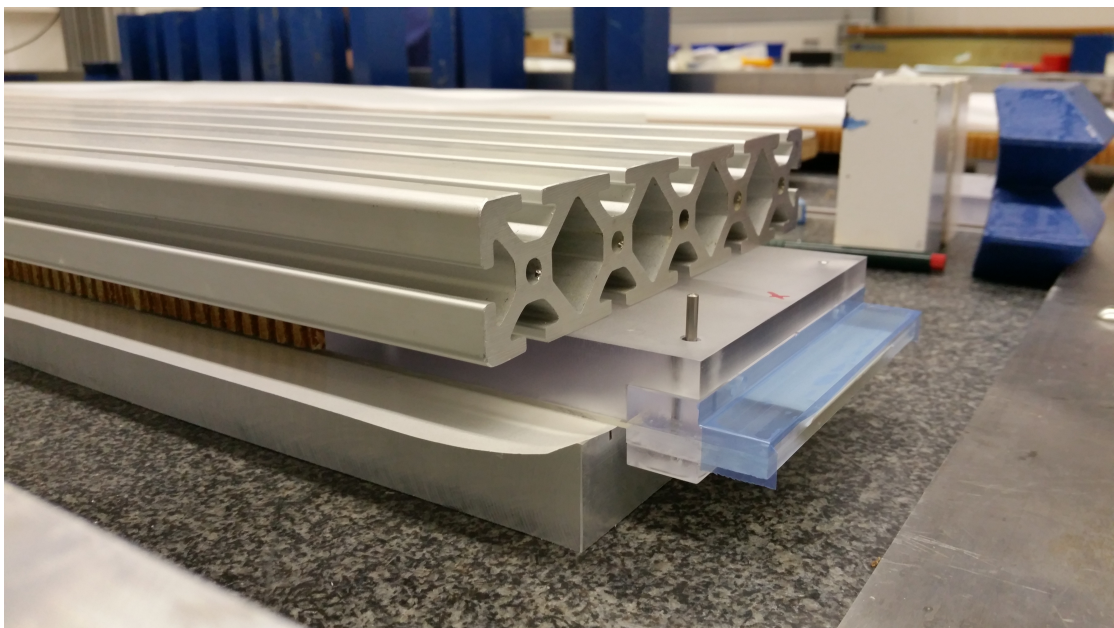
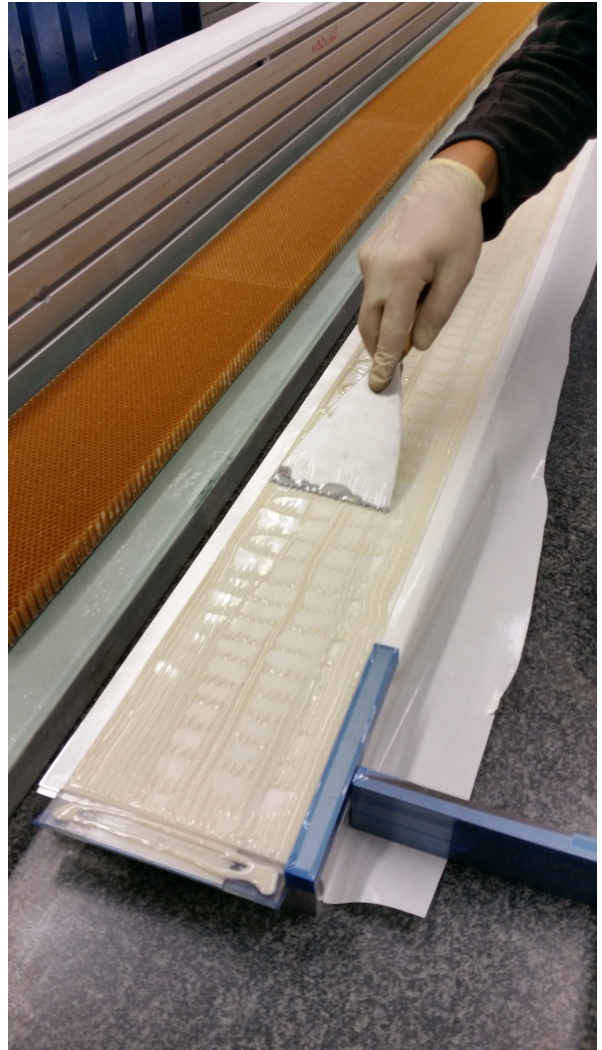
1. prepare jig (cleaning)
2. prepare end-plug (cleaning & grinding)
3. align fibre mat in jig
4. prepare fibre mat (cleaning & grinding)
5. mix glue
6. apply glue and place end-plugs
7. apply glue and place honeycomb panel
8. place vacuum bag and apply vacuum

Estimated working time: 3 hours for two technicians

Curing time: 12 hours







Day 4 (module assembly centre)

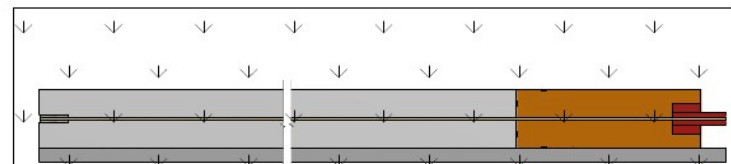
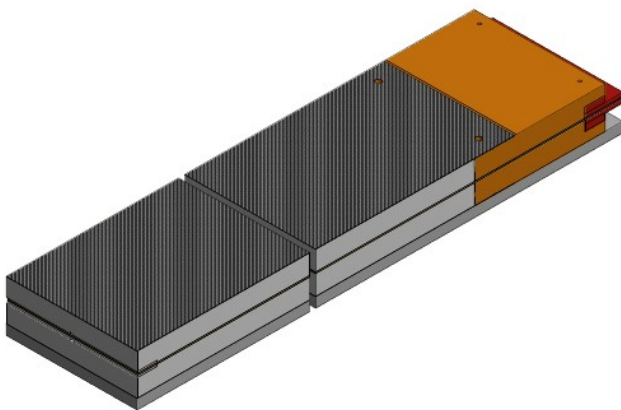
Step 7: glue end-plug & honeycomb on pin side of fibre mat

Work load:

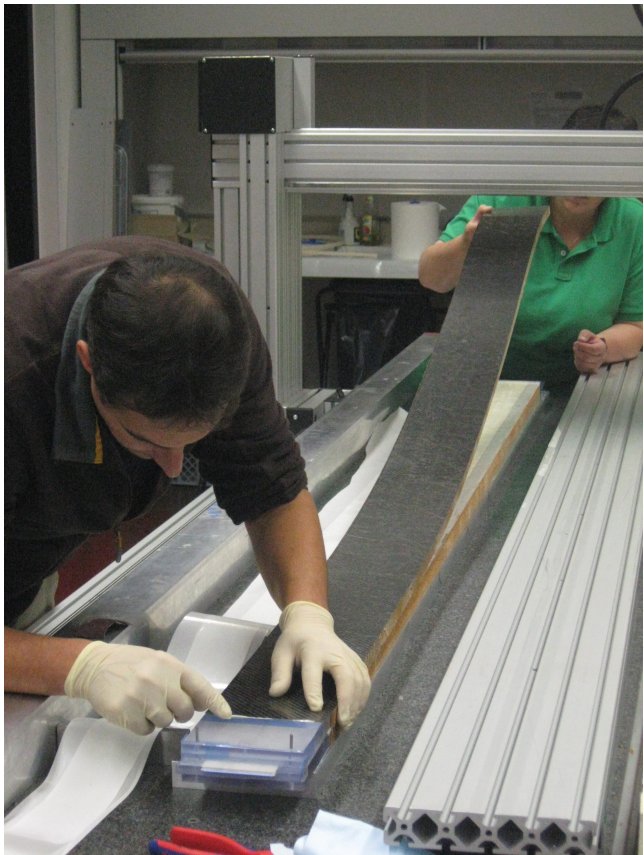
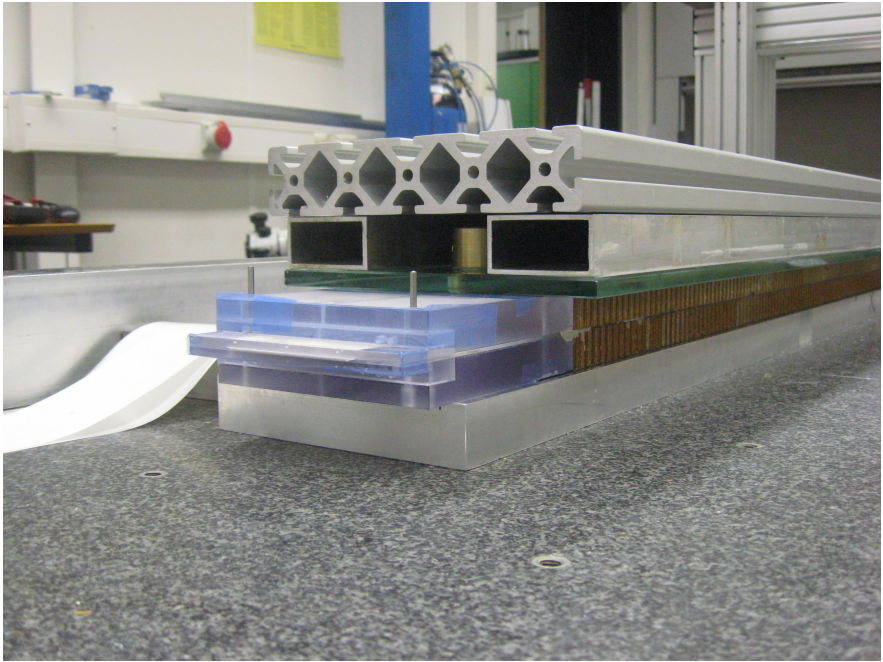
1. prepare end-plug (cleaning & grinding)
2. align fibre mat in jig
3. prepare fibre mat (cleaning & grinding)
4. mix glue
5. apply glue and place end-plugs
6. apply glue and place honeycomb panel
7. place vacuum bag and apply vacuum

Estimated working time: 3 hours for two technicians

Curing time: 12 hours



2nd core and half panel bonded
under vacuum/pressure plate





Day 5 (module assembly centre)

Step 8:

Glue side walls/wrap module

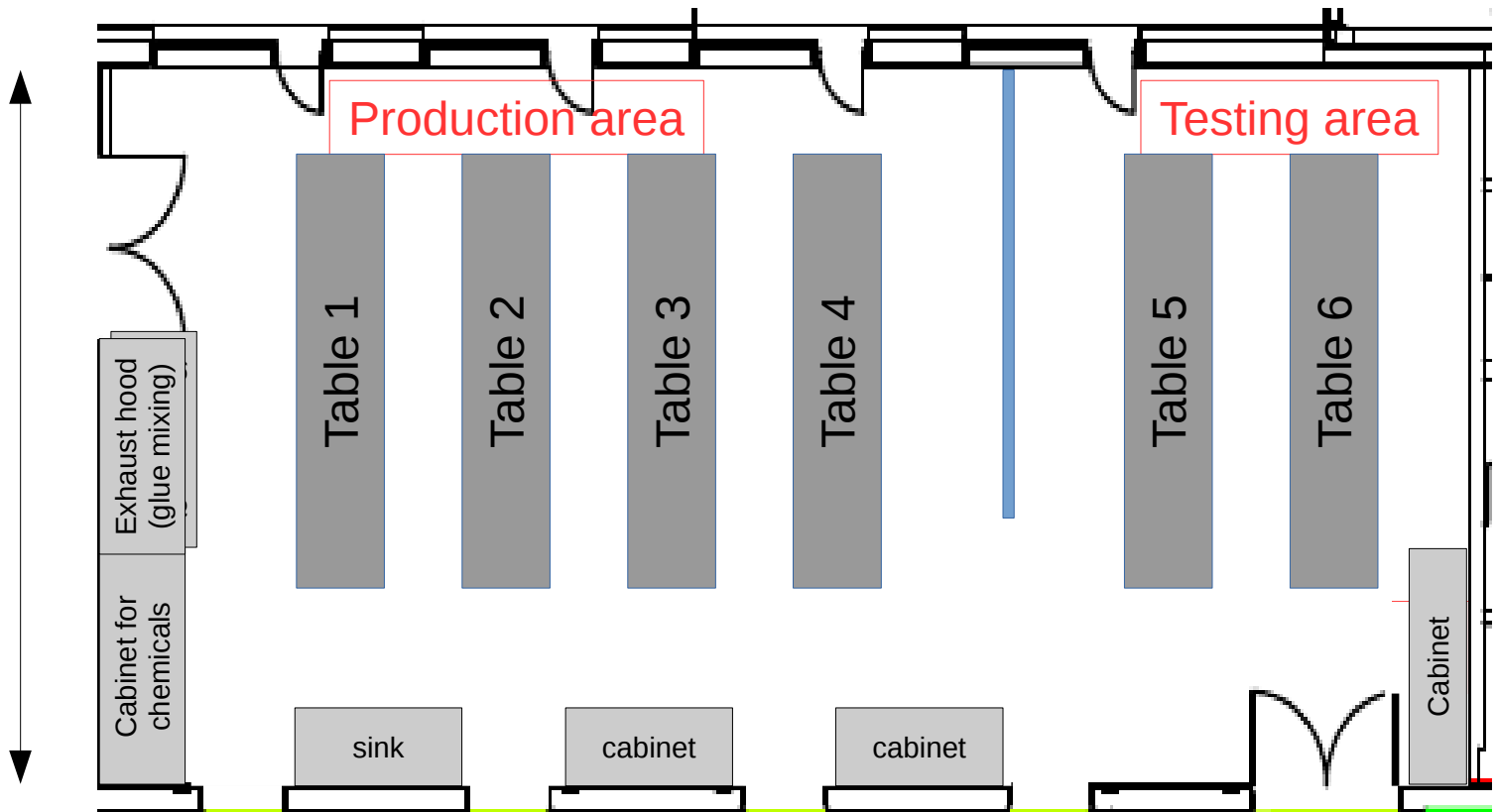
Work load: to be defined

Estimated time: to be defined

Curing time: ???

Module assembly site:

Remark: assuming Großraumlabor at Heidelberg university



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|------------|---|
| Table 1: | Gluing end-pieces |
| Table 2: | Gluing HC panel on flat fibre mat side |
| Table 3: | Gluing HC panel on fibre mat side with pins |
| Table 3: | Gluing sidewalls/wrapping module |
| Table 5&6: | Tests (dark room???) |