



**architecture**  
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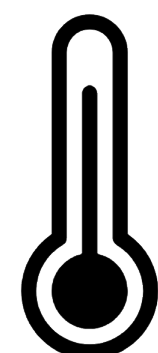
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## masonry blocks from selectively compacted vegetal concrete

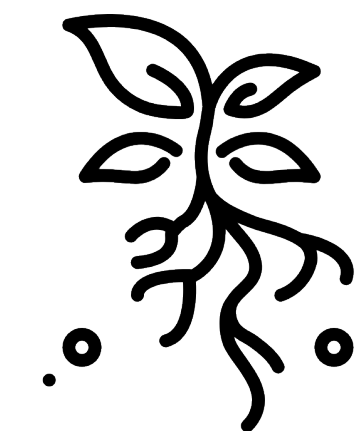
expected specifications



carbon-negative



climate-regulating

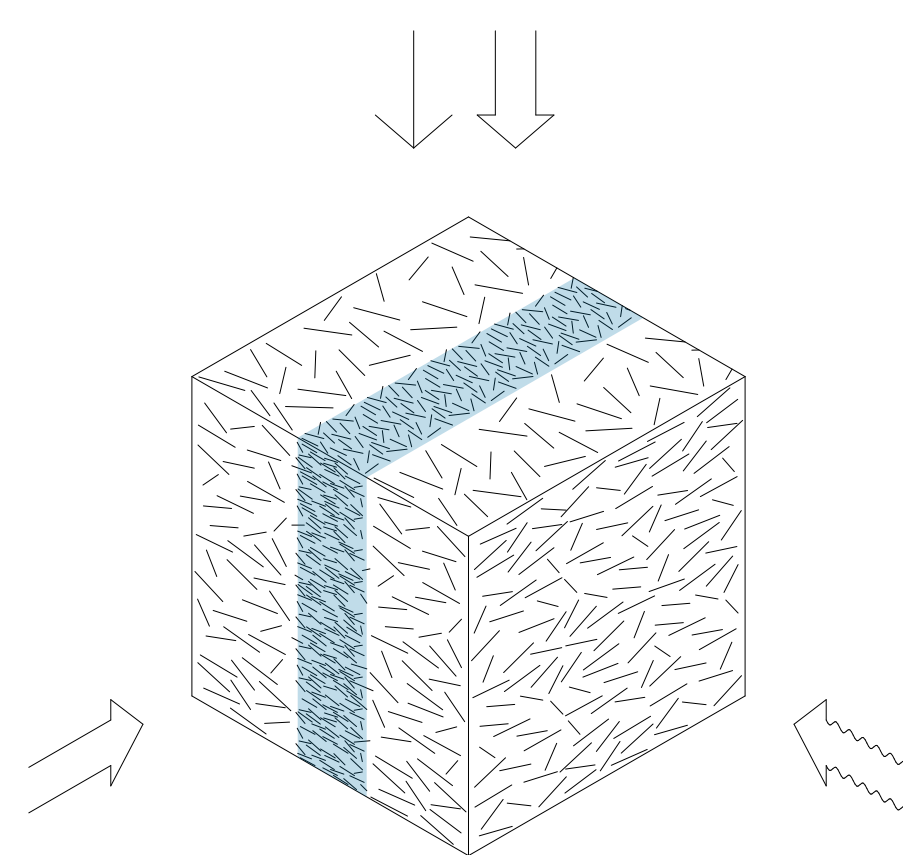


soil-amending



load-bearing

milestones of the project "Einfach Mauern mit Hanfkalk"

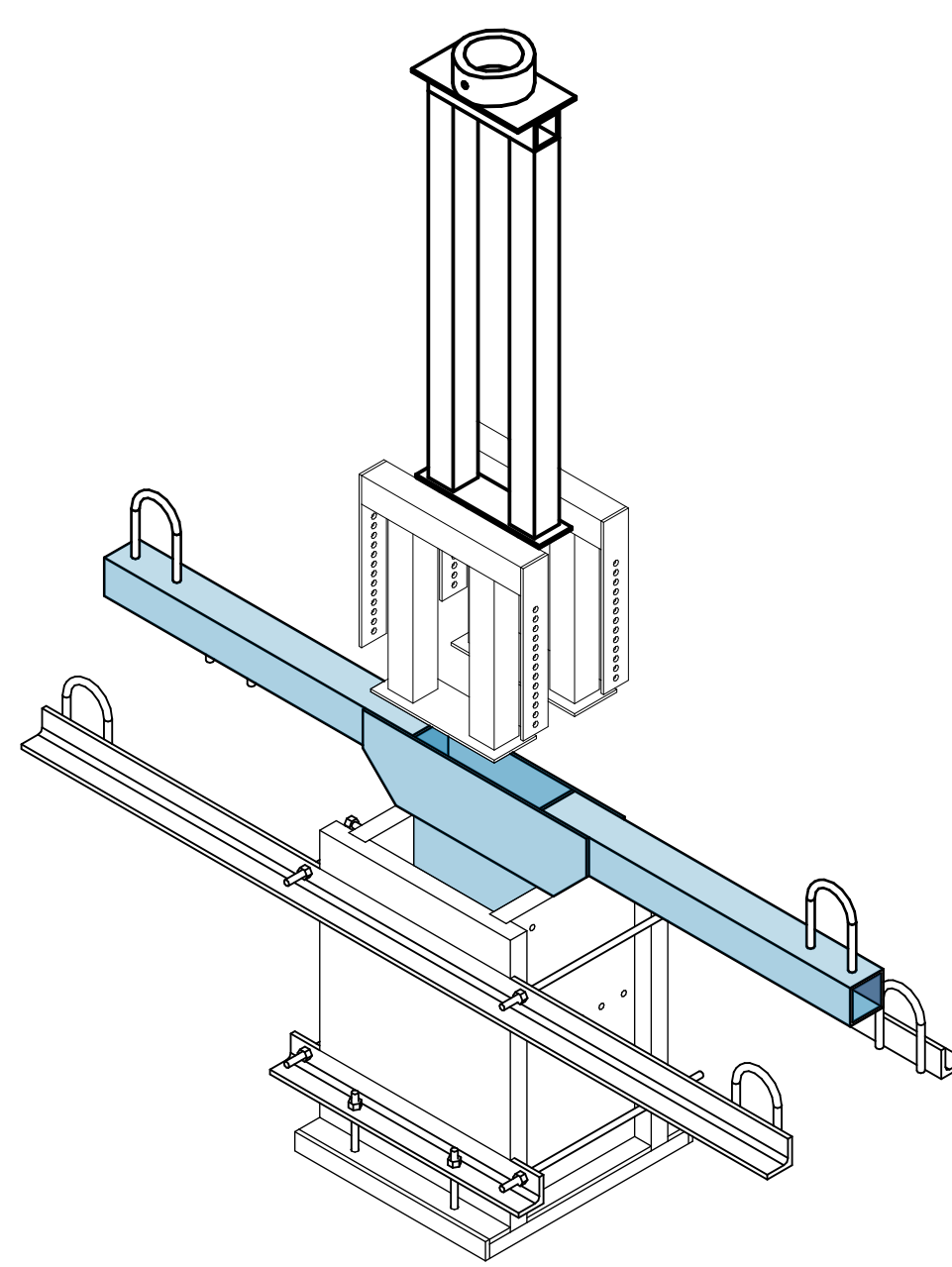


### milestone 1 specimen

goal for May 2025

light zones:  $\lambda < 0.1 \text{ W/mK}$   
dense zones: compressive strength  $> 8 \text{ N/mm}^2$   
global warming potential  $< 0 \text{ kg CO}_2$

good compound of the different zones

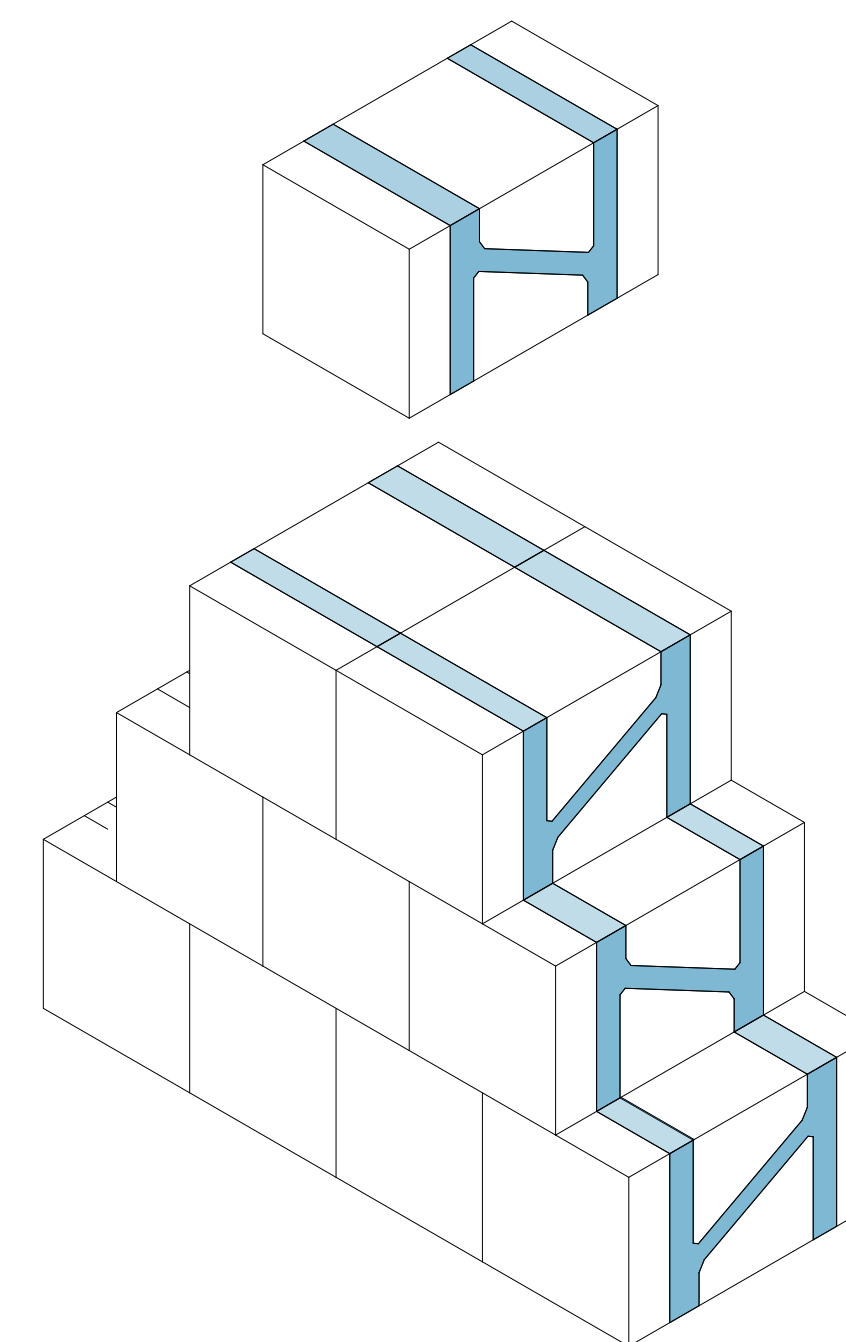


### milestone 2 press

goal for September 2025

pressing device to manufacture full-sized masonry blocks at a laboratory scale ready for use and checked for safety

feasible fabrication process

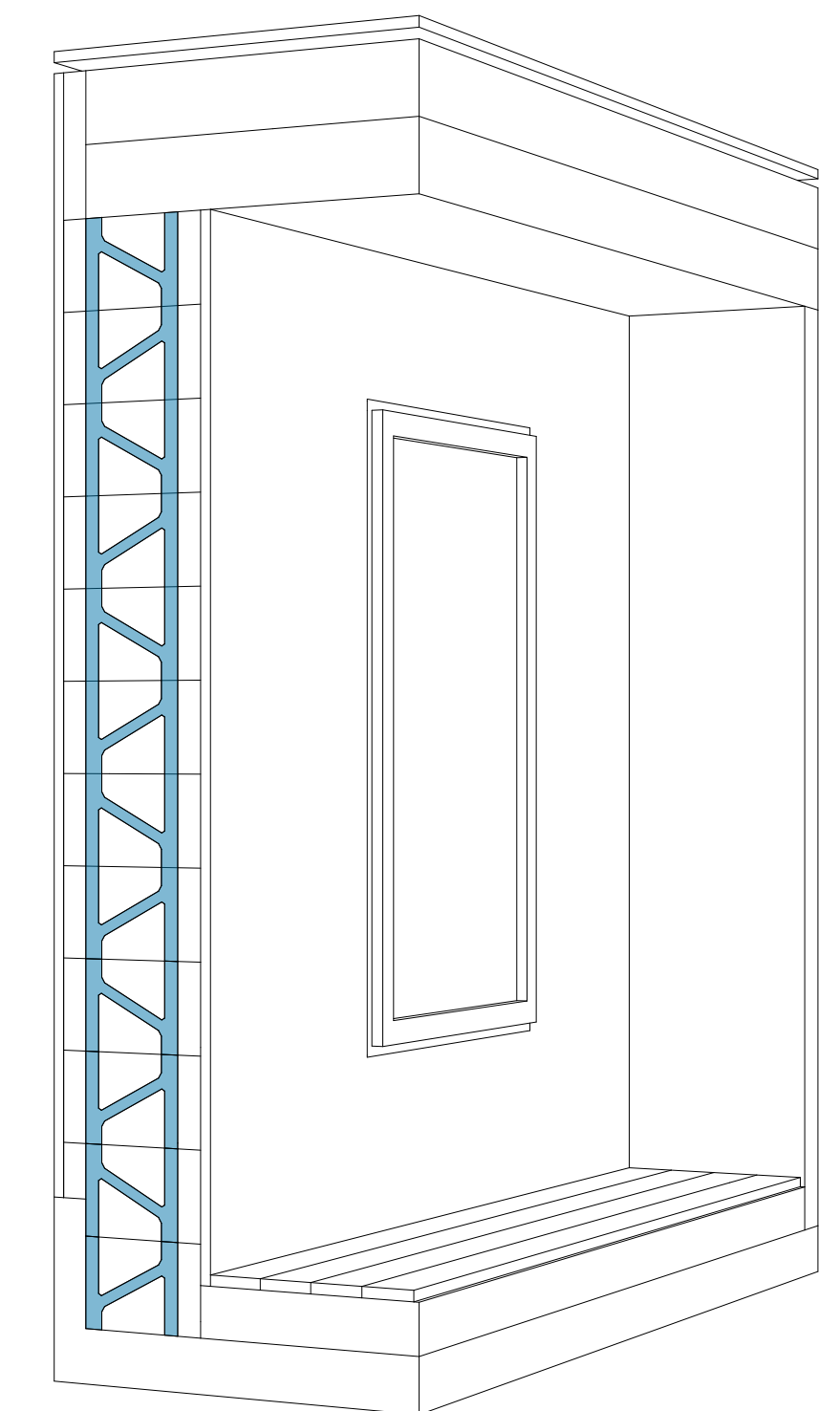


### milestone 3 masonry blocks

goal for February 2026

whole blocks: compressive strength  $> 2 \text{ N/mm}^2$   
sufficient stiffness  
global warming potential  $< 0 \text{ kg CO}_2$

constant quality and dimensional accuracy



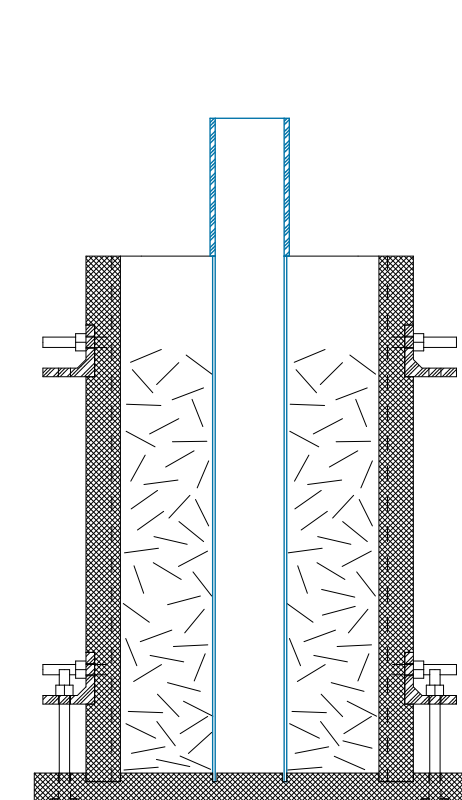
### milestone 4 demonstration walls

goal for September 2026

U-Value  $< 0.28 \text{ W/m}^2\text{K}$   
compatible with conventional tools and building products

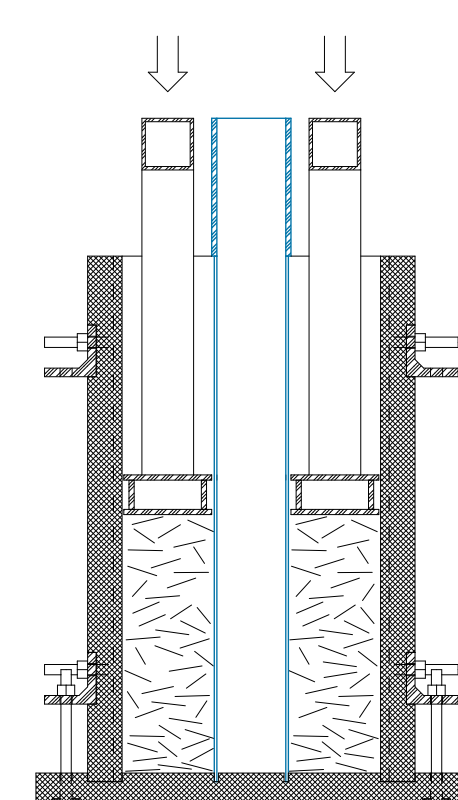
proven ease of workability

experimental variations



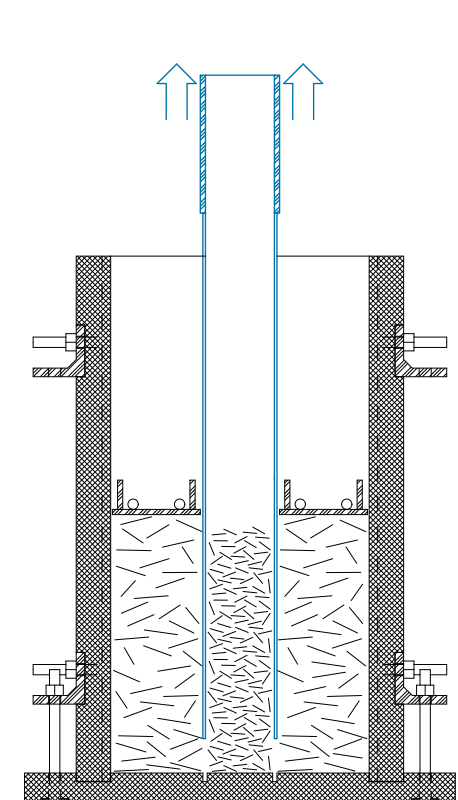
### light zones

conventional formulations of hempcrete / variations with reduced binder content and stronger compaction



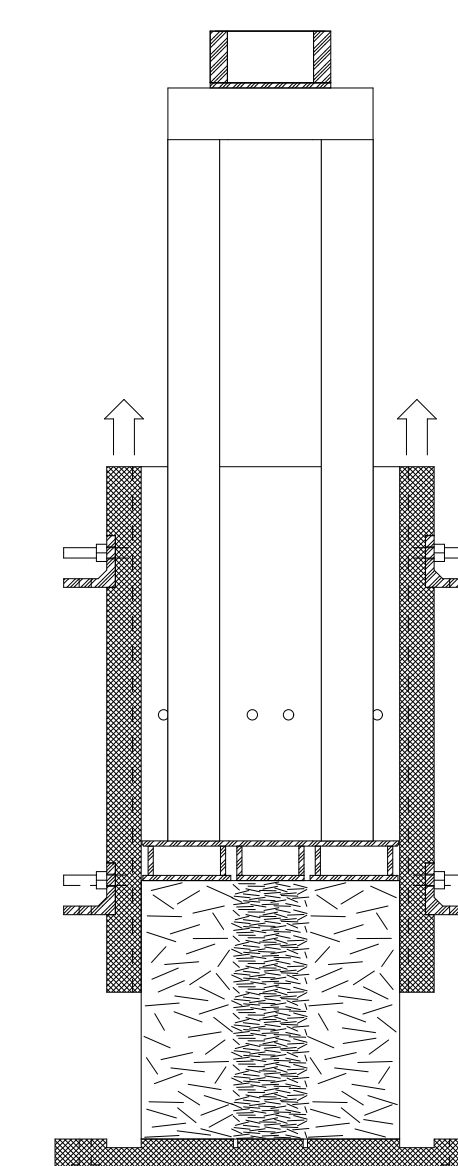
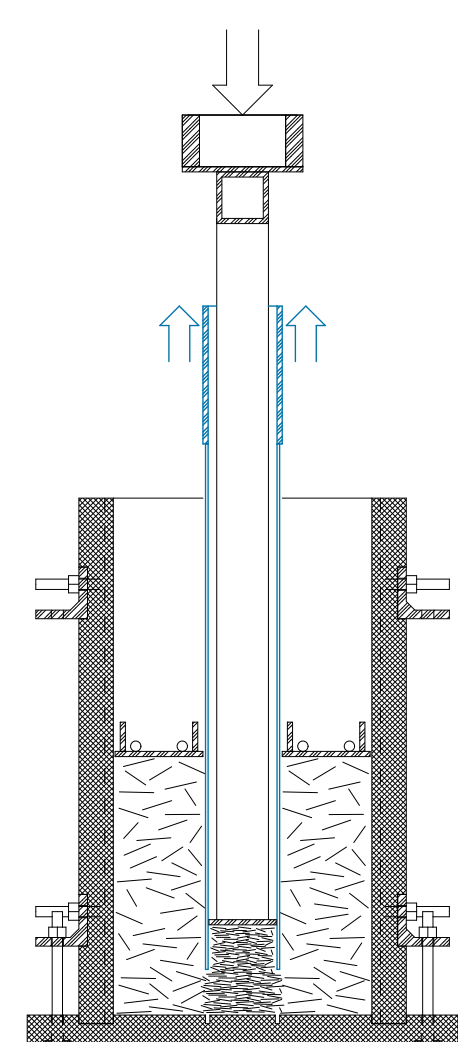
### dense zones

formulations with different particle sizes of miscanthus, mineral binders, additives and fillers such as limestone dust, ash and biochar / differently coordinated compaction and removal of the partitioning



### locking mechanism

lockable lids or weight to prevent elastic springback / overcompaction and calculated springback



### demoulding & curing

time before the release of pressure / climate (temperature, humidity, CO2 concentration) / duration of the curing