



# PHASER

3D **P**RINTED **H**UMANITARIAN **A**ID **S**ETTLEMENTS FOR **E**MERGENCIES **R**ESPONSE

*Contexto de  
emergencias y refugios*



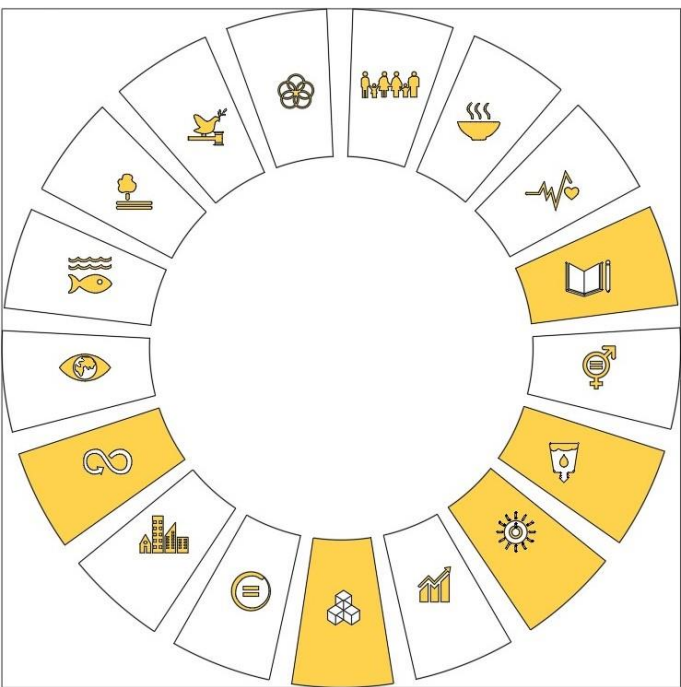
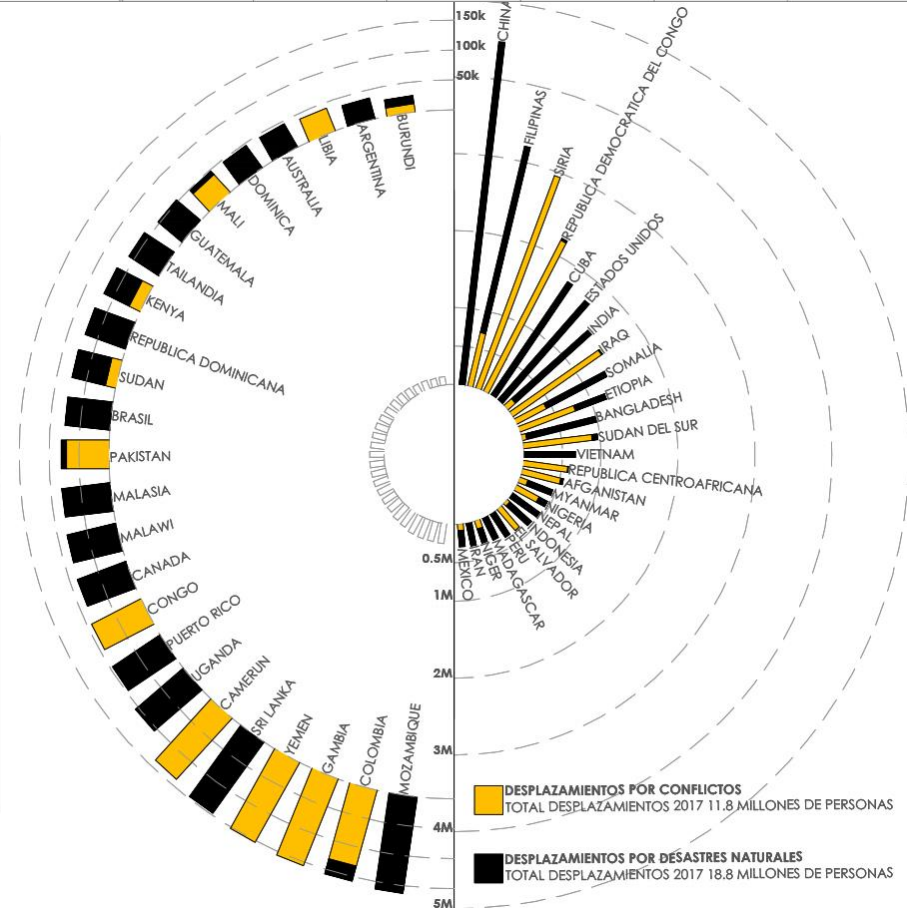
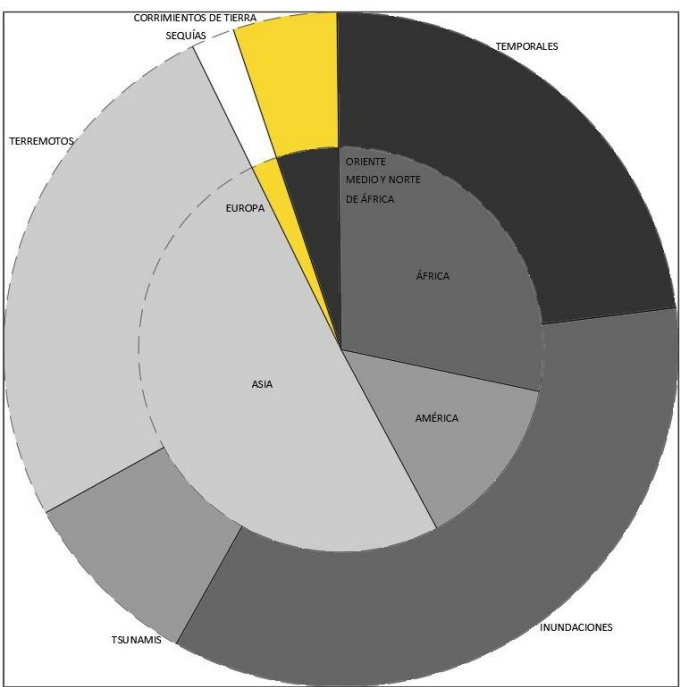
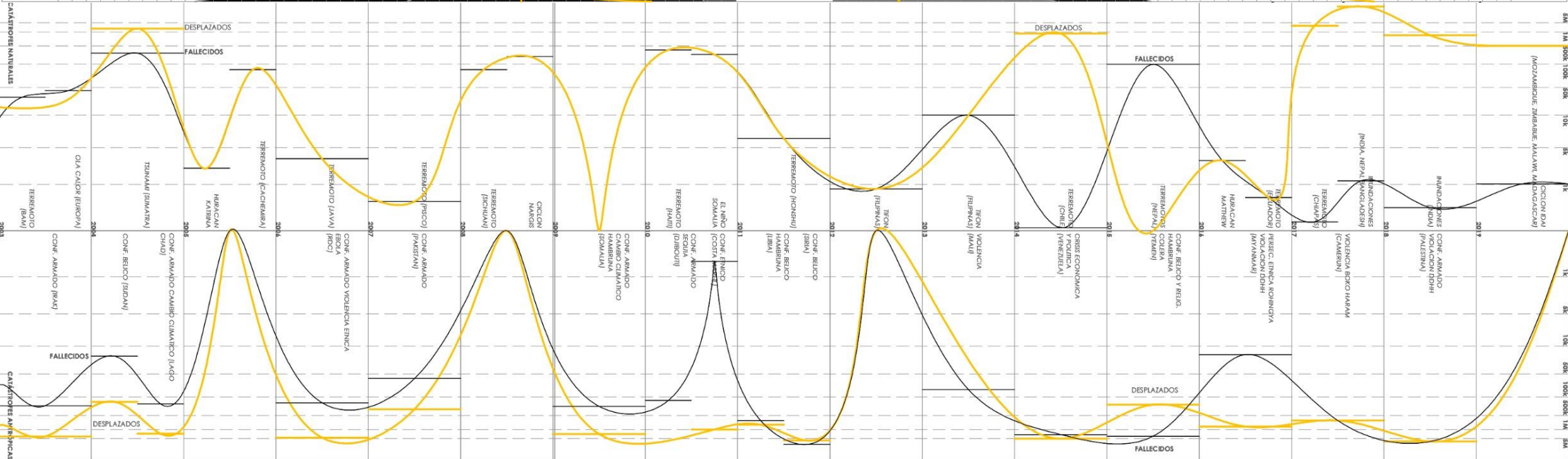
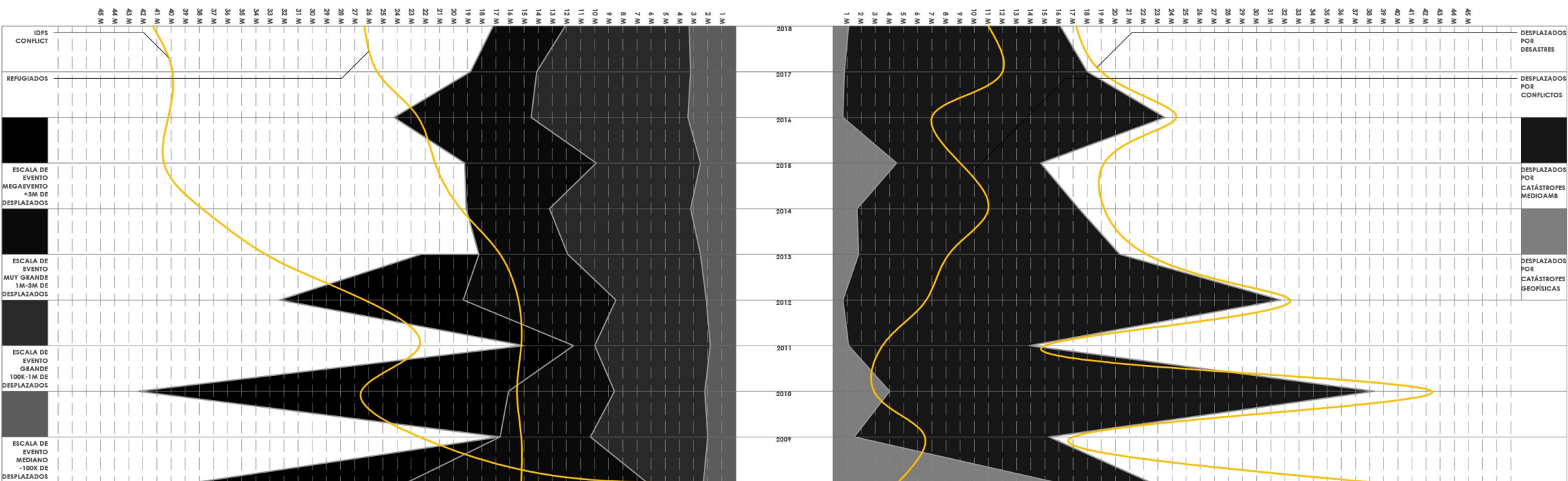
*Investigación*

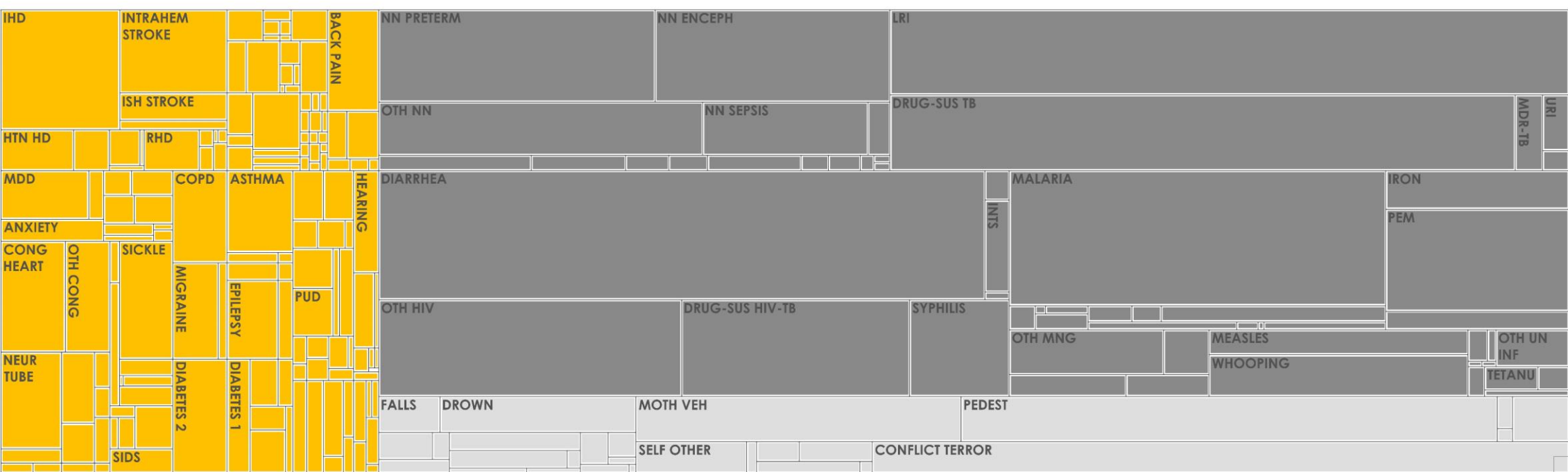
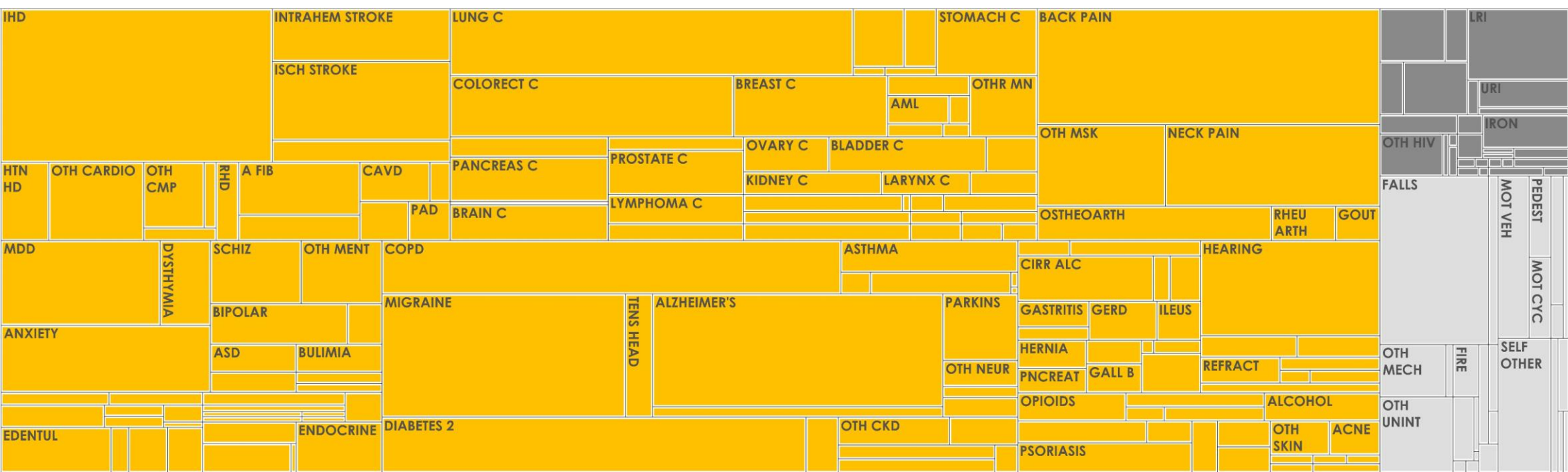


*Proyecto*











*Supervivencia*



*Contingencia*



*Resiliencia*







# ***PAUTAS PRINCIPALES***

**Ligero**

Unidades mínimas

Versátil

**No requiere de agua**

# ***PAUTAS TANGENCIALES***

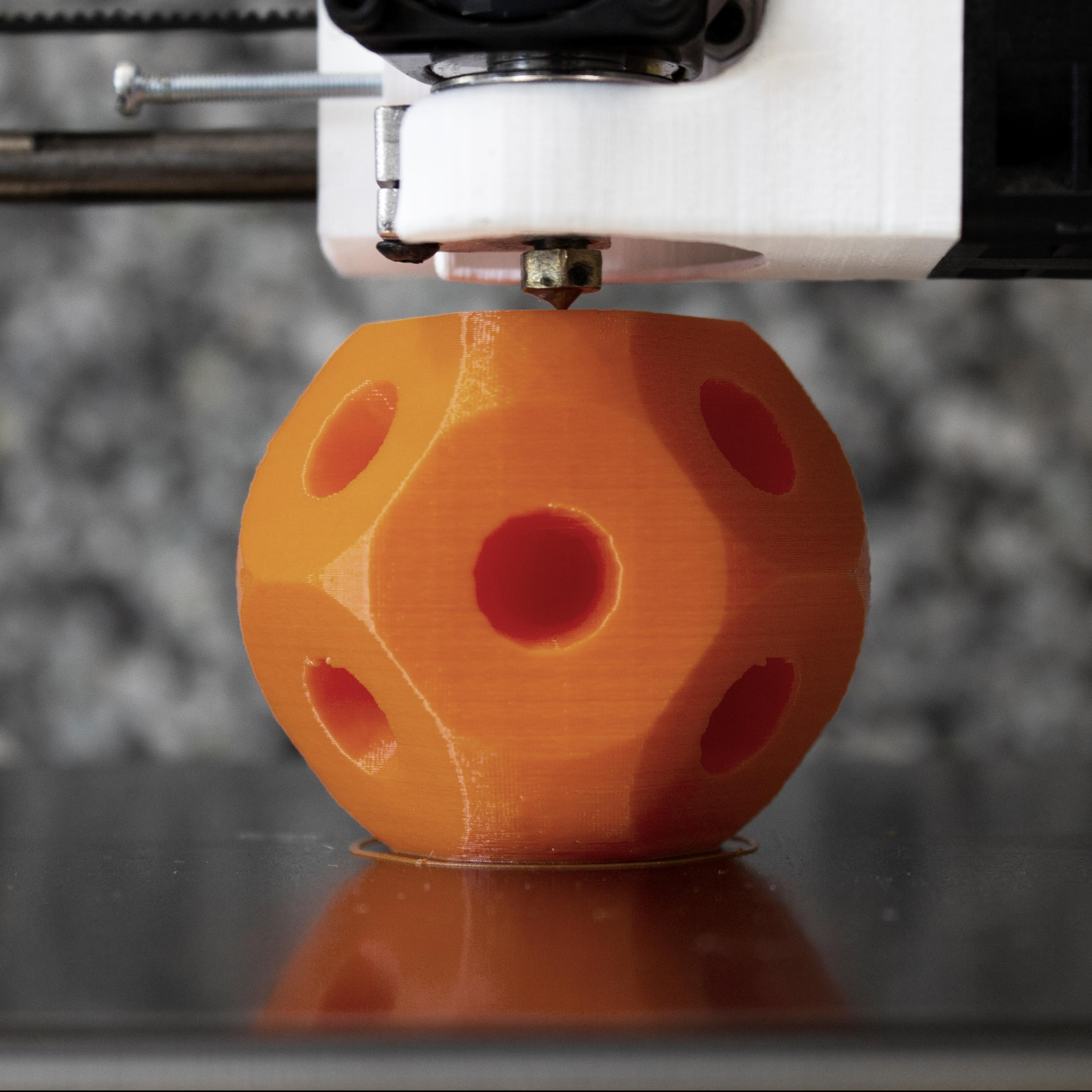
Autoportante

Huella ecológica

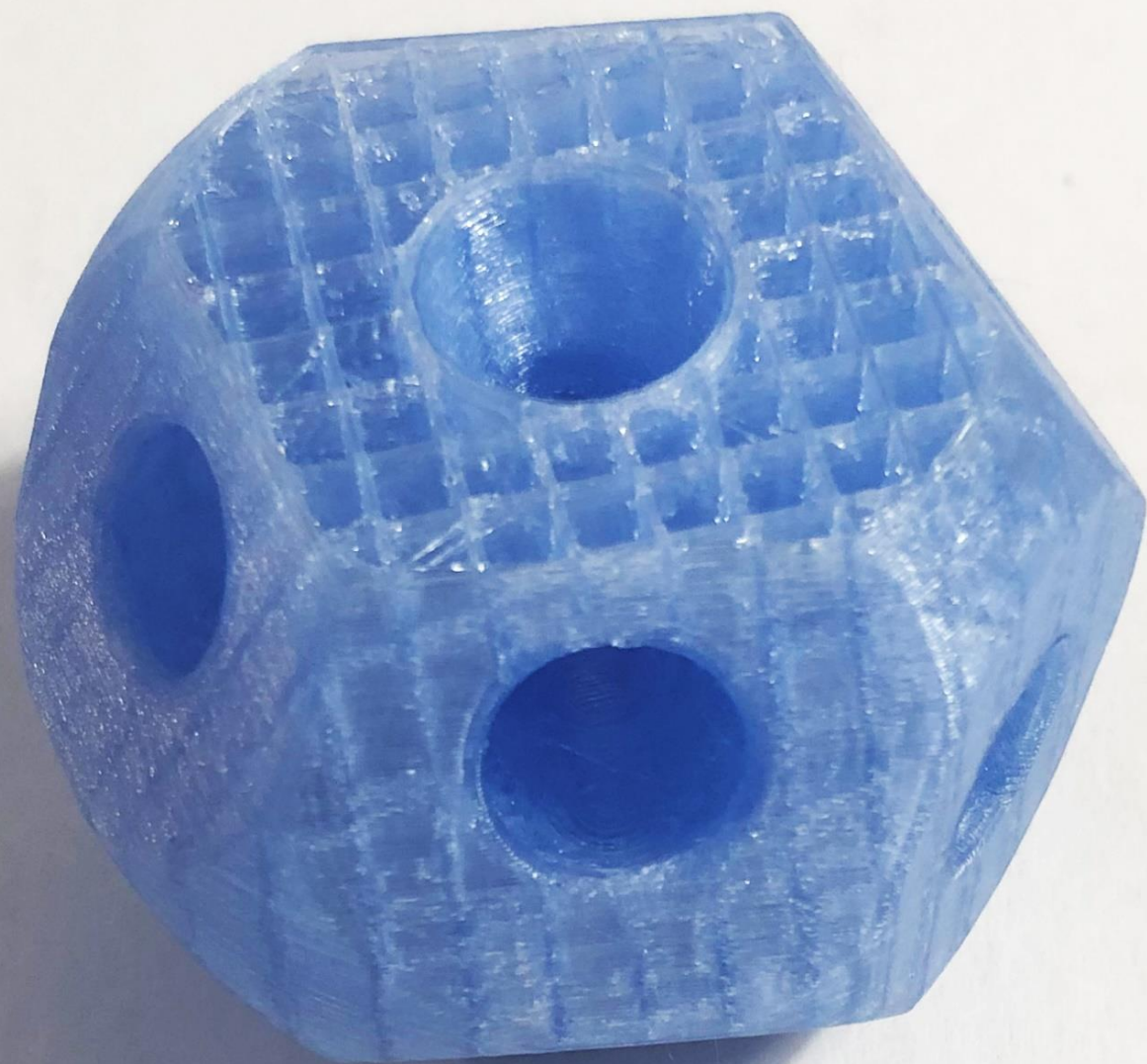
Reciclable

Lean Manufacturing

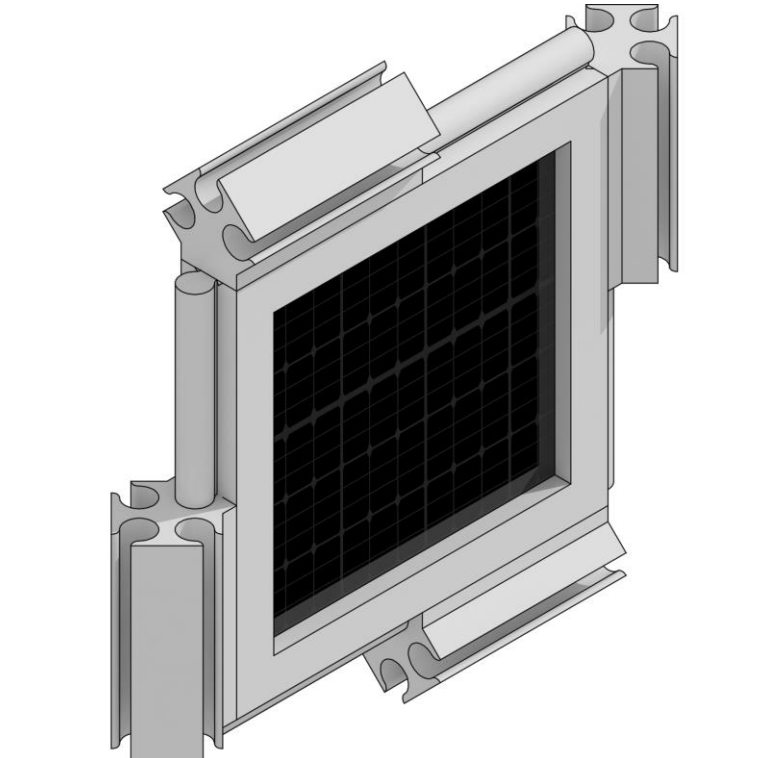
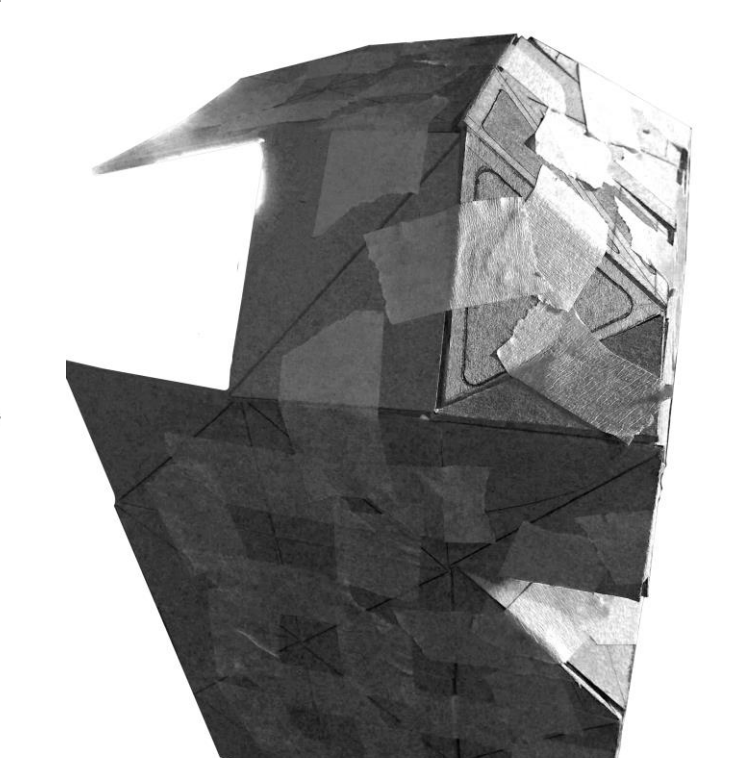
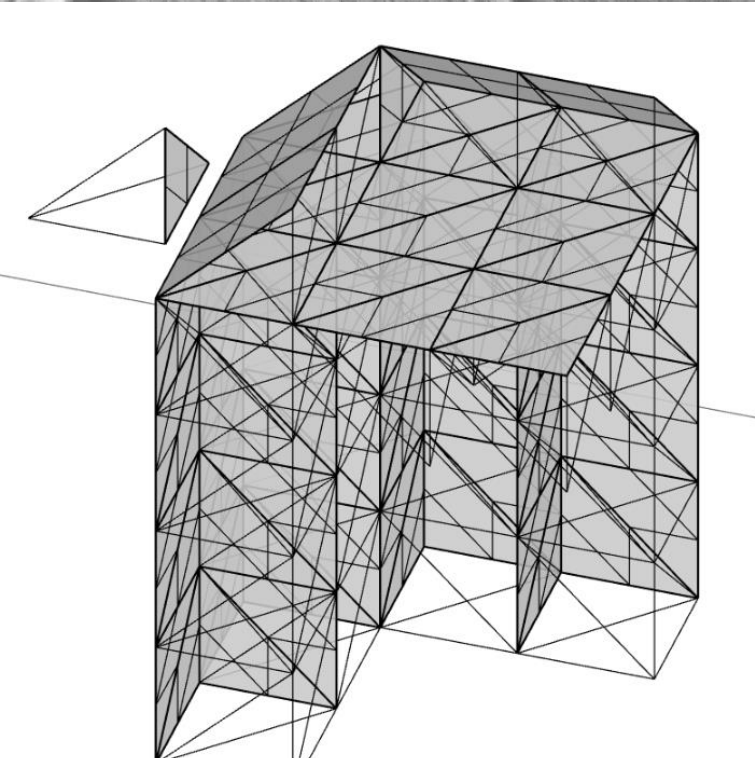
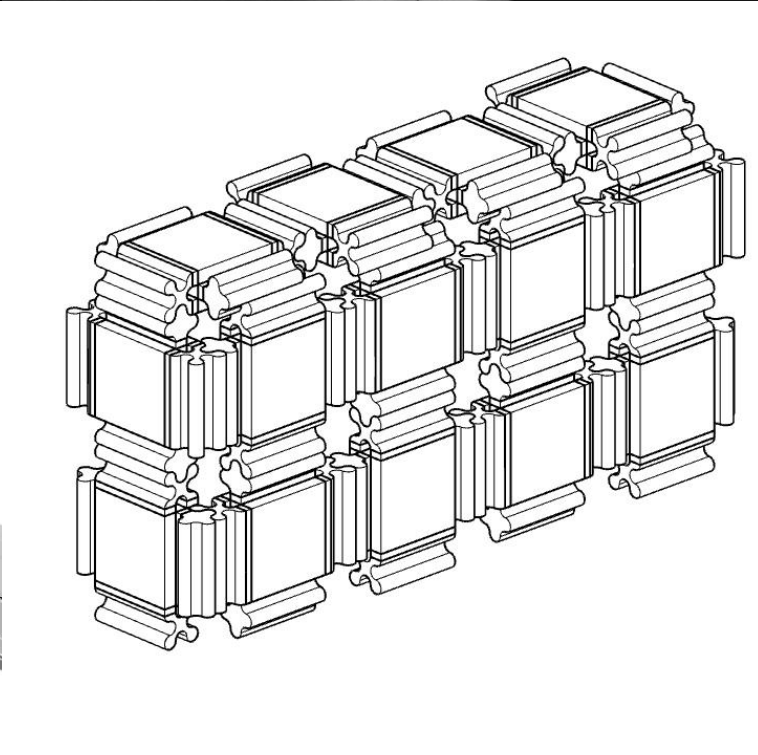
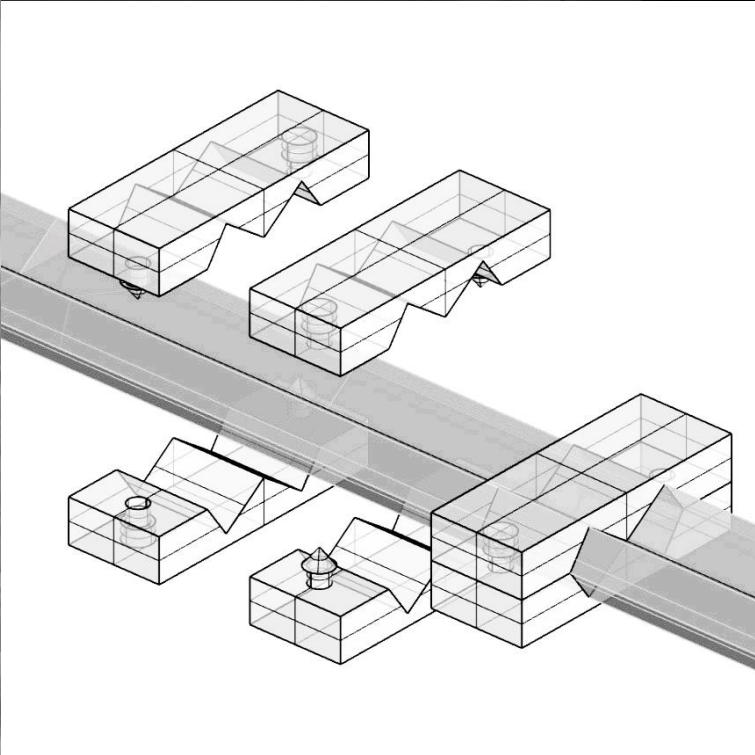
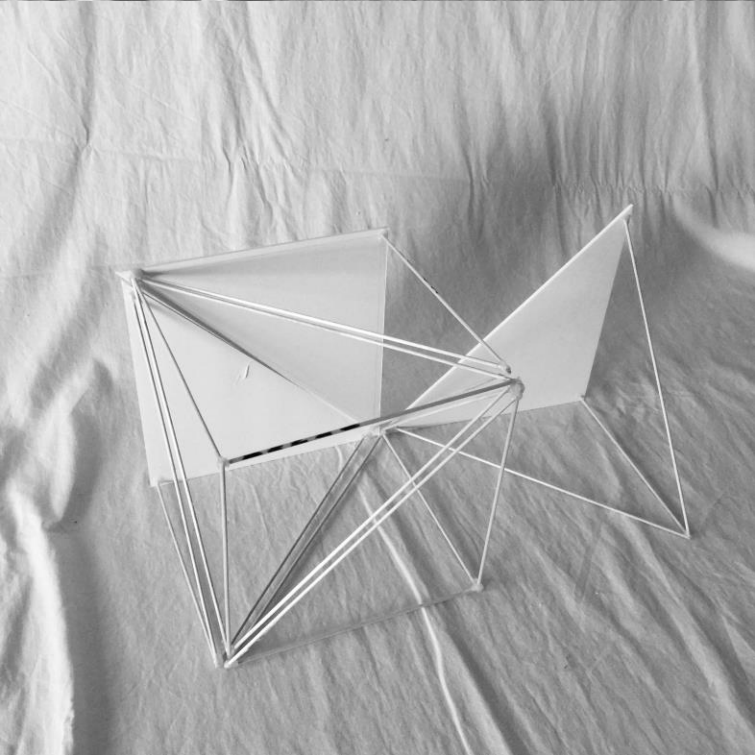
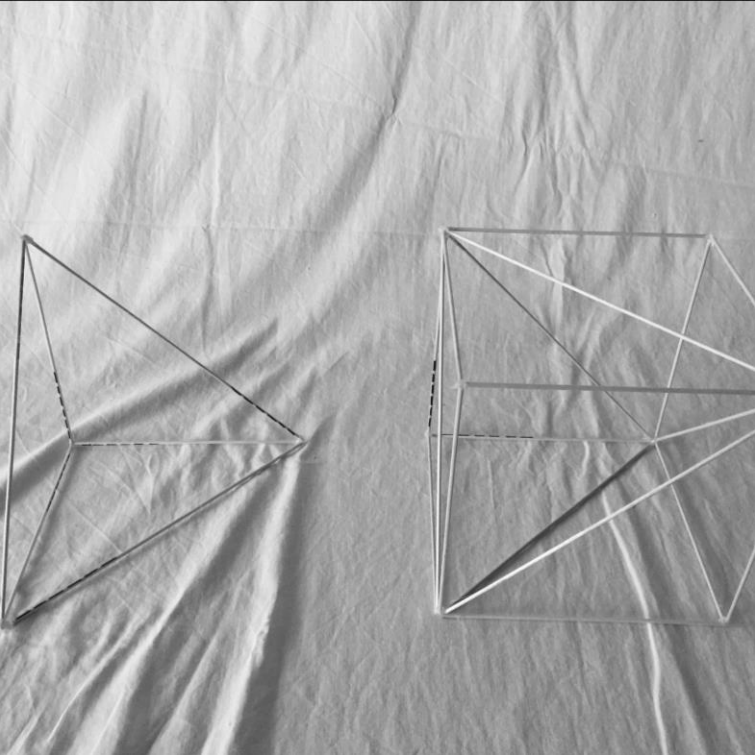




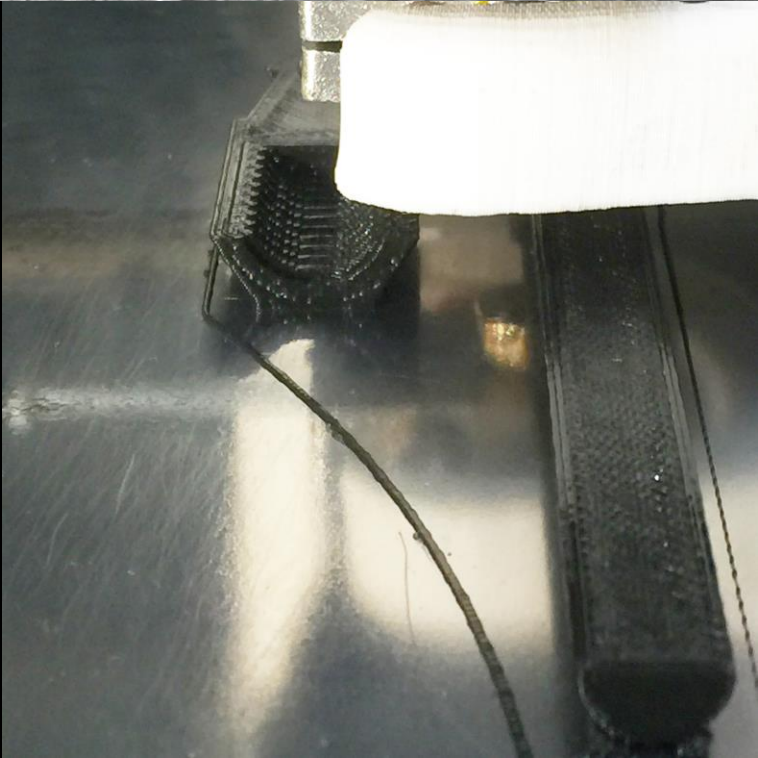
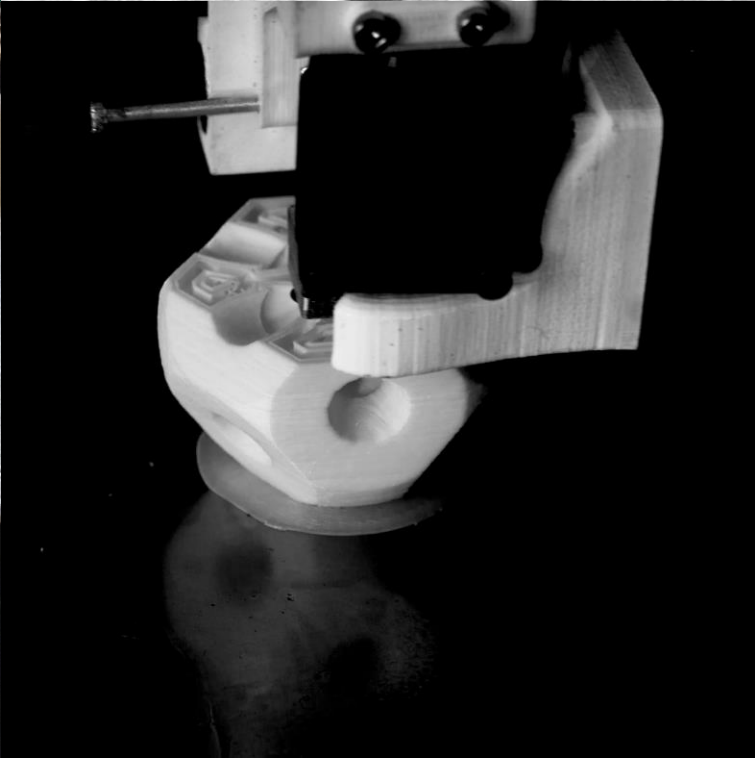
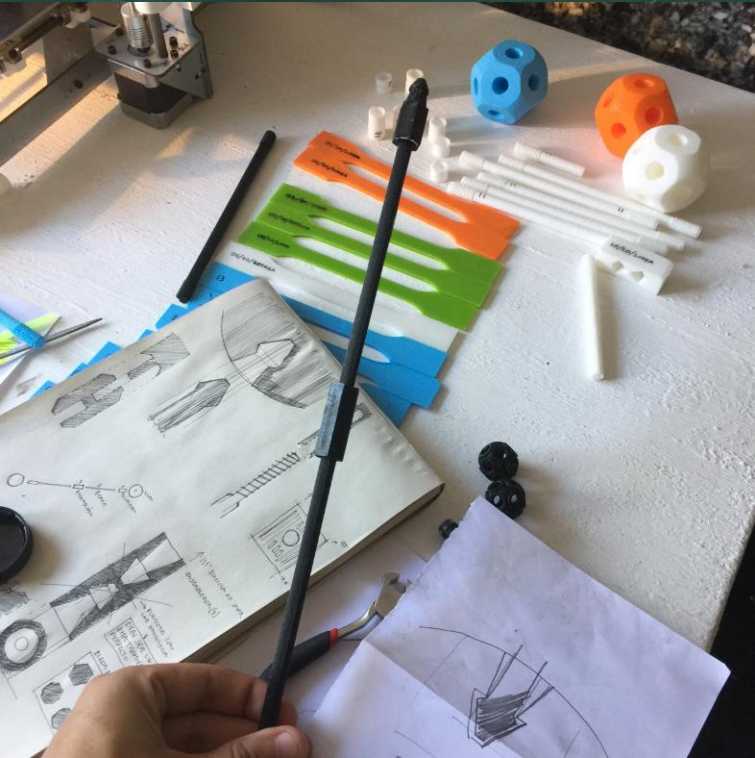
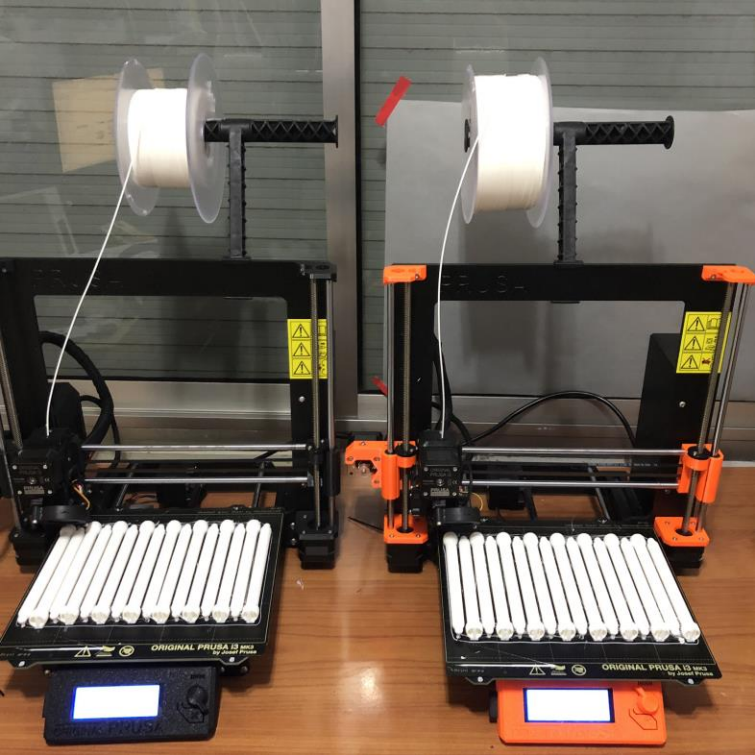




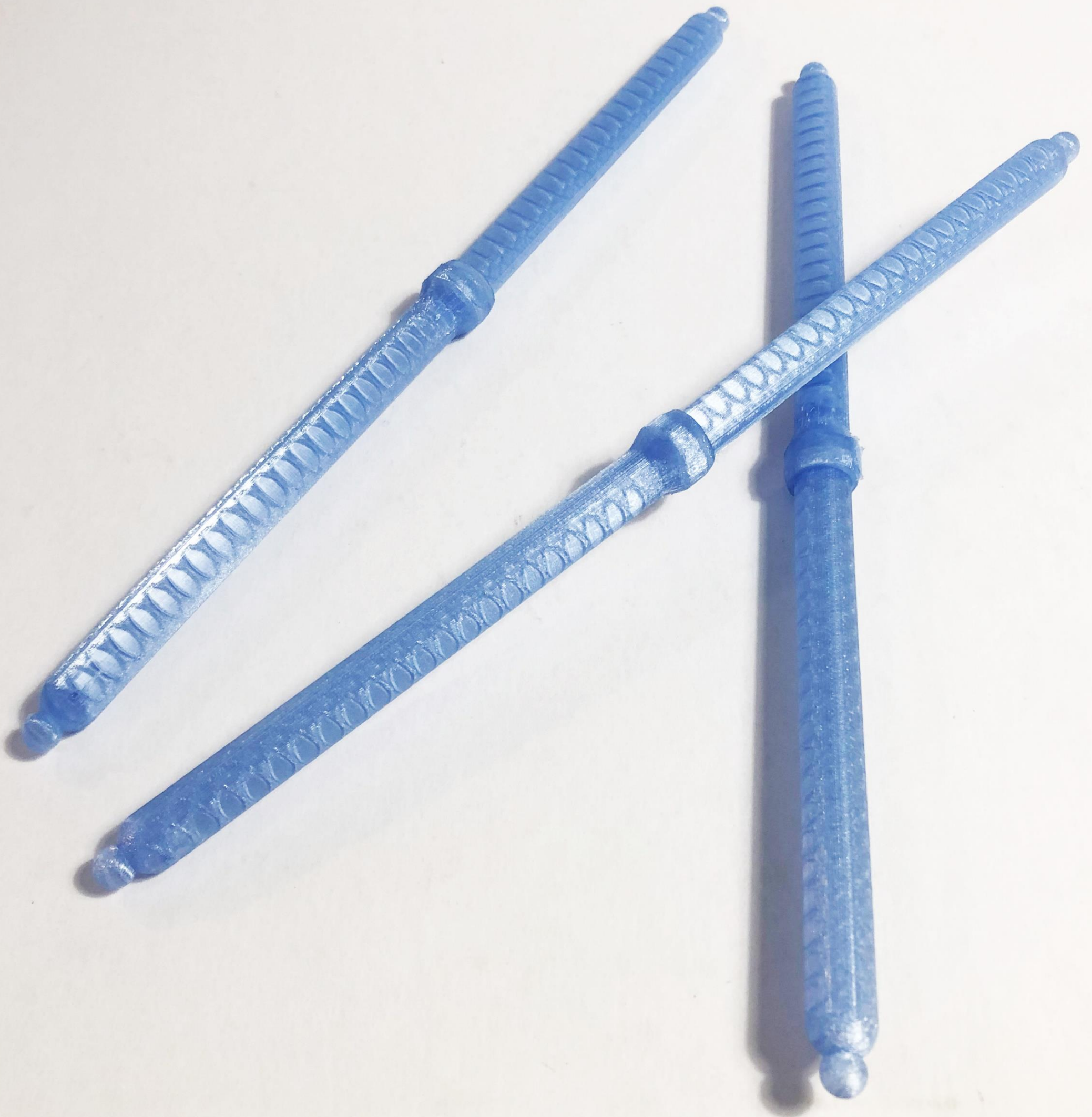


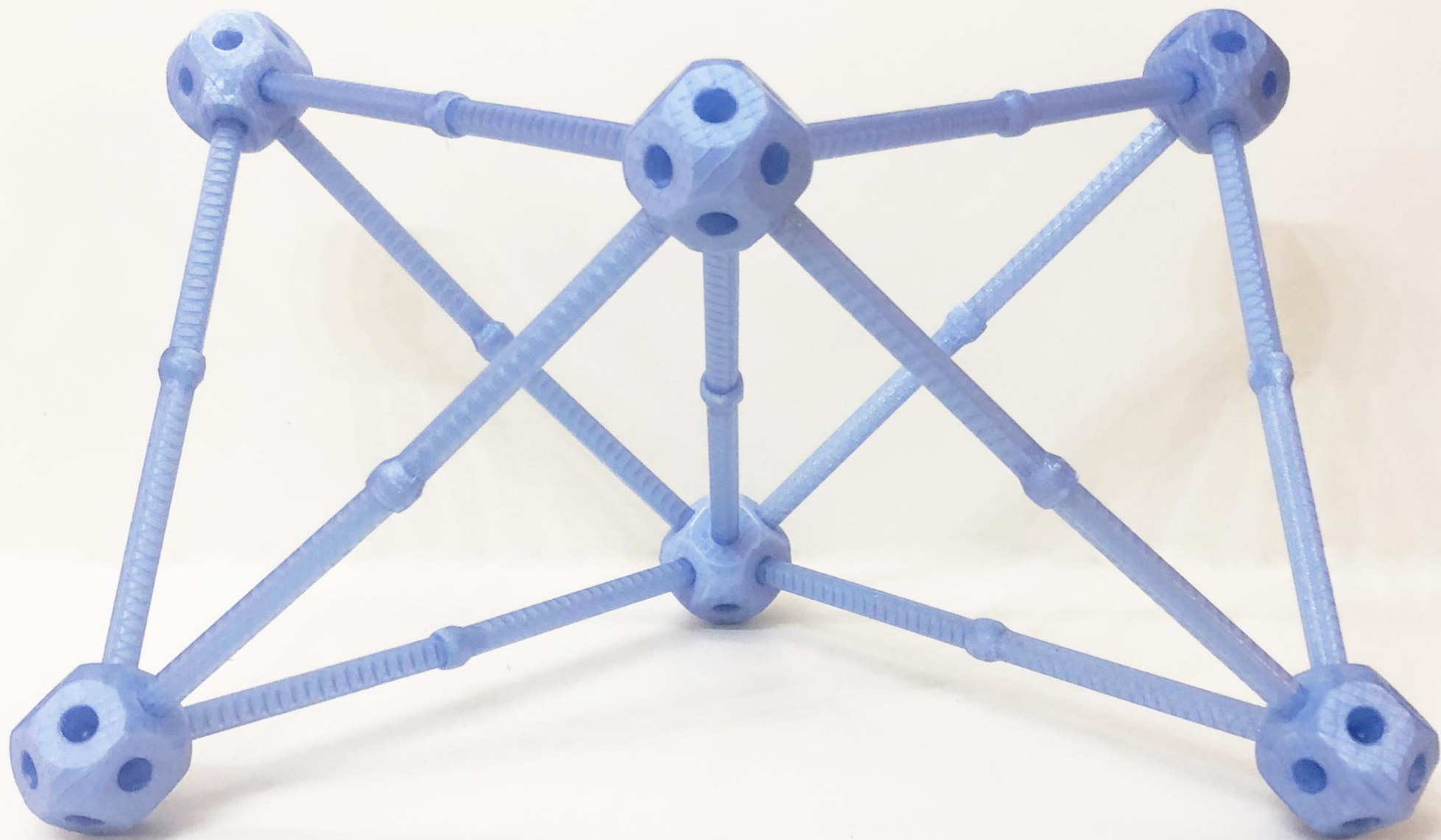




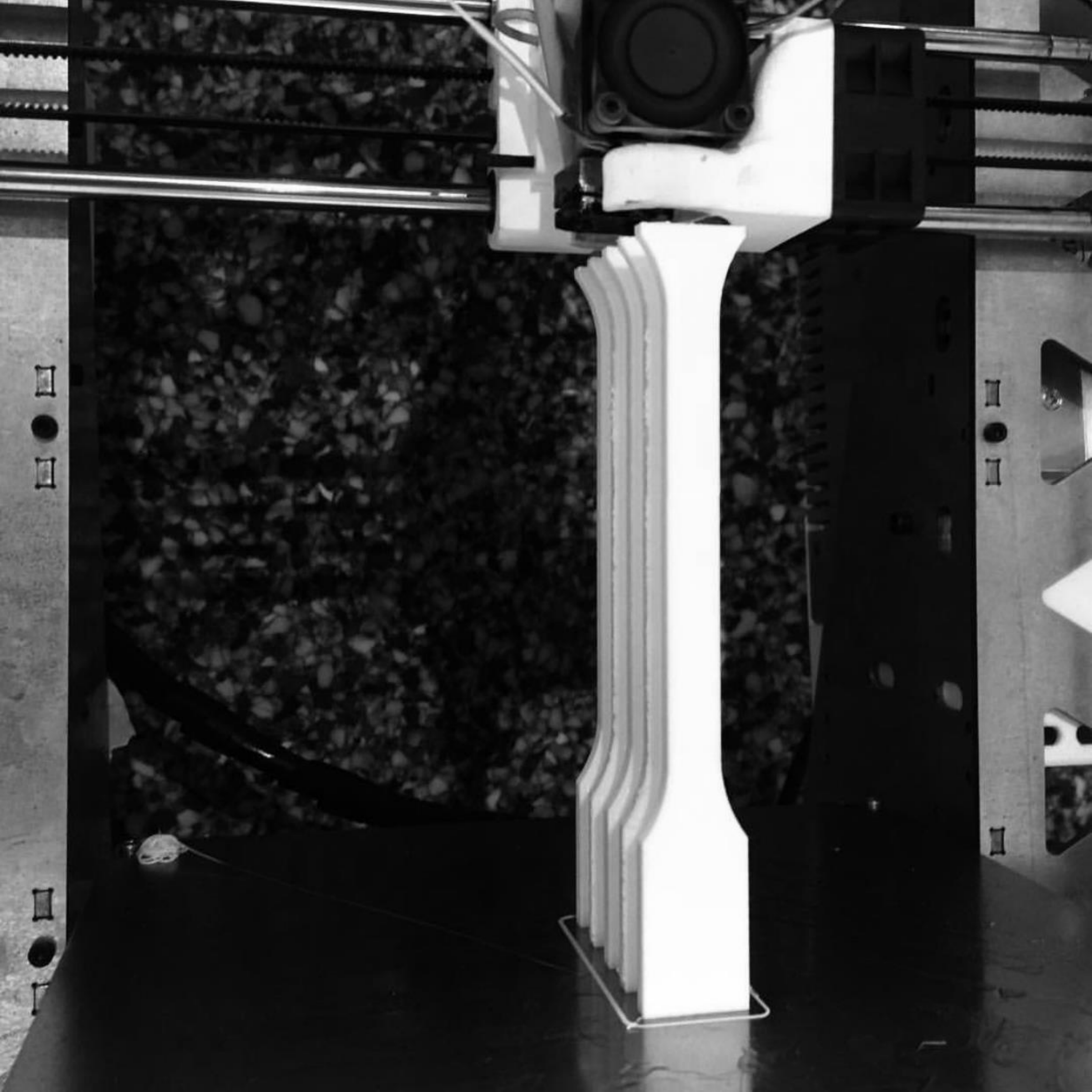










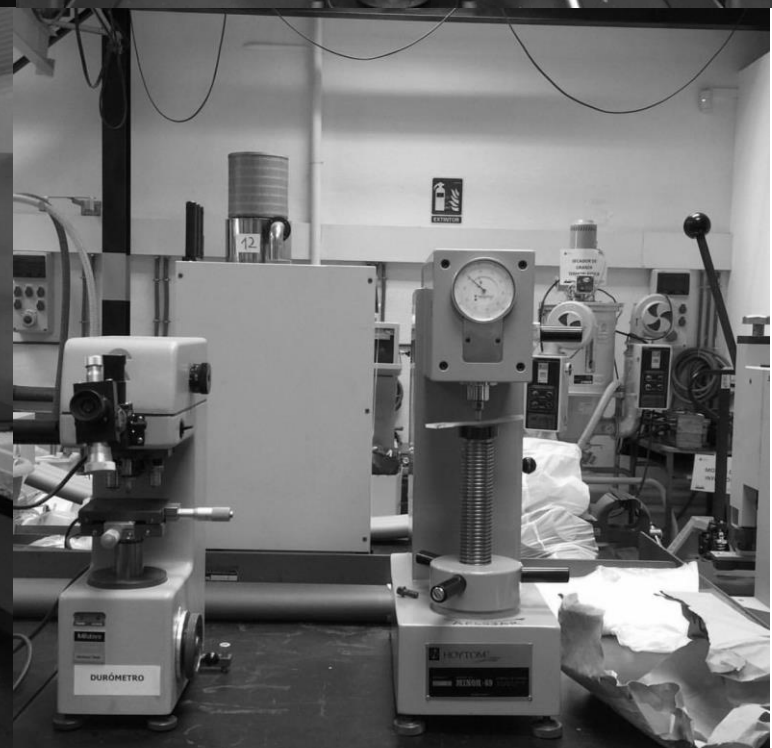
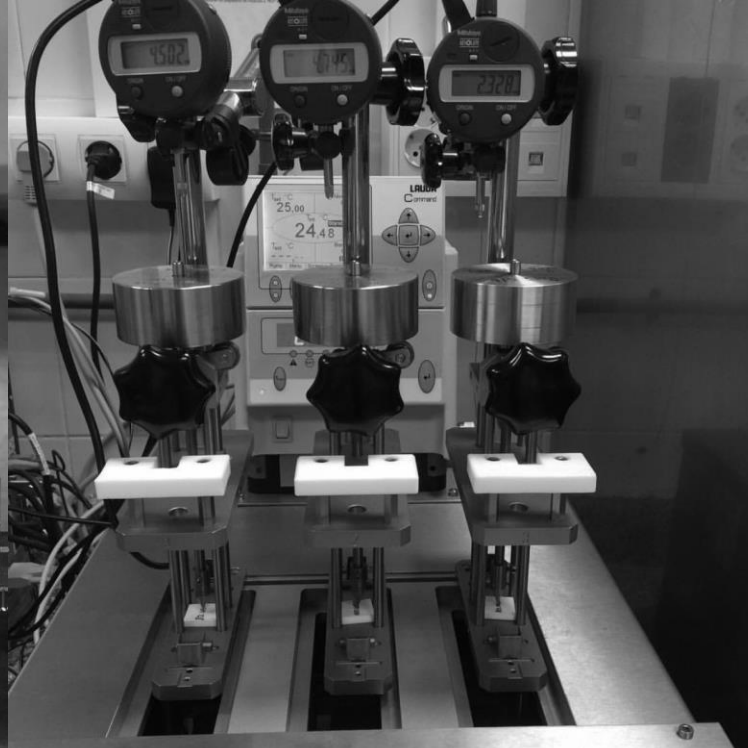




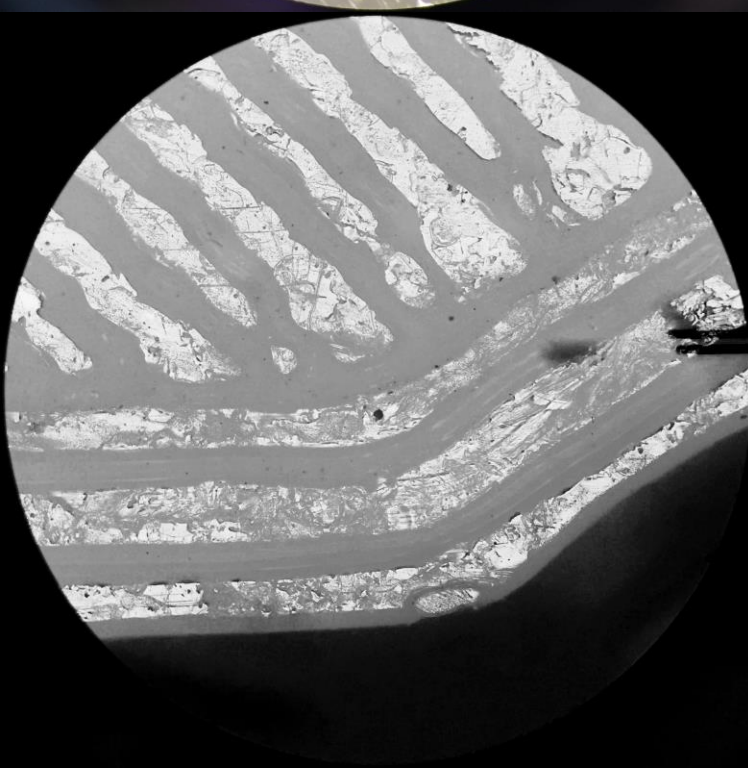
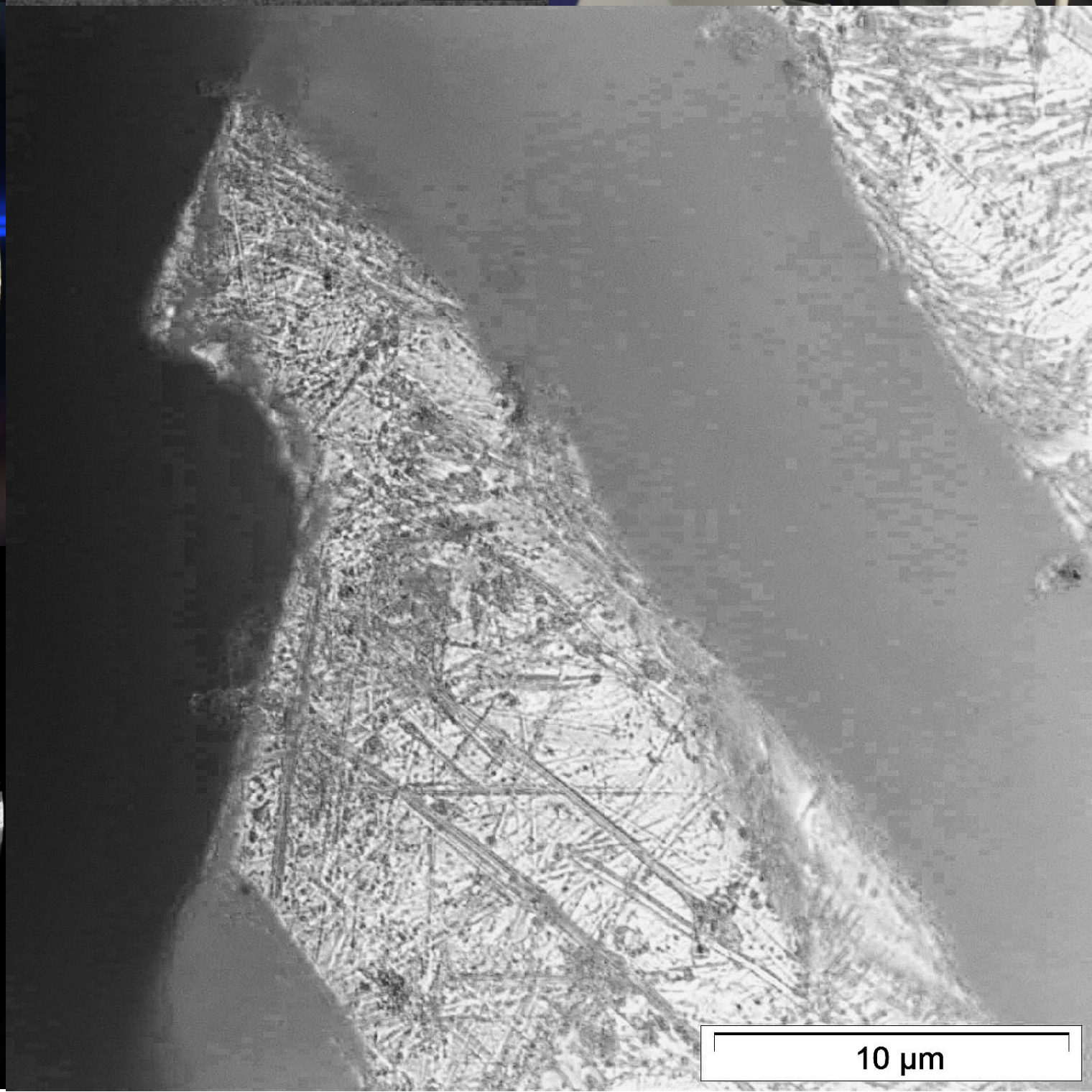
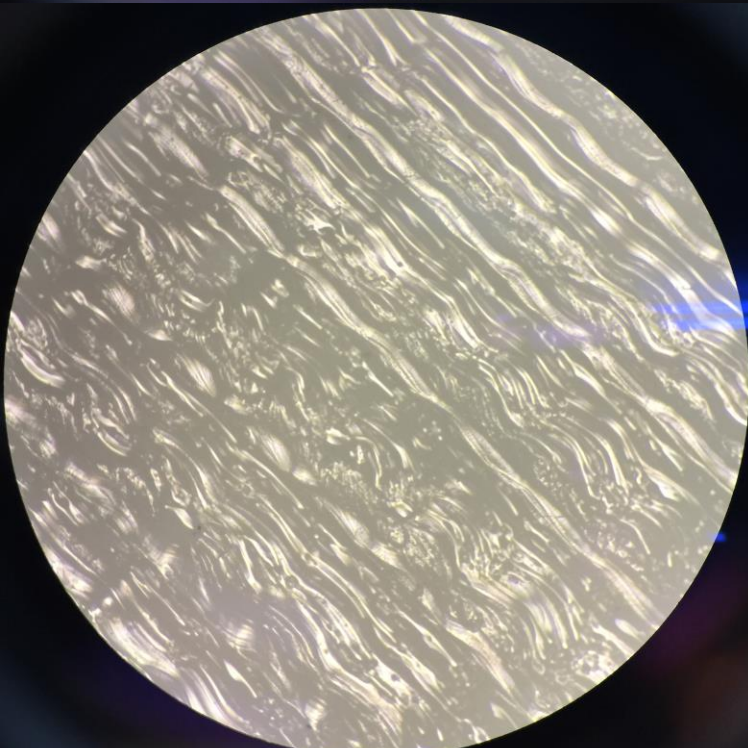
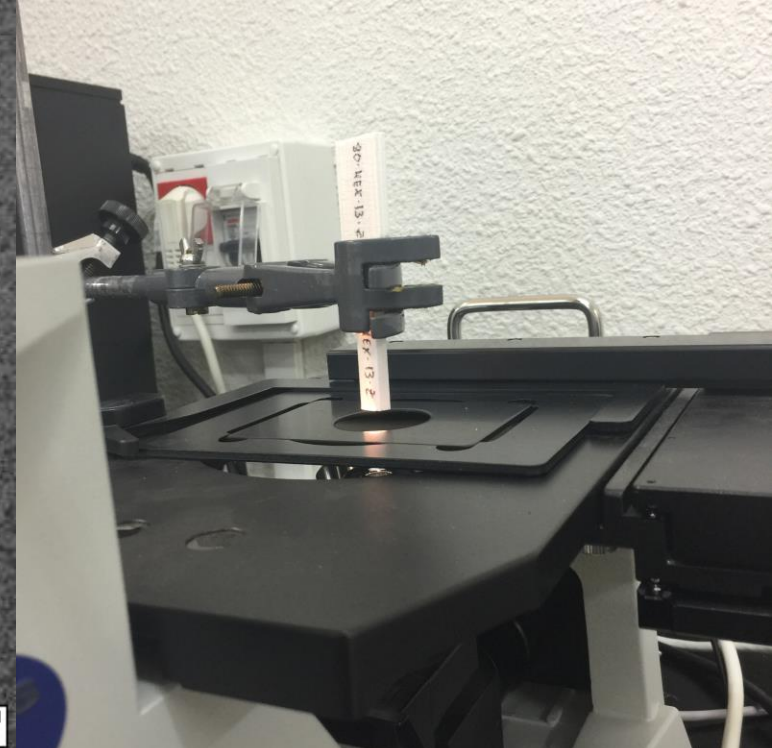
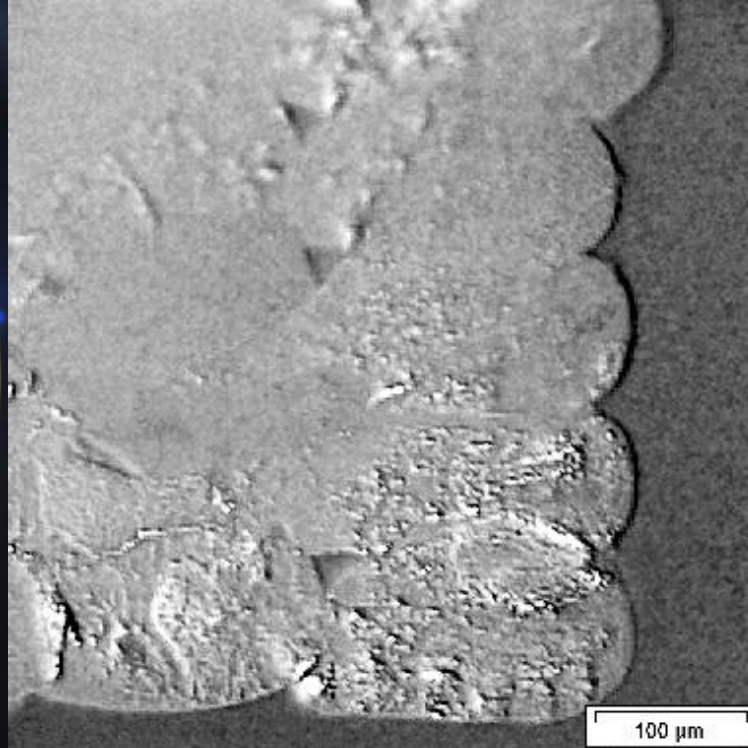


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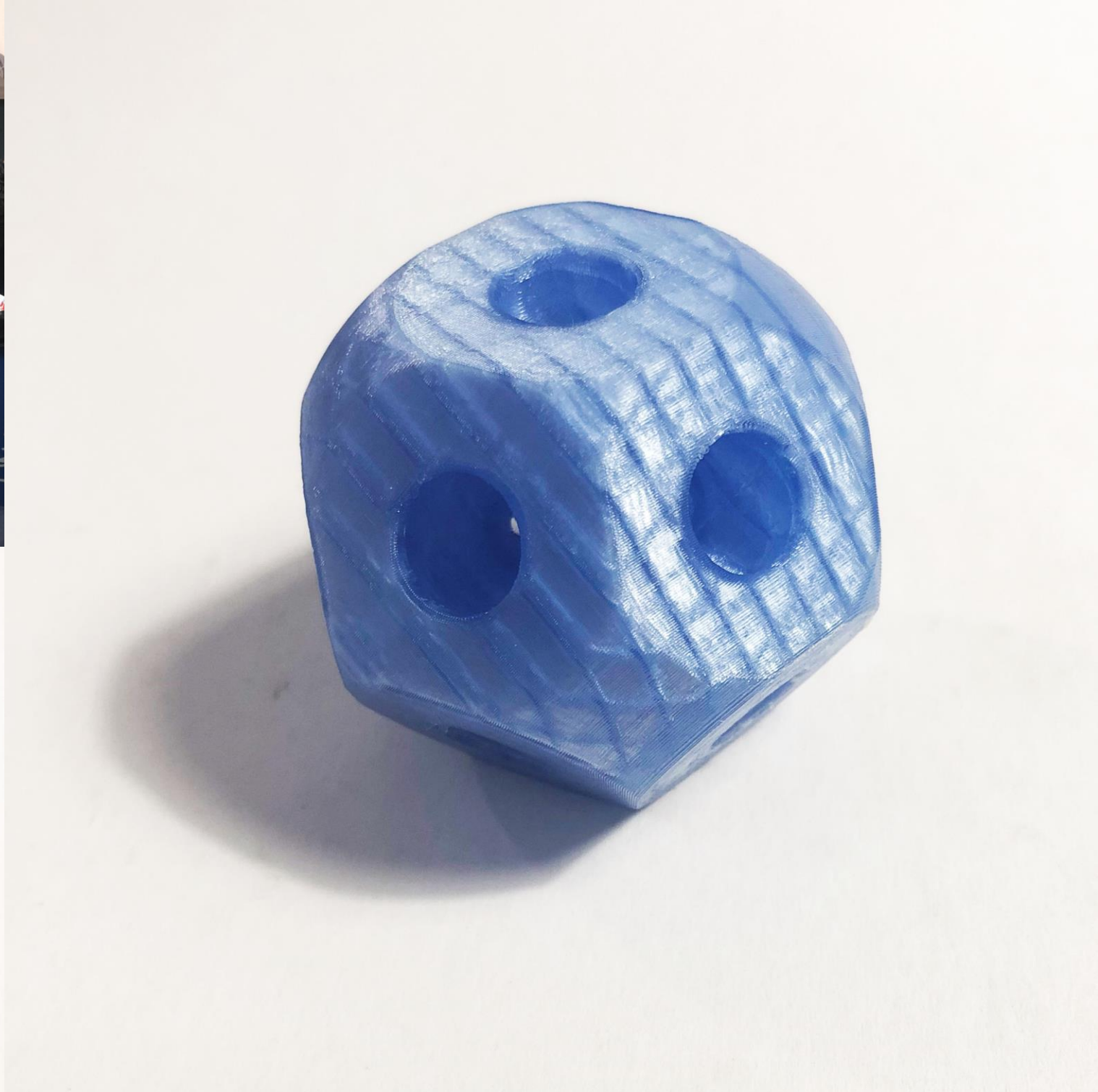
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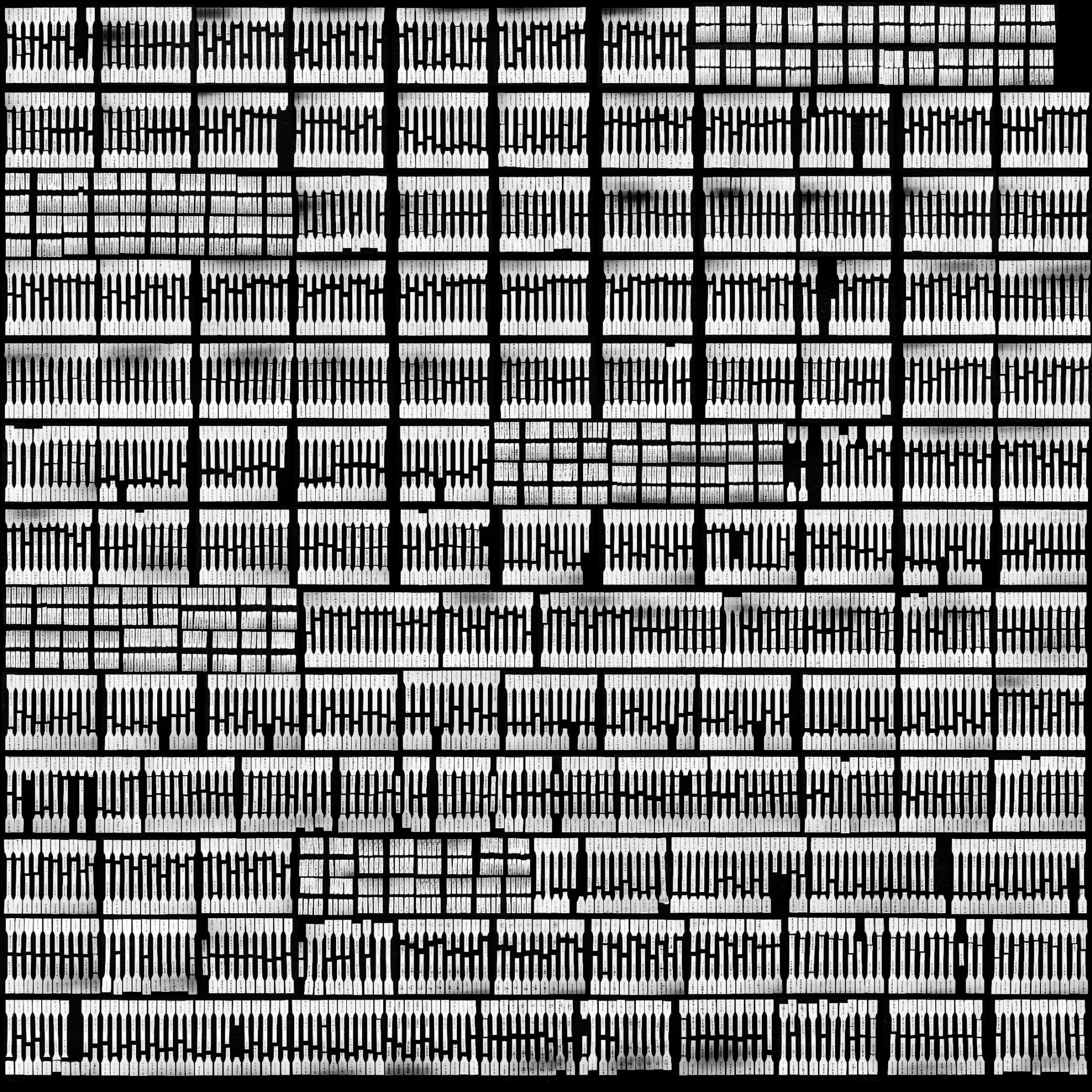








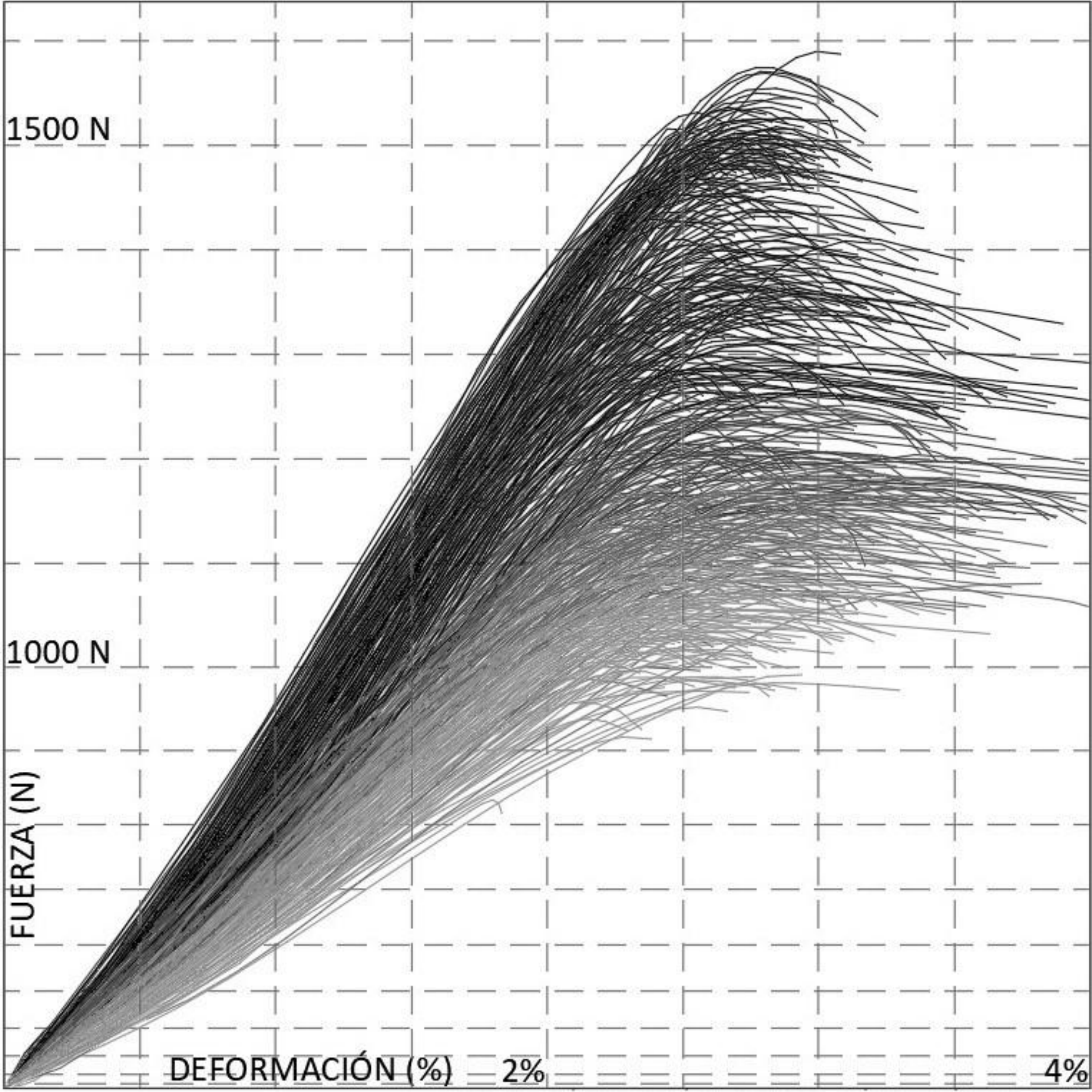




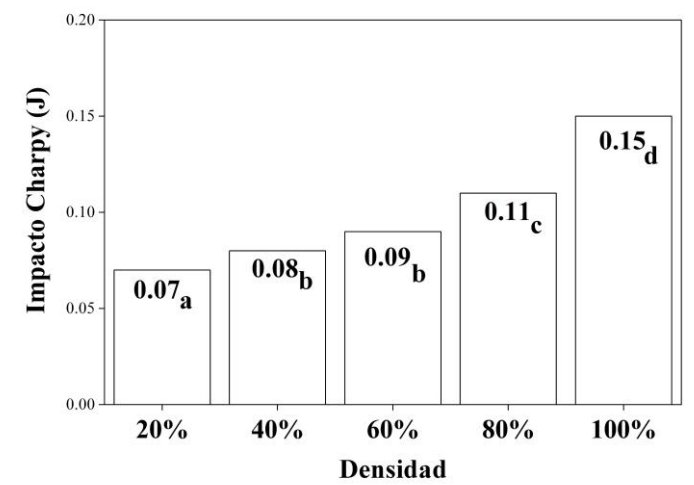
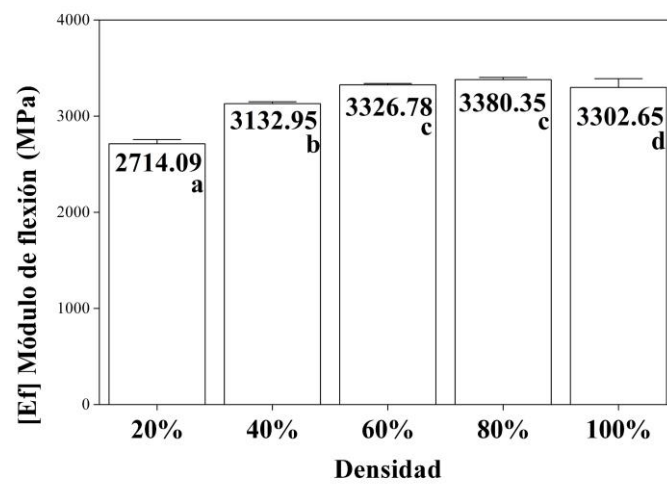
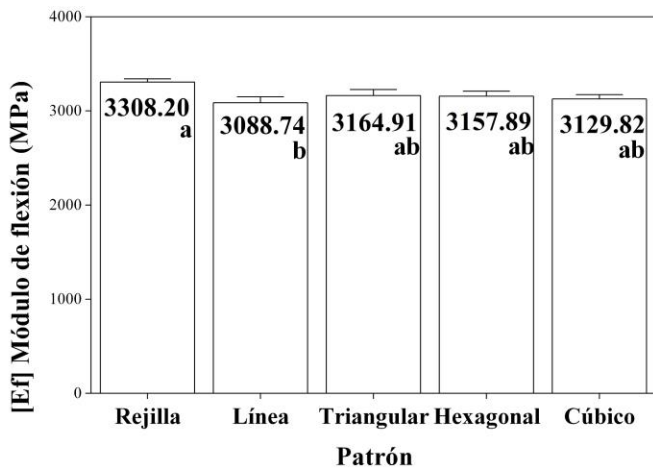






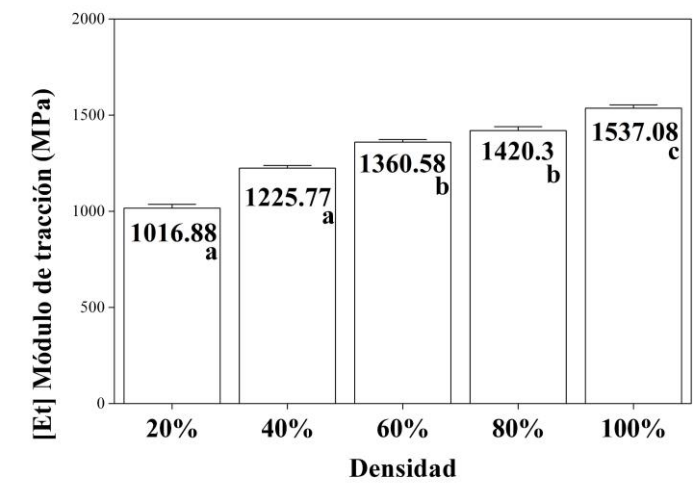
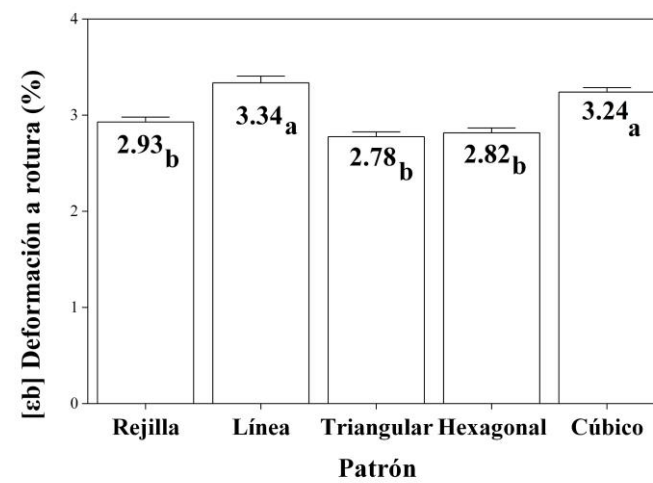
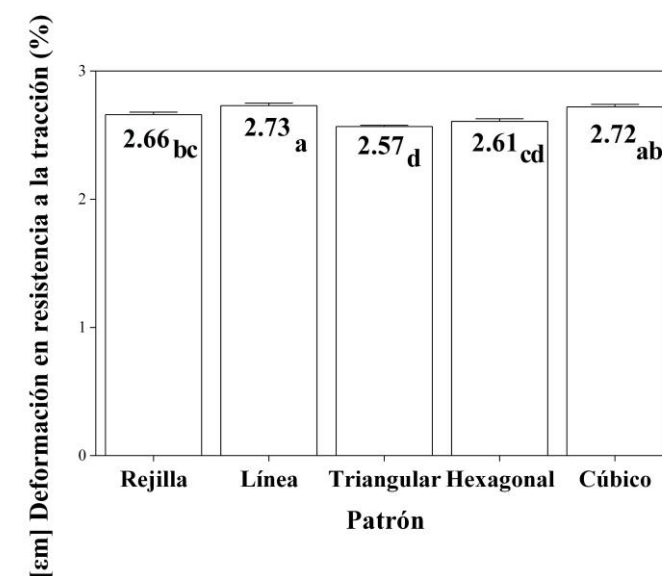
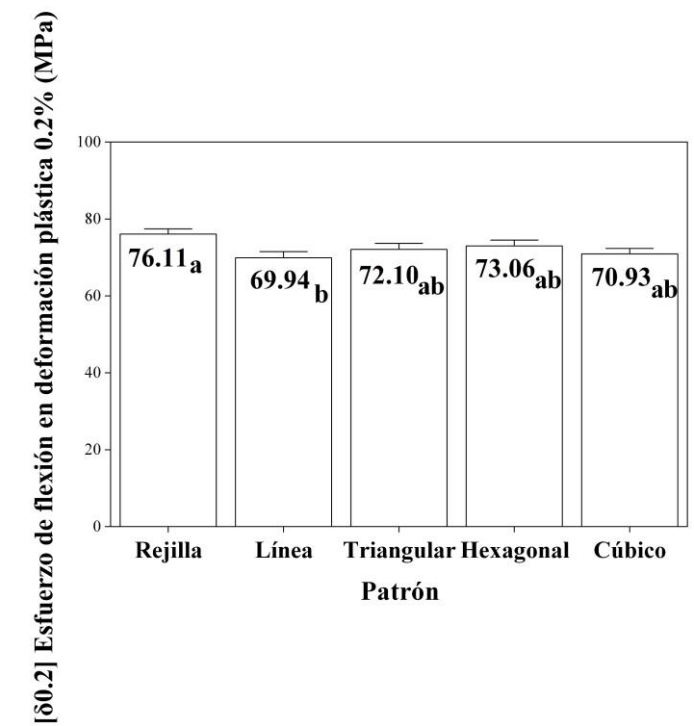
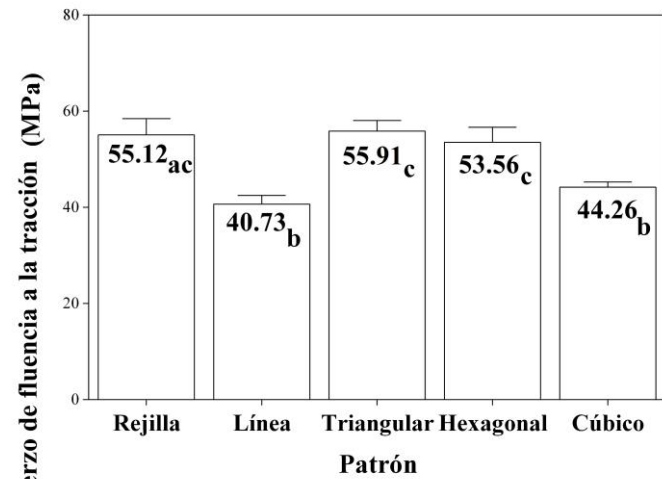




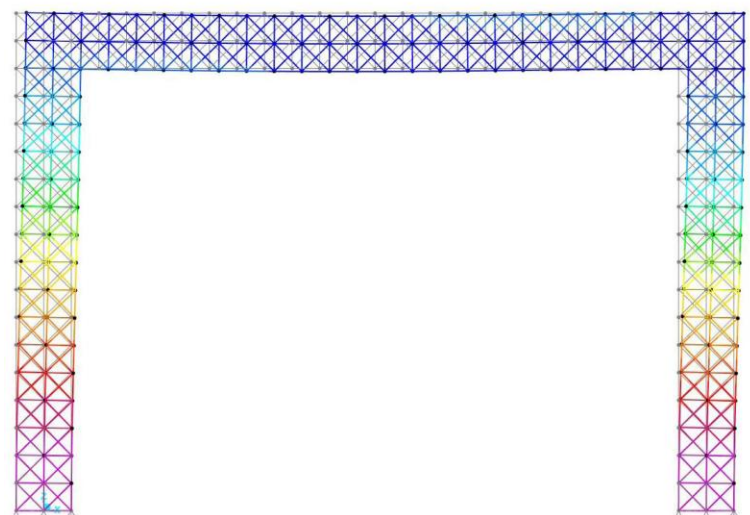
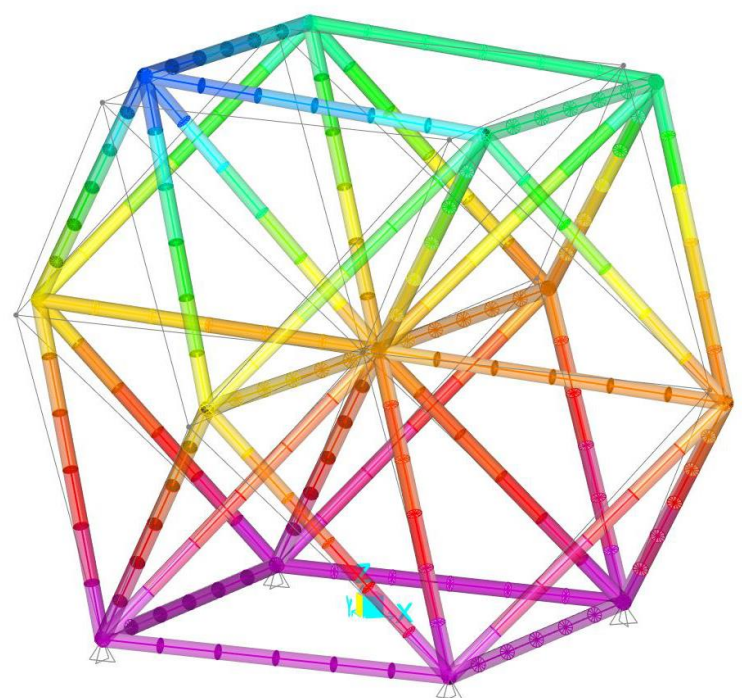
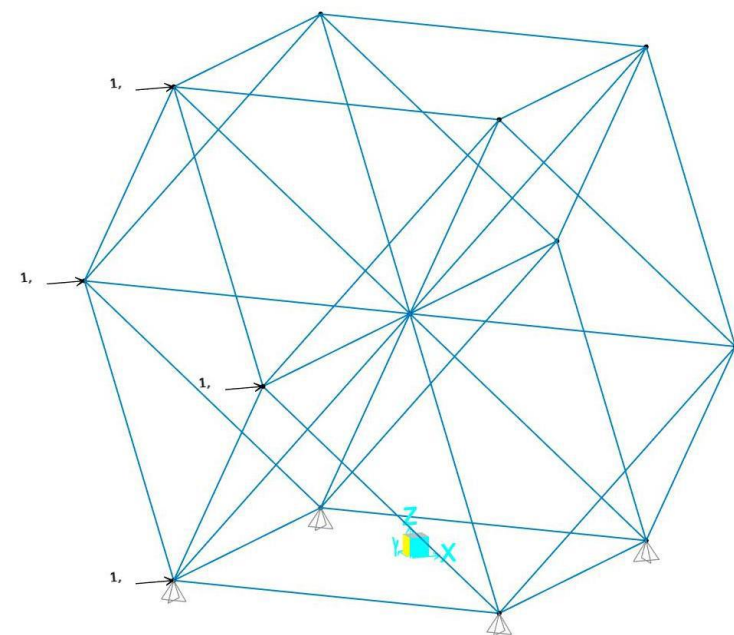
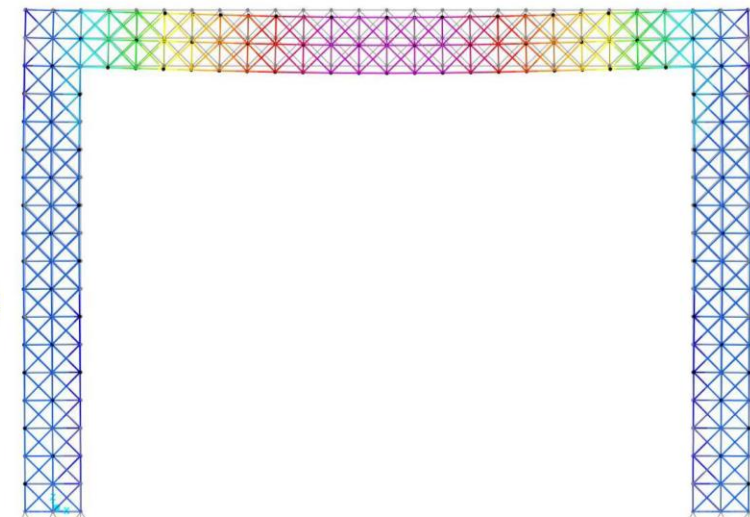
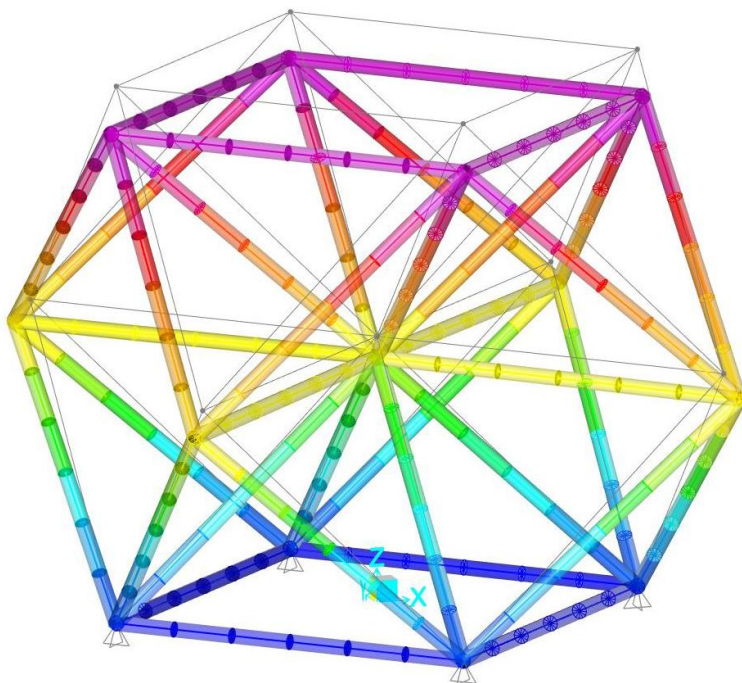
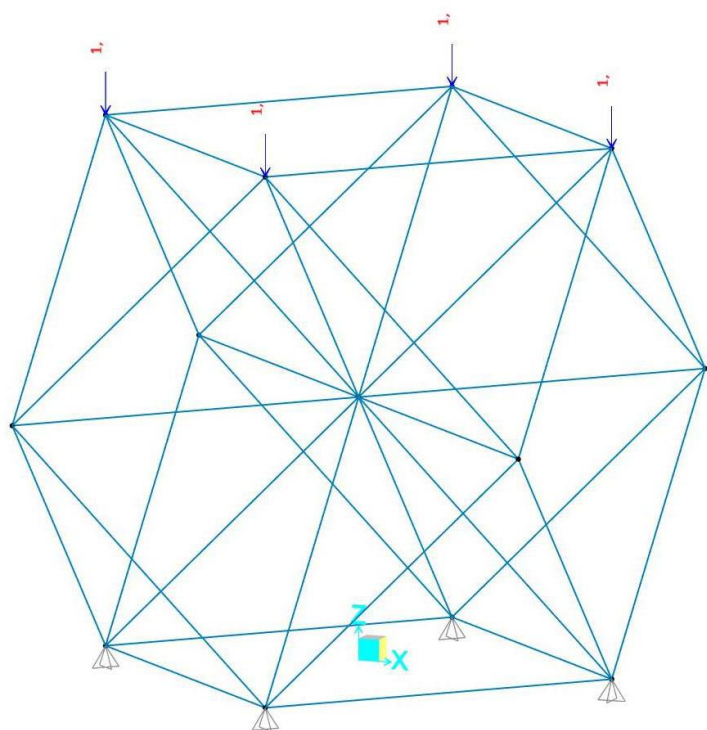
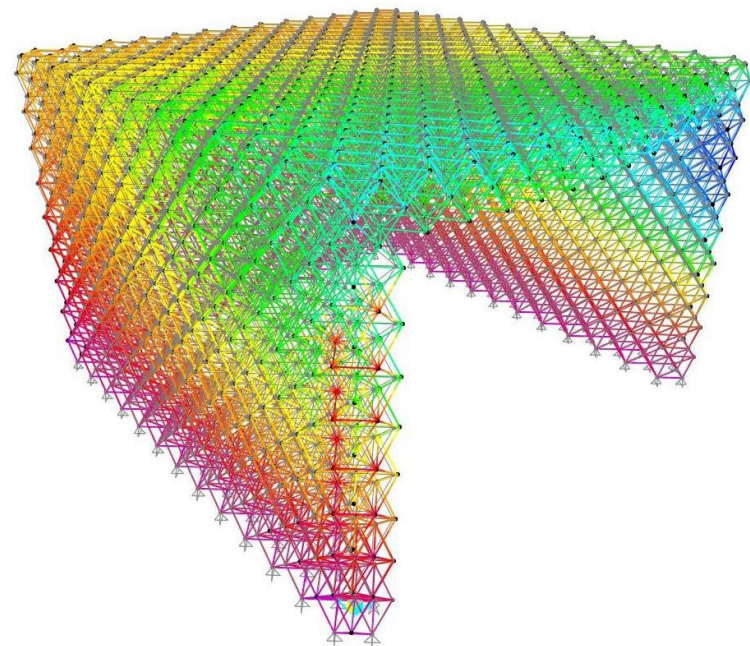
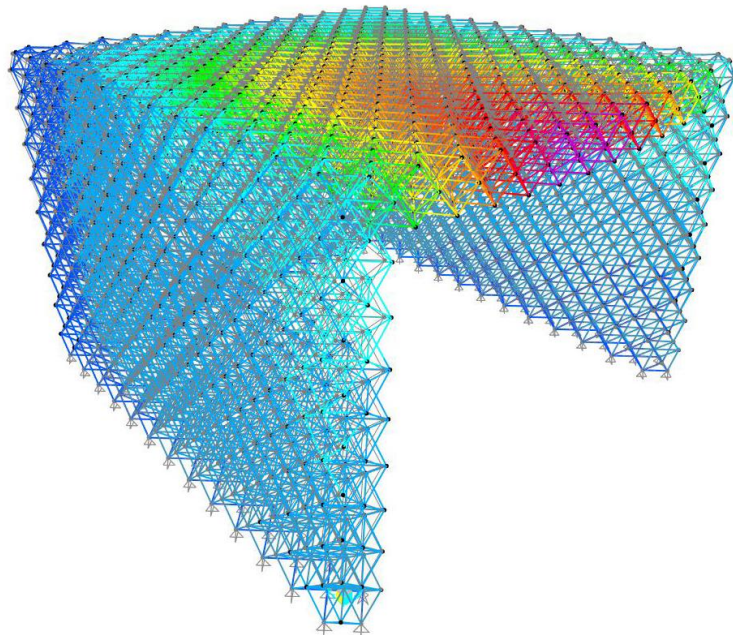
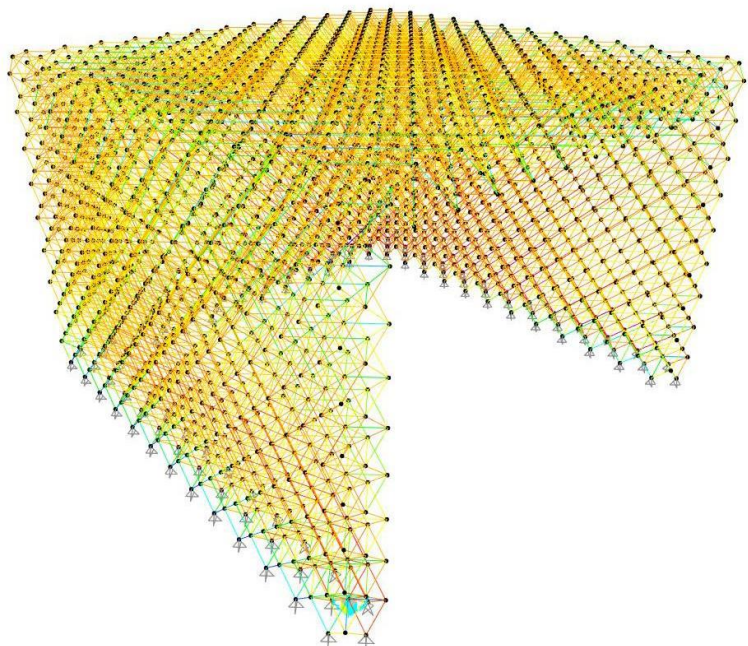


# PATRÓN HEXAGONAL

## DENSIDAD 20%



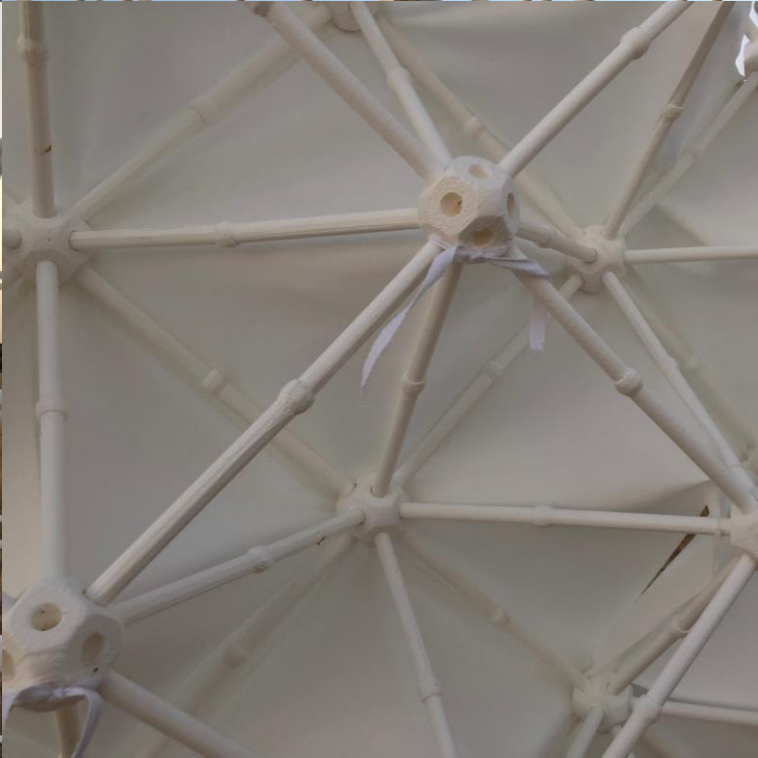
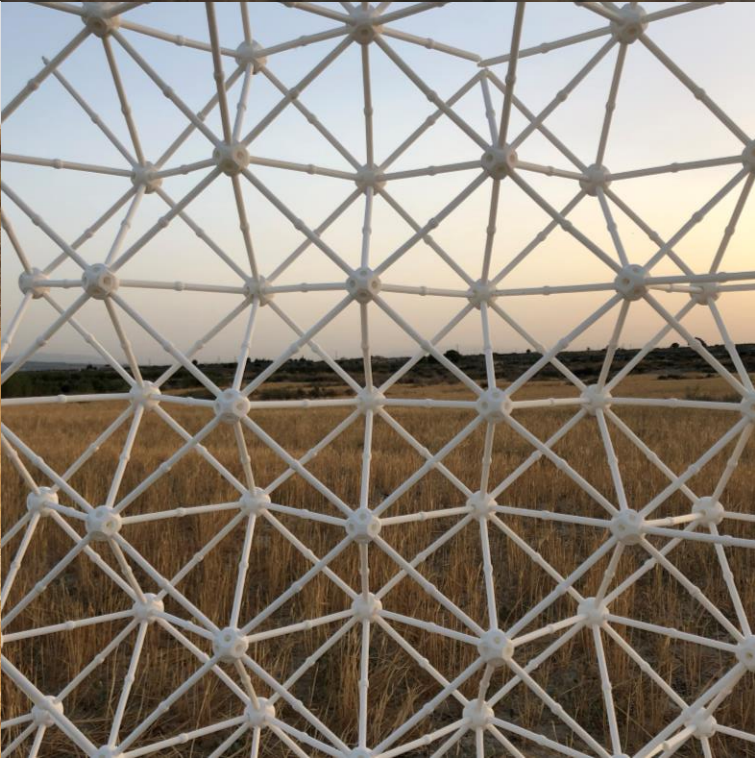












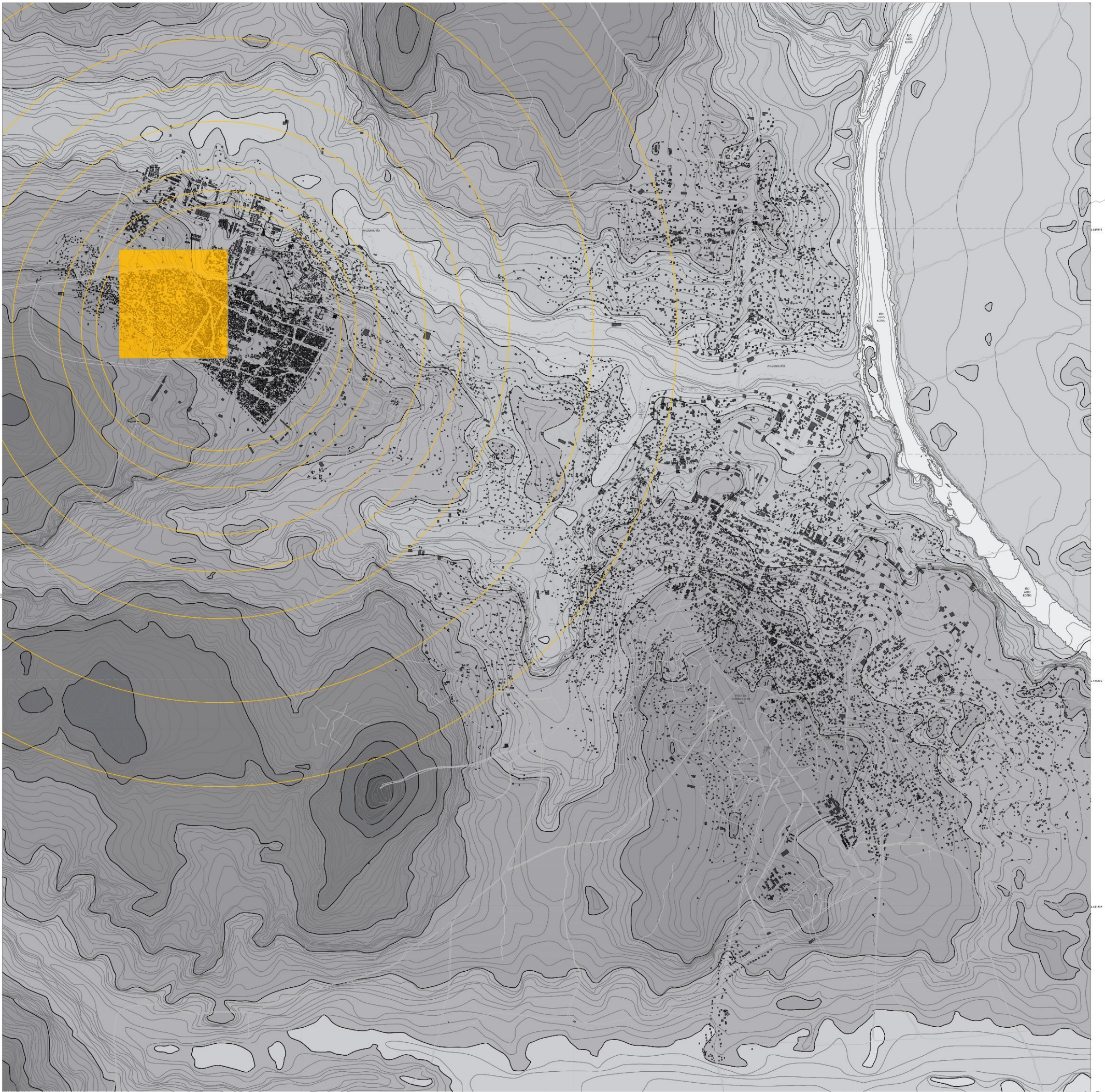








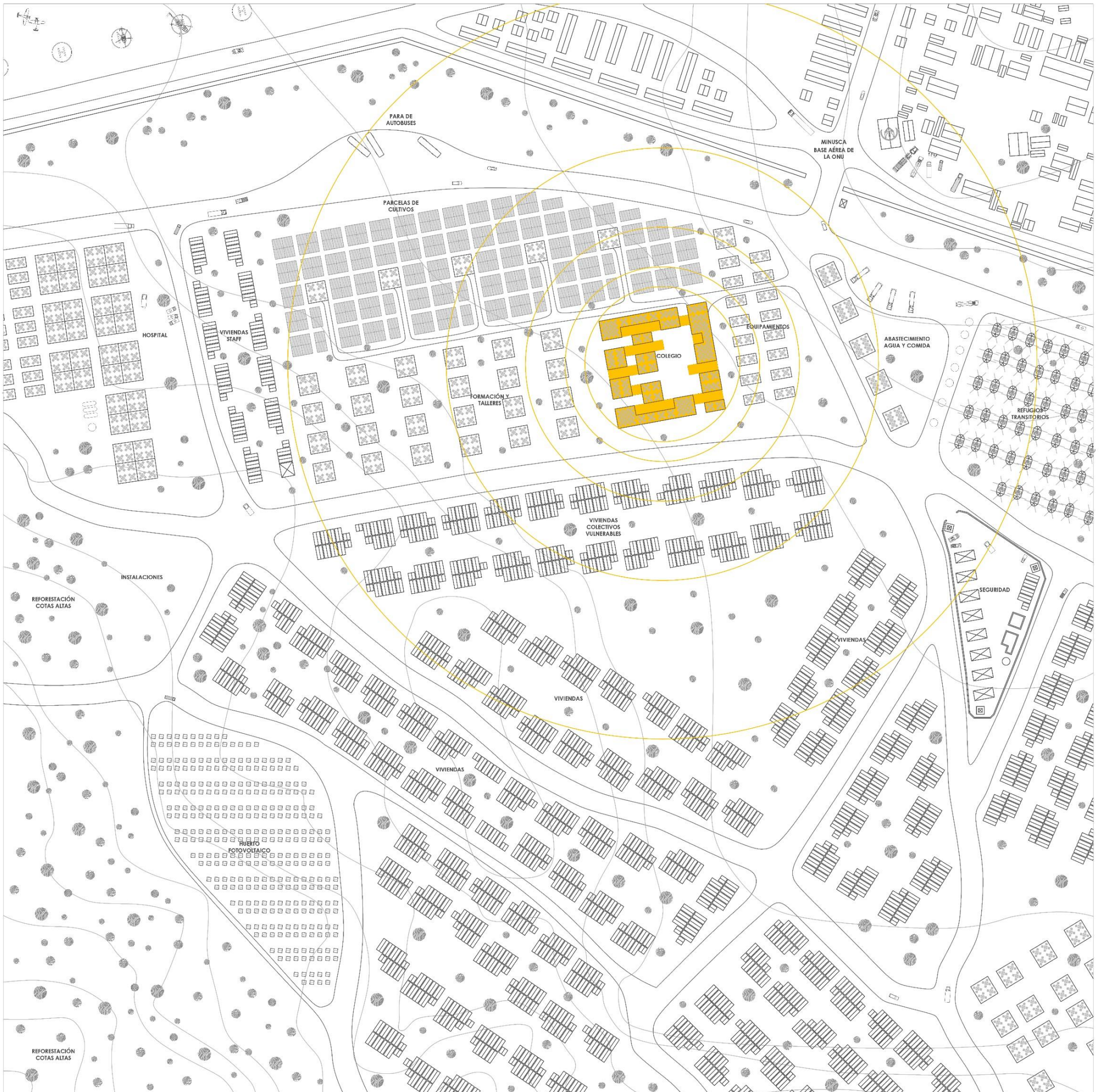




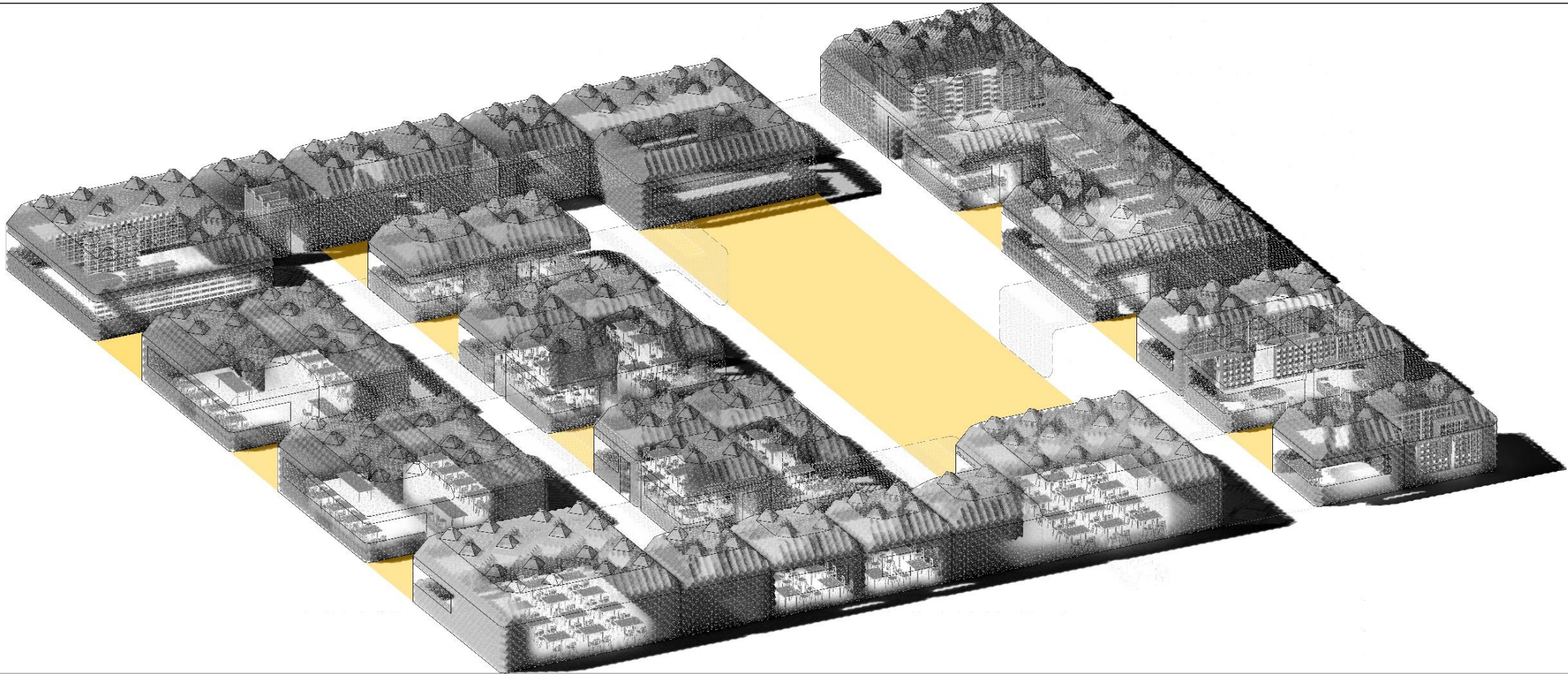
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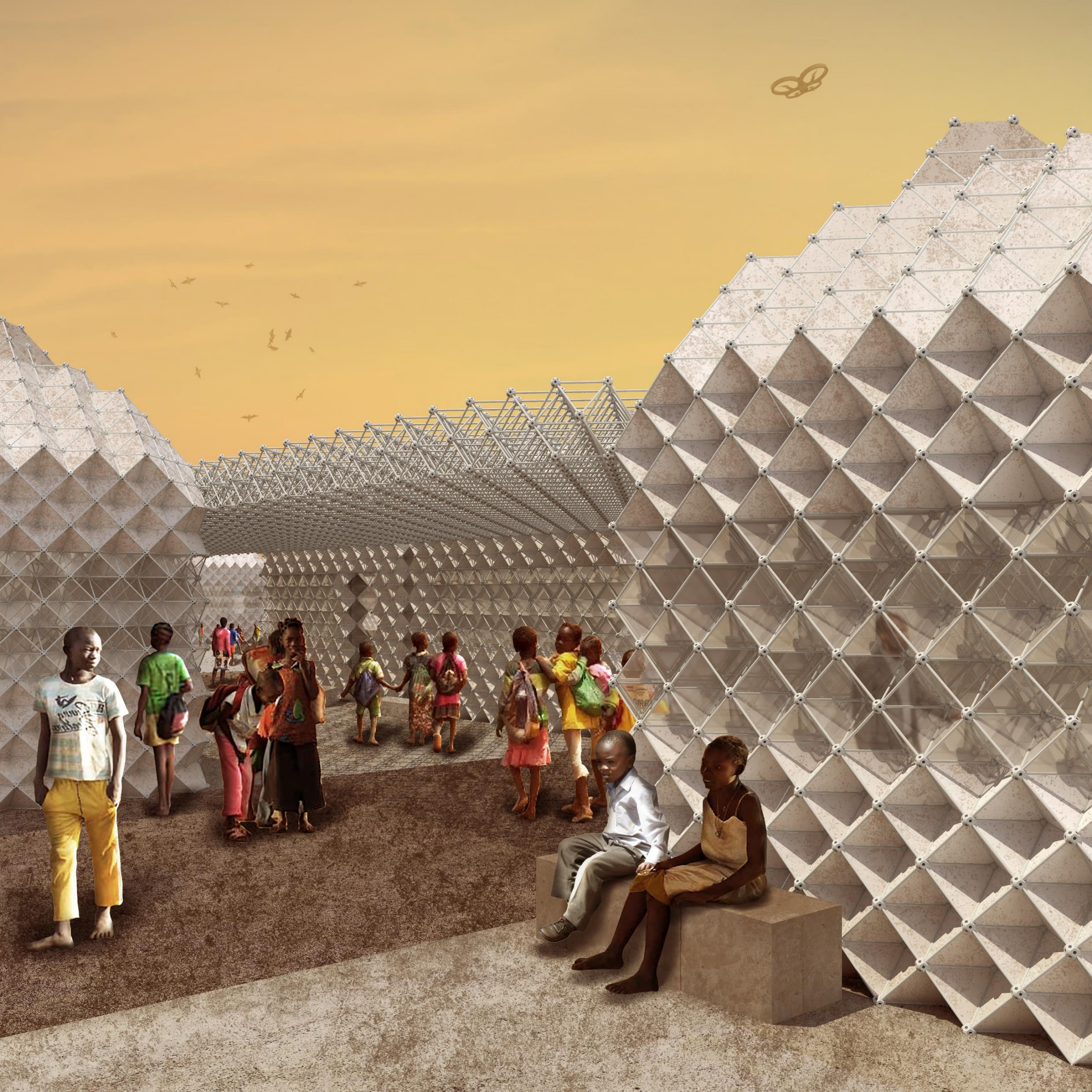




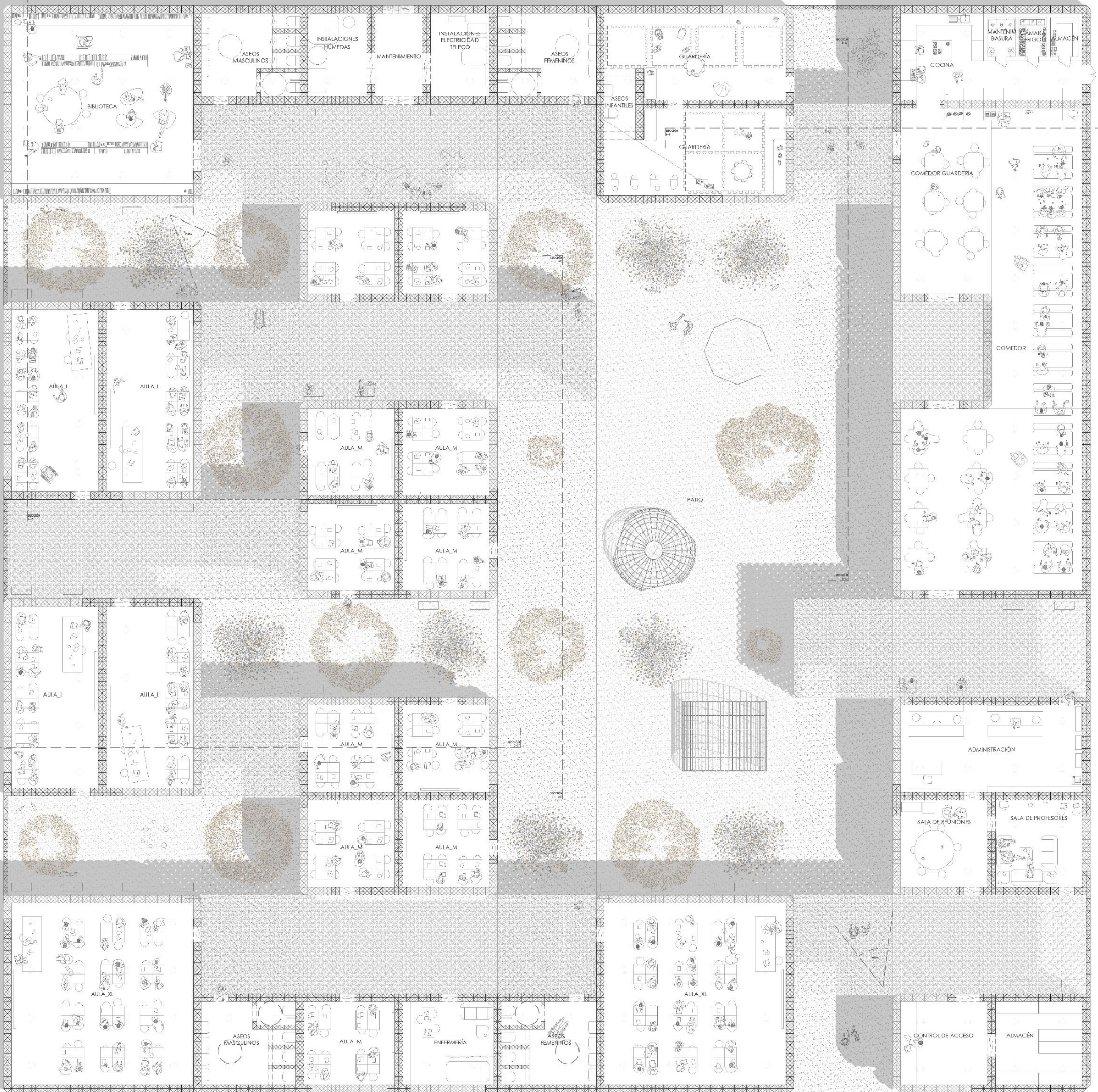




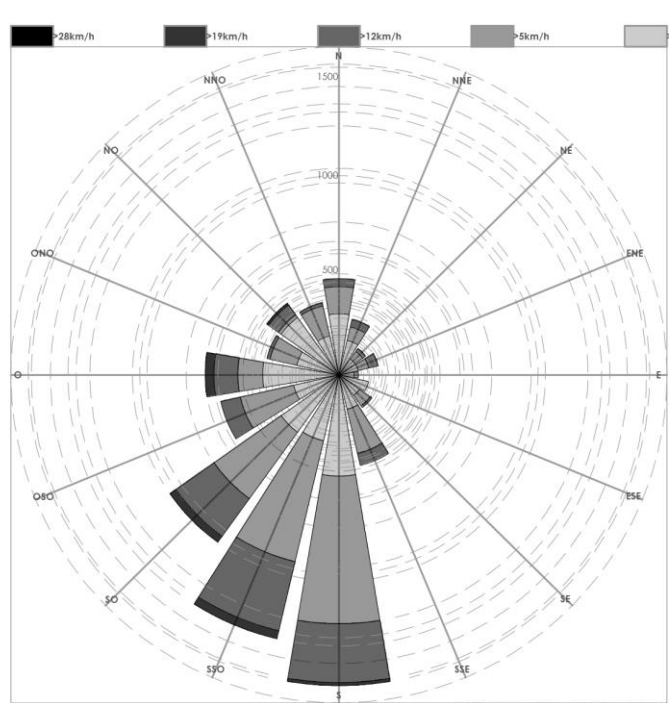
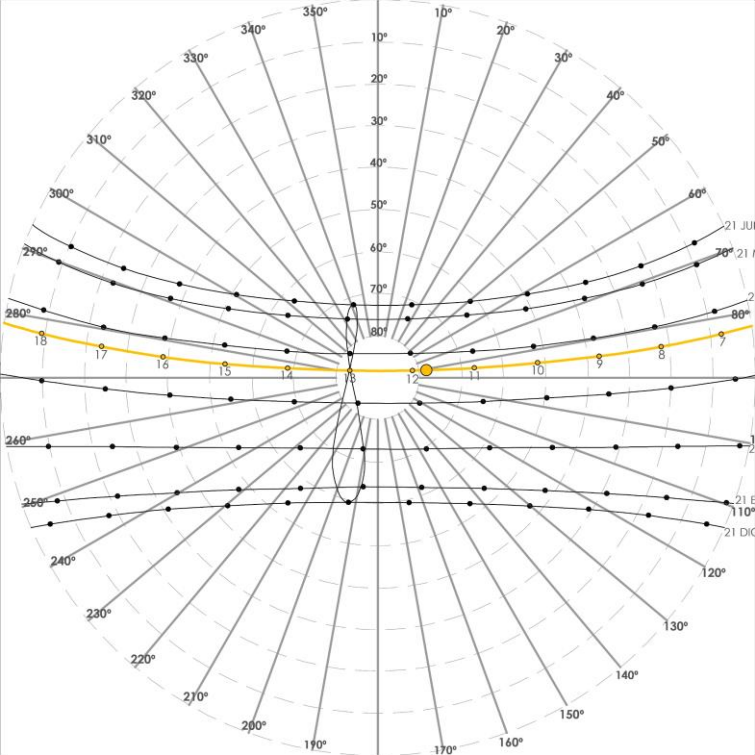




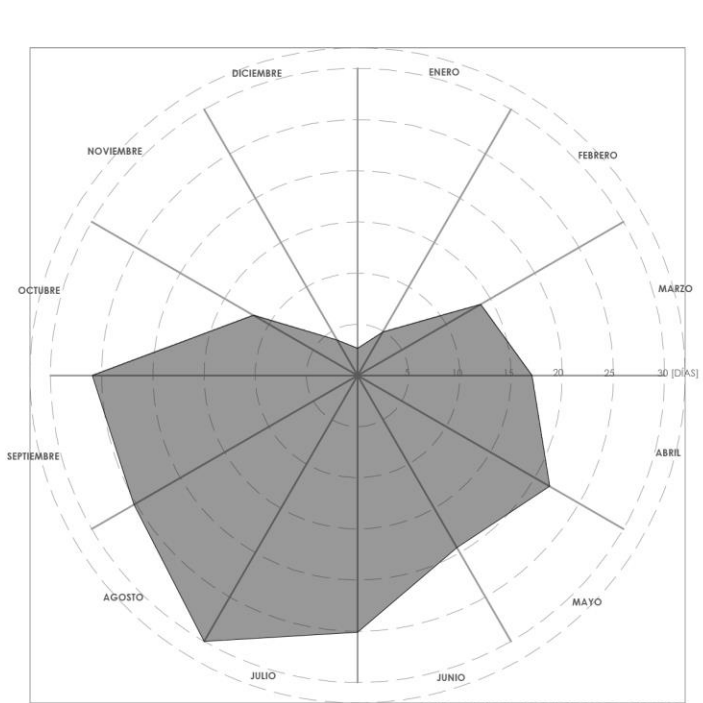




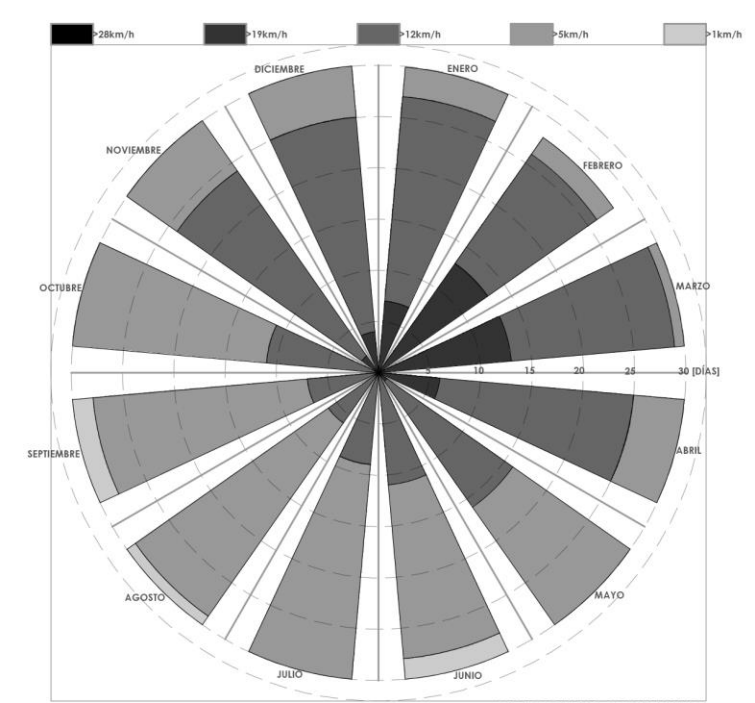




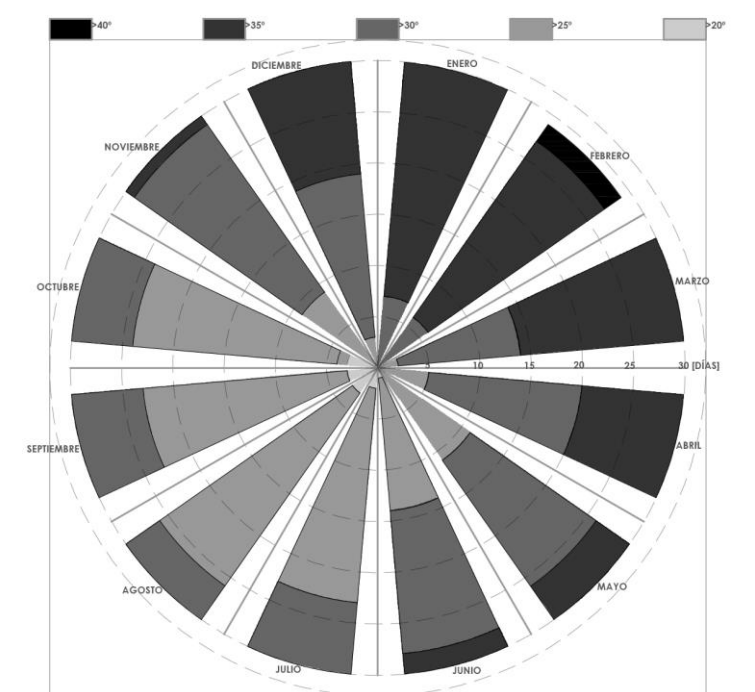
**DIAGRAMA DE VIENTO**  
DIRECCIÓN E INTENSIDAD DE VIENTOS POR HORAS ANUALES EN BRIA



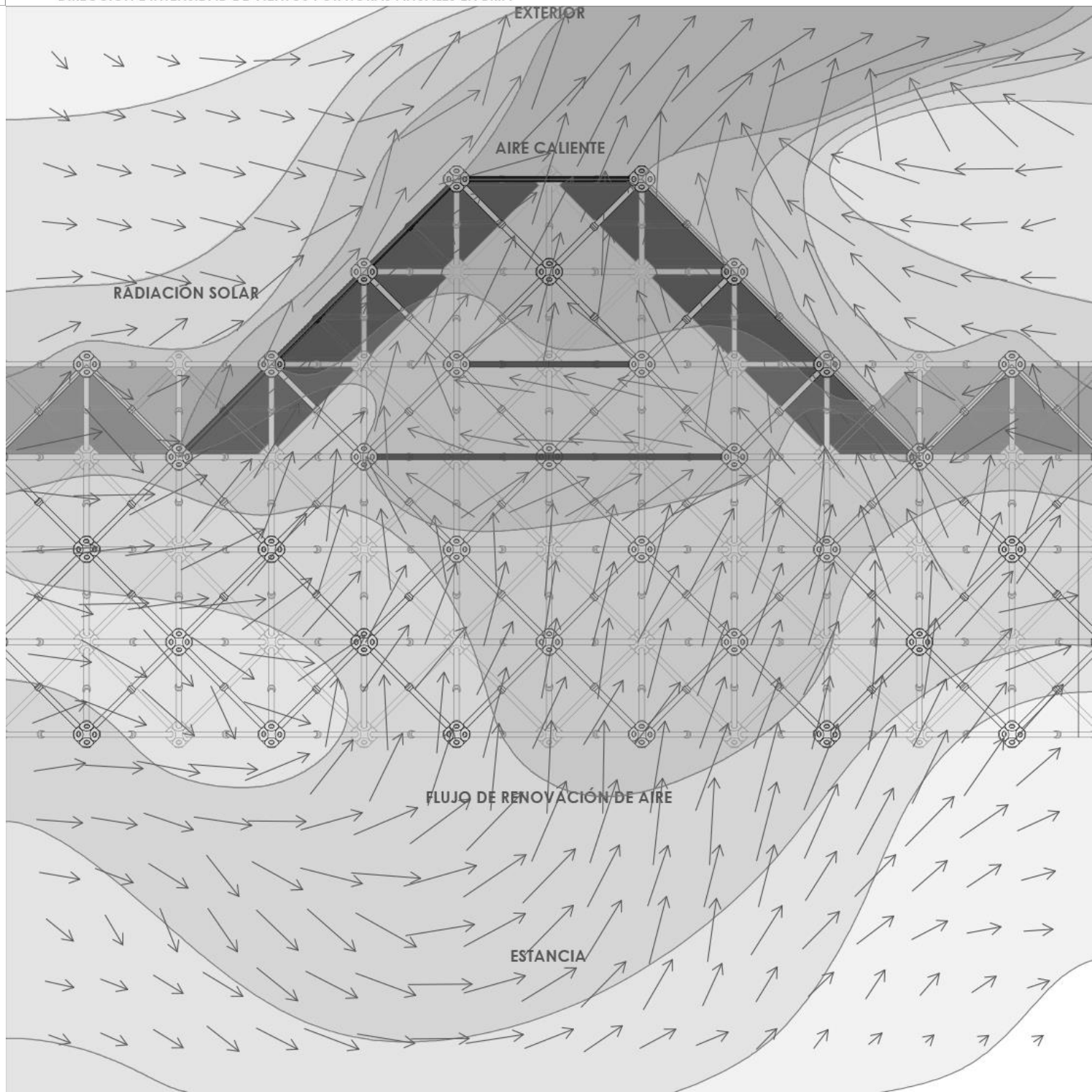
**DIAGRAMA DE PRECIPITACIONES**  
NÚMERO DE PRECIPITACIONES POR MES AL AÑO



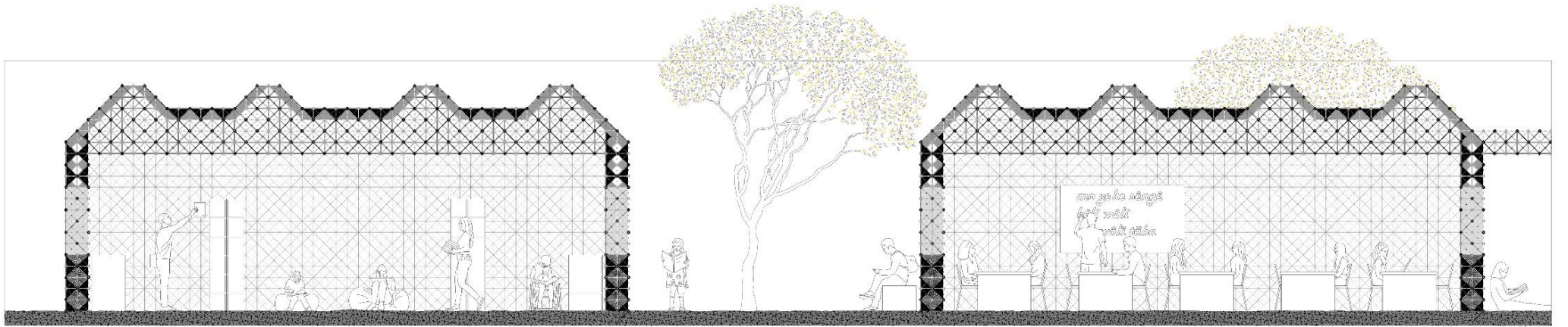
**DIAGRAMA DE VIENTO**  
REGISTRO DE VELOCIDADES MEDIAS POR NÚMERO DE DÍAS Y AÑO



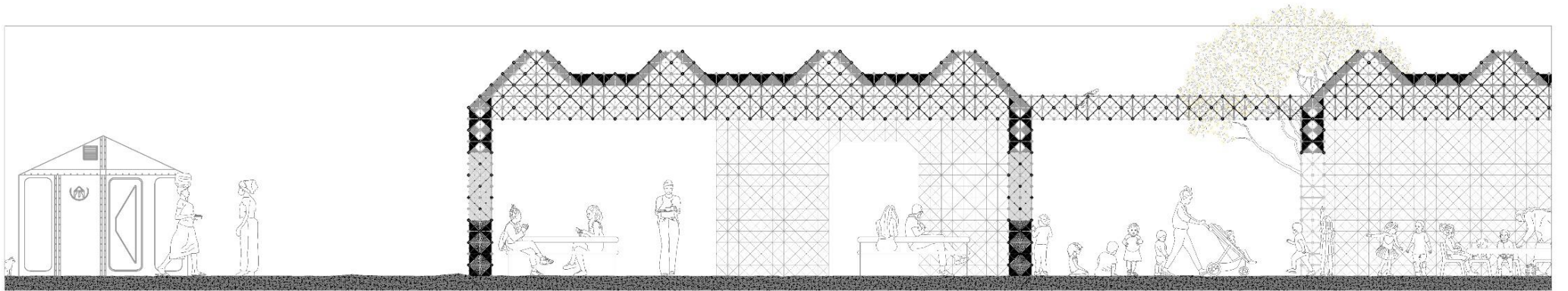
**DIAGRAMA DE TEMPERATURAS**  
REGISTRO DE TEMPERATURAS MÁXIMAS POR NÚMERO DE DÍAS Y AÑO



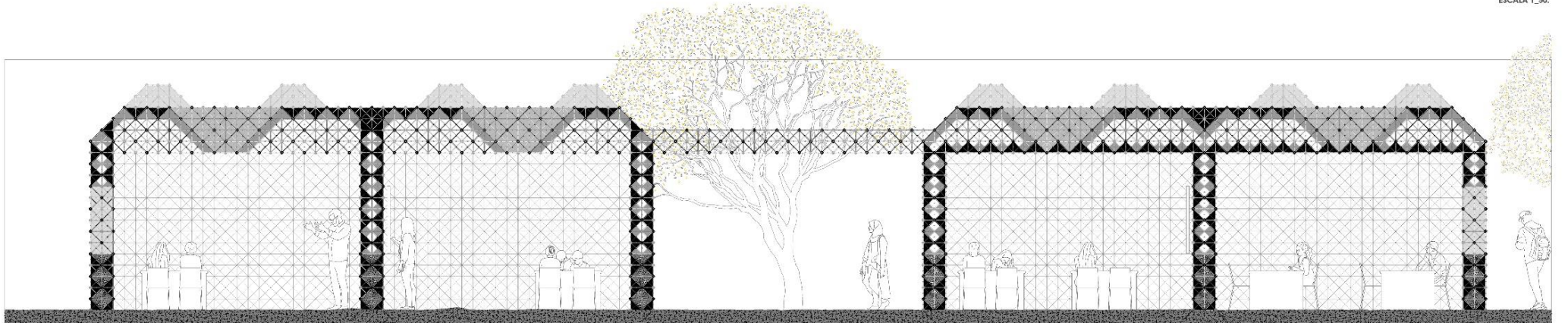




SECCIÓN A-A  
ESCALA 1\_50.



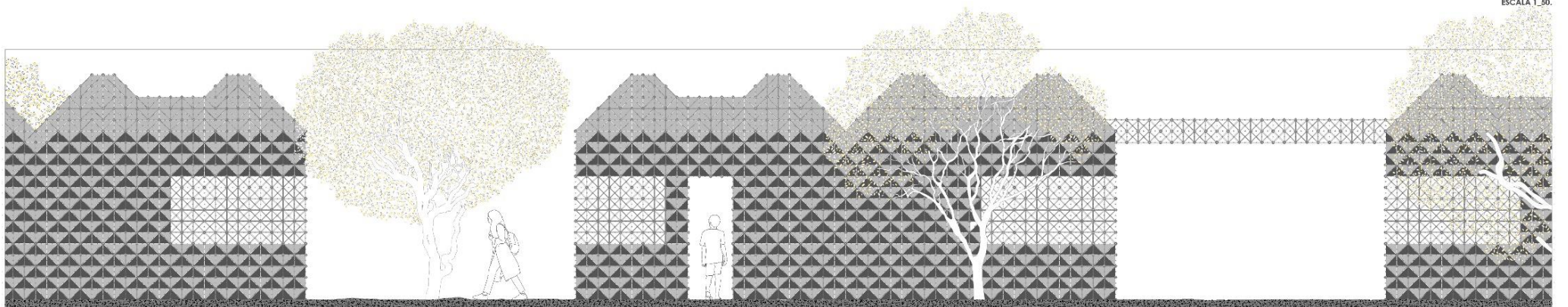
SECCIÓN B-B  
ESCALA 1\_50.



SECCIÓN C-C  
ESCALA 1\_50.



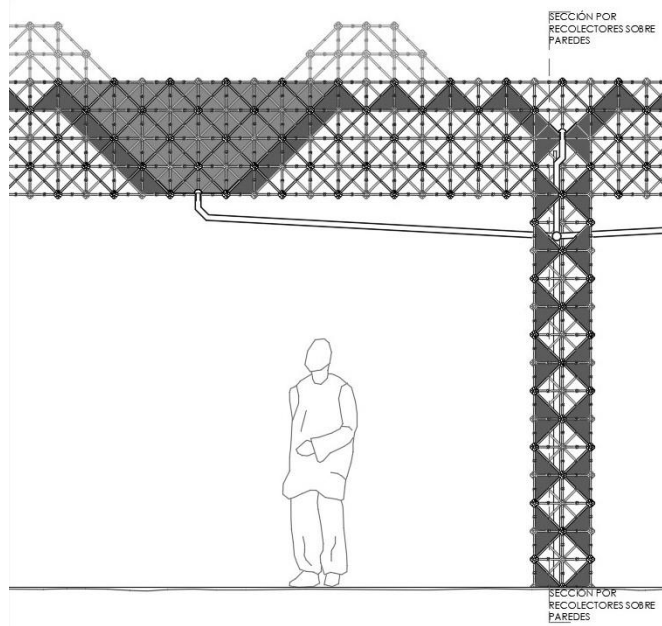
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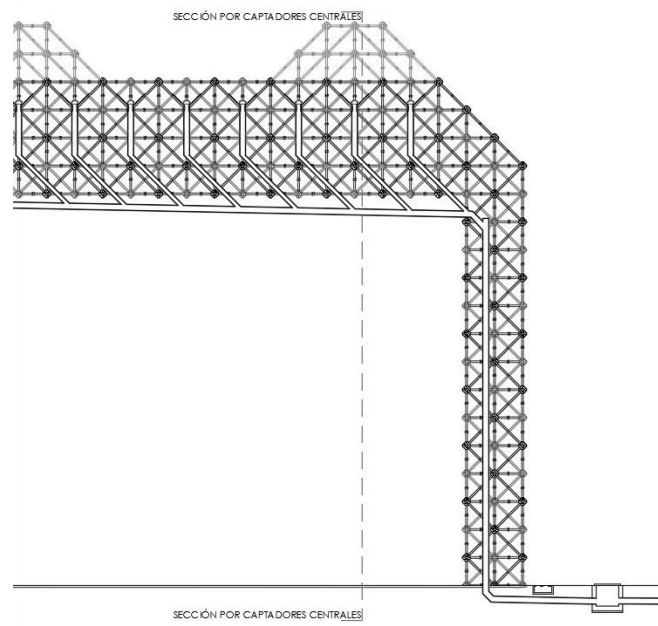
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ESCALA 1\_50.



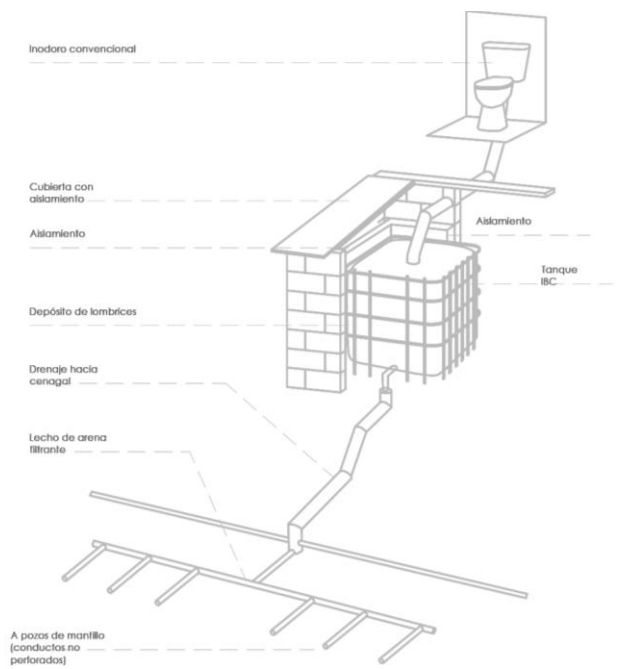
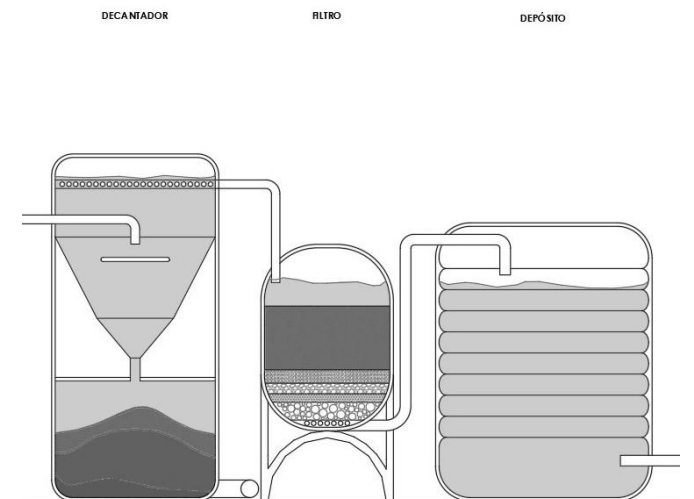
## Captadores de cubierta



## Captadores de suelo



## Decantación, filtrado y depuración







CÁMARA SÉPTICA Y DECANTACIÓN

FITODEPURACIÓN

HUMEDAL

PRE TRATAMIENTO

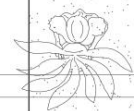
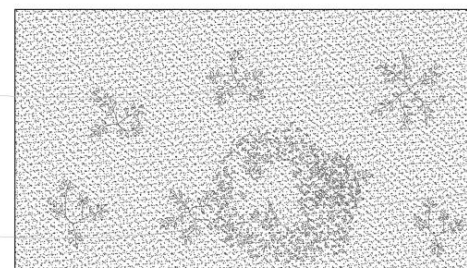
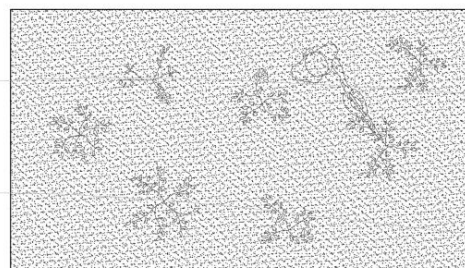
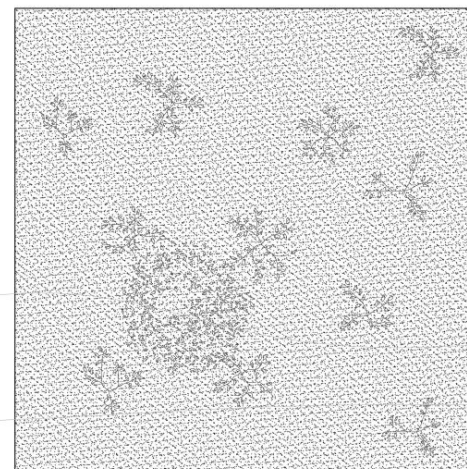
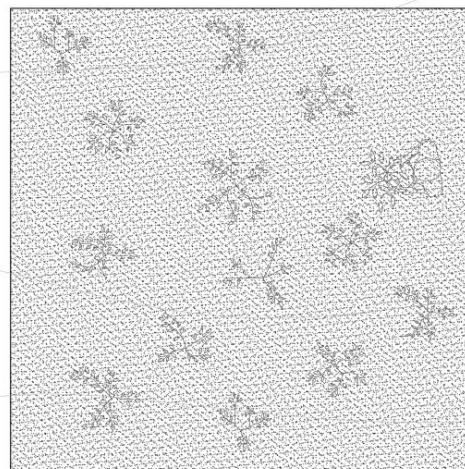
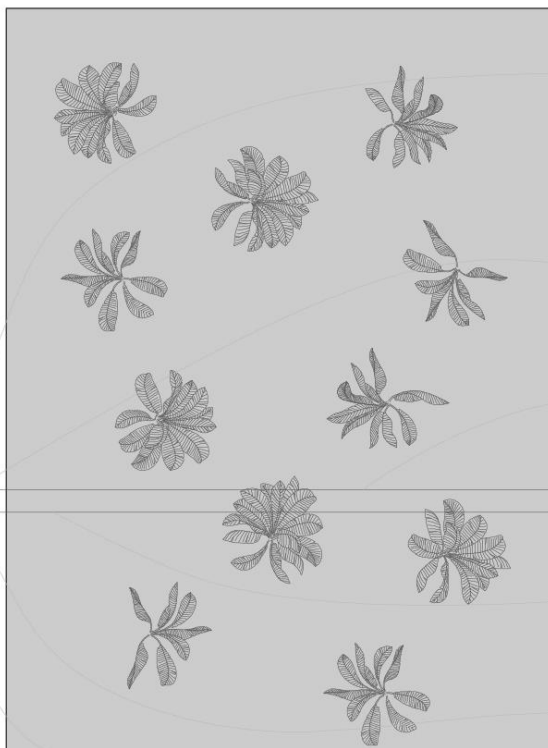
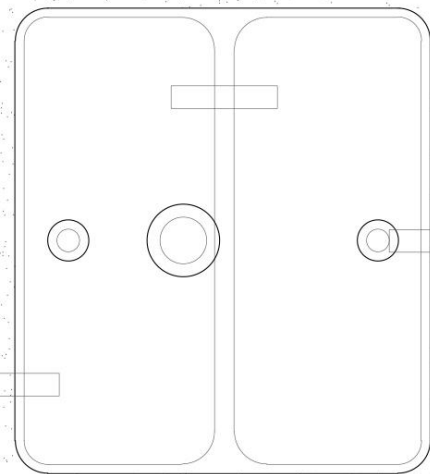
TRATAMIENTO CENTRAL

POST TRATAMIENTO

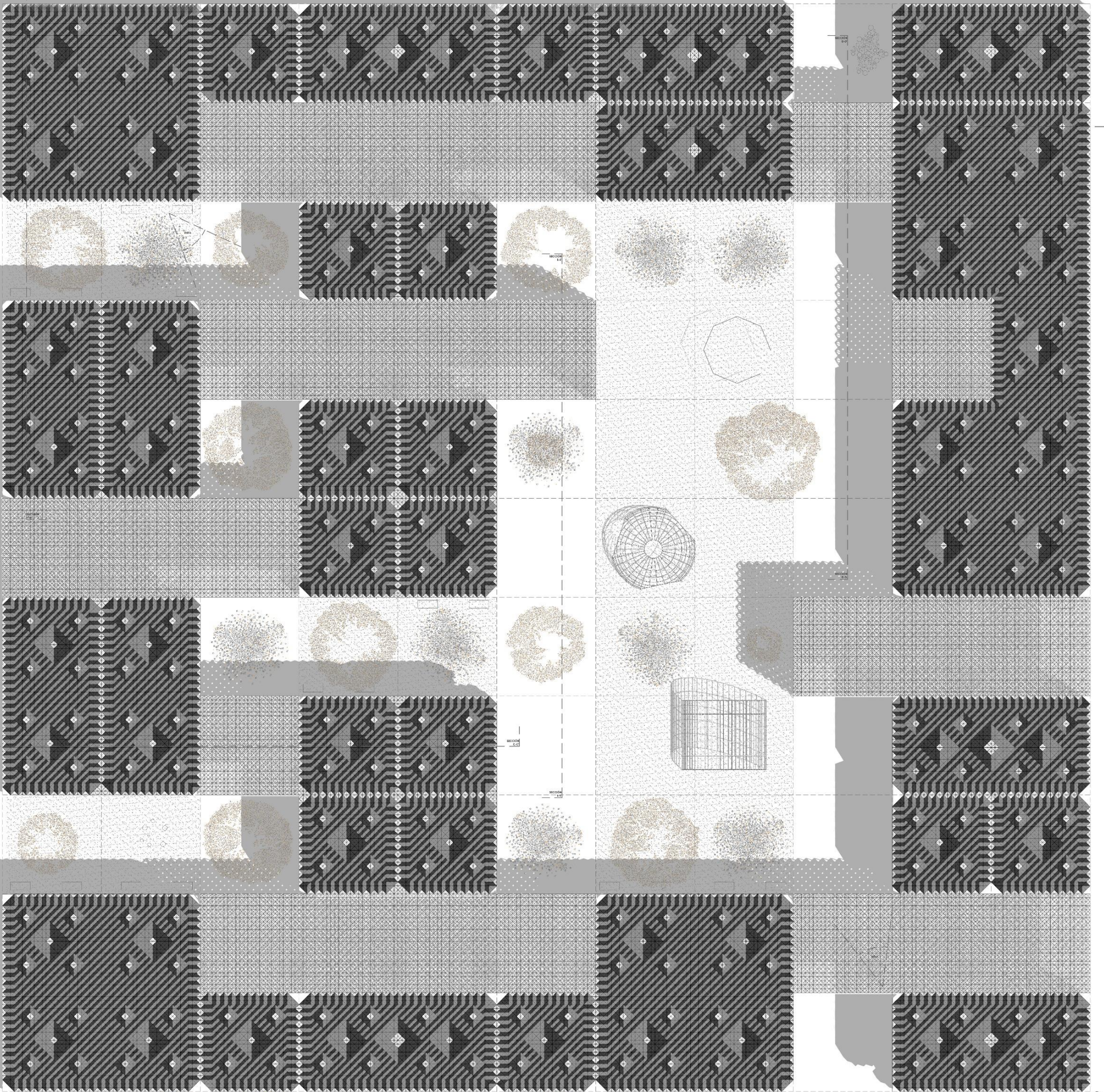
PRE TRATAMIENTO

TRATAMIENTO CENTRAL

POST TRATAMIENTO













# PHASER

3D PRINTED HUMANITARIAN AID SETTLEMENTS FOR EMERGENCIES RESPONSE

VÍCTOR MARTÍNEZ PACHECO