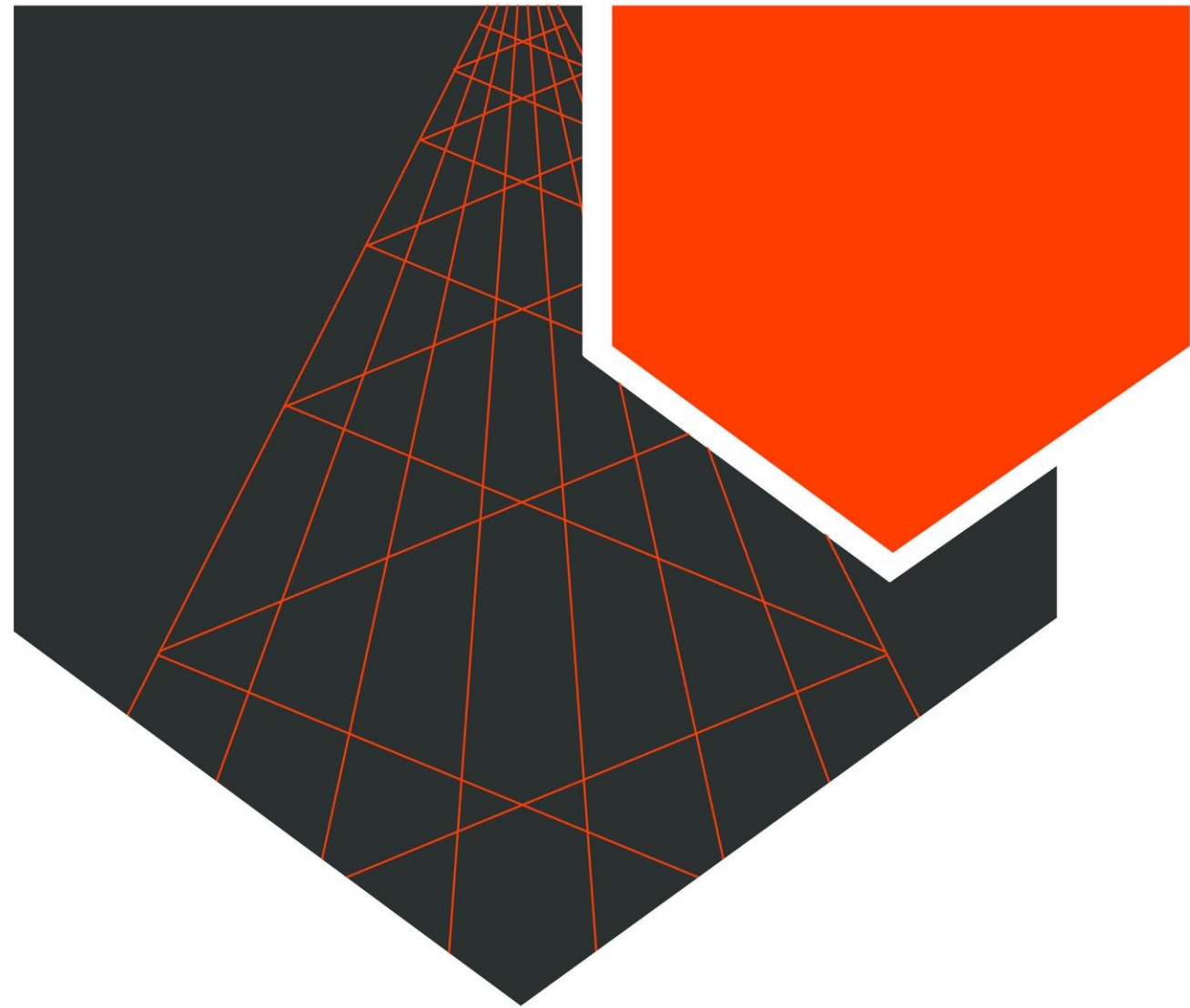




anisoprint



**INNOVATIVE COMPOSITE ADDITIVE
MANUFACTURING TECHNOLOGIES FOR
MEDICAL DEVICES**

anisoprint.com ↗

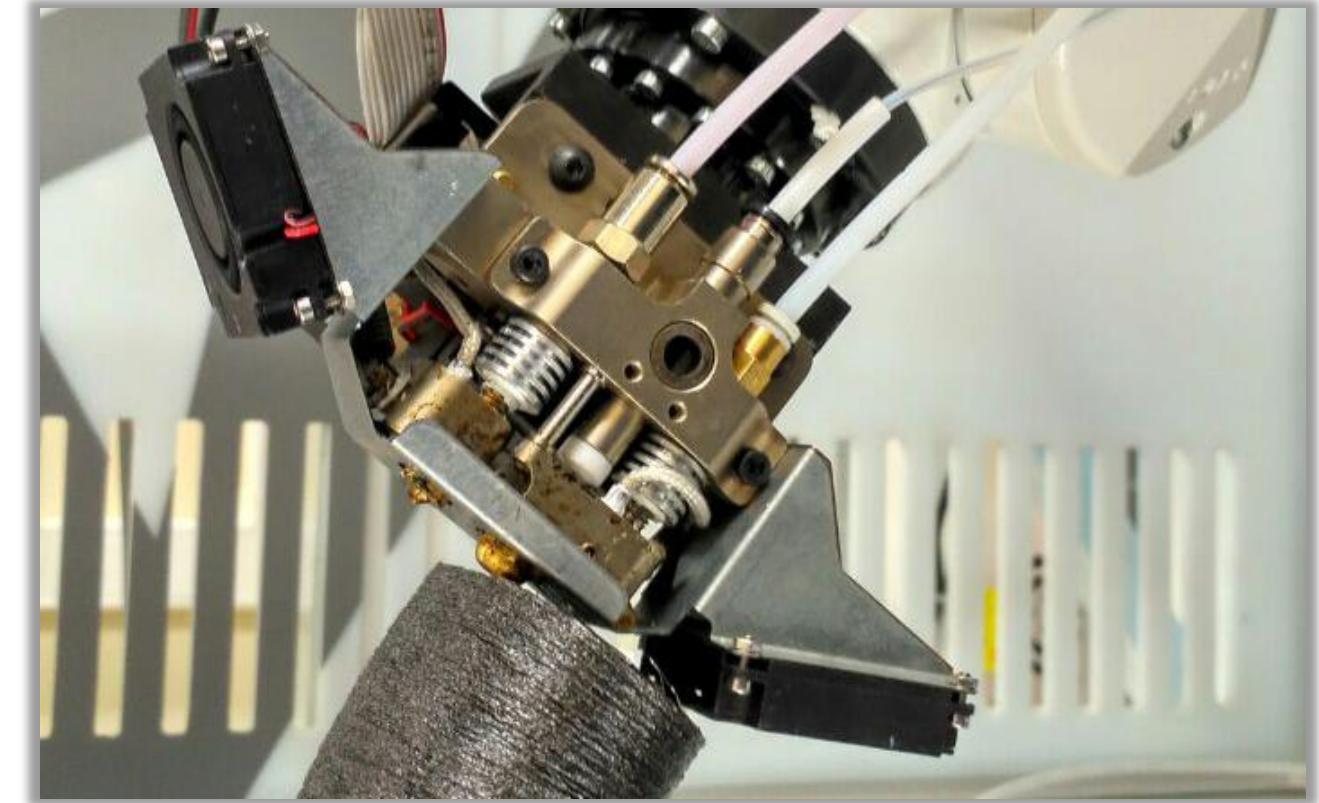
COMPOSITES WITH CONTINUOUS FIBERS: PRODUCING



Filament winding



Fiber placement (prepreg)



Anisoprinting

- ✗ Limited shapes – cylinders/sheets
- ✗ Mandrel/Mold required
- ✗ Post-curing required
- ✗ Machining required

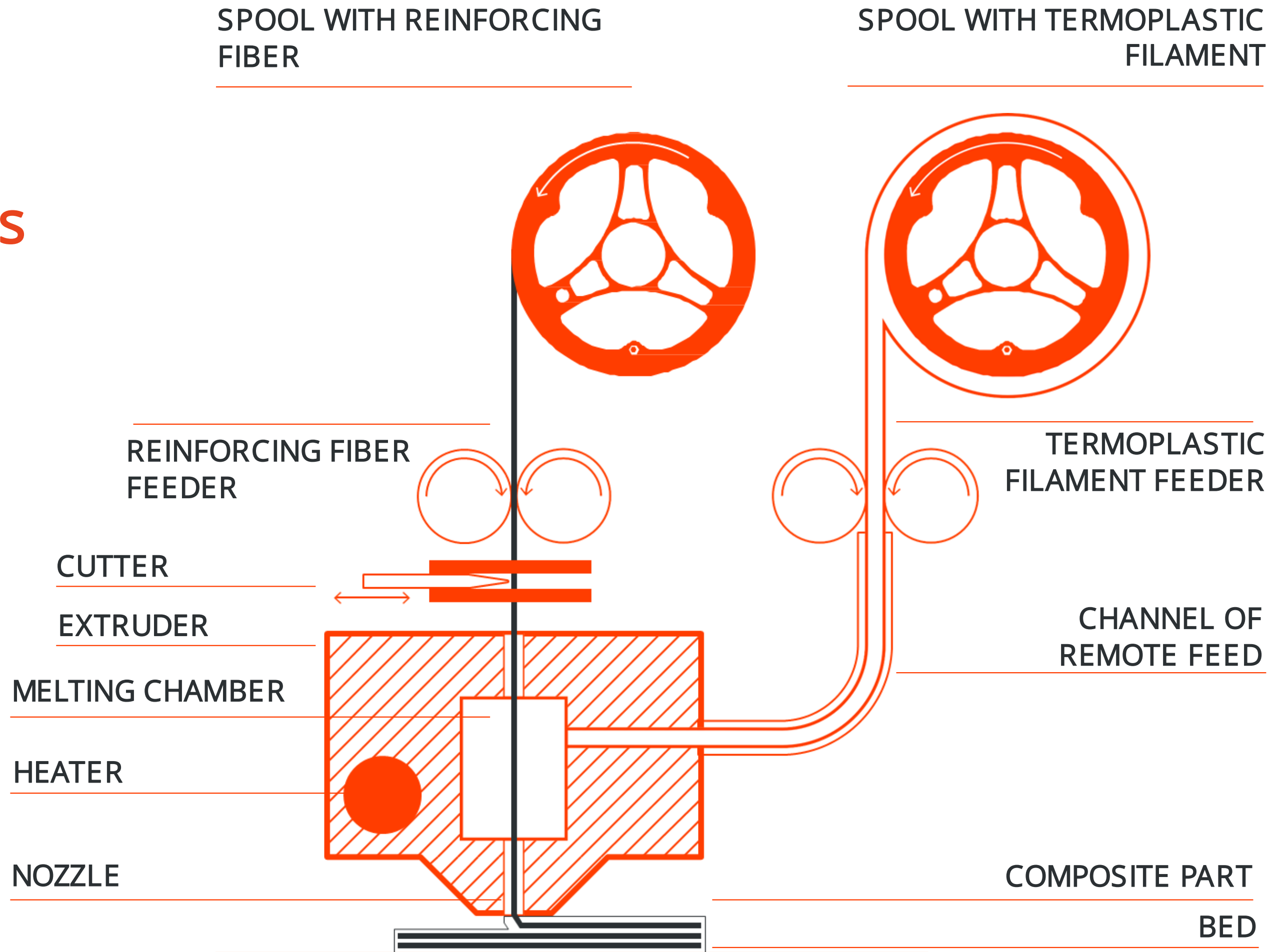
- ✓ No shape limitations
- ✓ No curing or post processing
- ✓ No tools or molds
- ✓ No machining

COMPOSITE FIBER CO-EXTRUSION

New materials and processes

Patented technology:
COMPOSITE FIBER COEXTRUSION

Patented materials:
REINFORCING COMPOSITE FIBER



20 TIMES STRONGER THAN **PLASTIC**

7 TIMES LIGHTER THAN **STEEL**

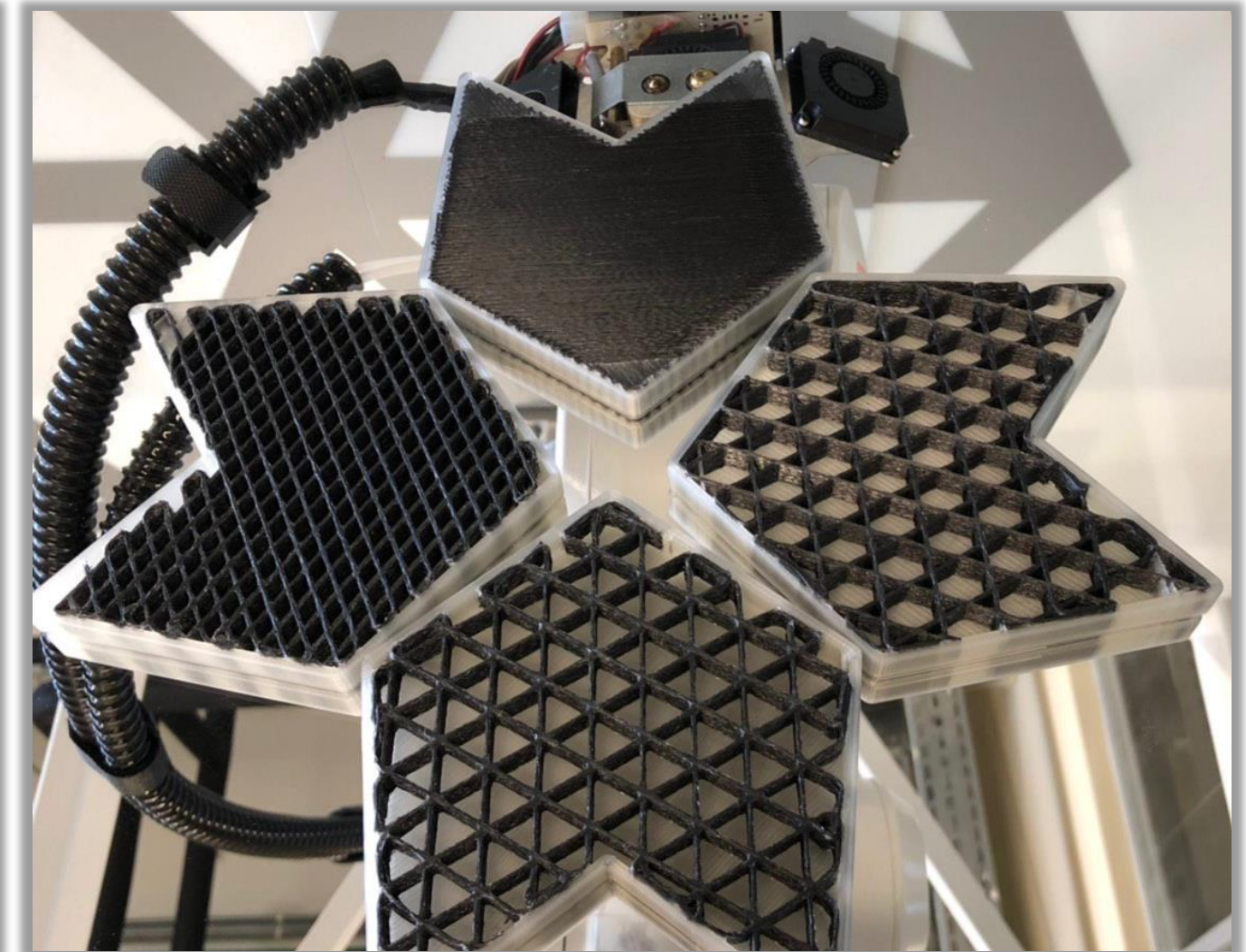
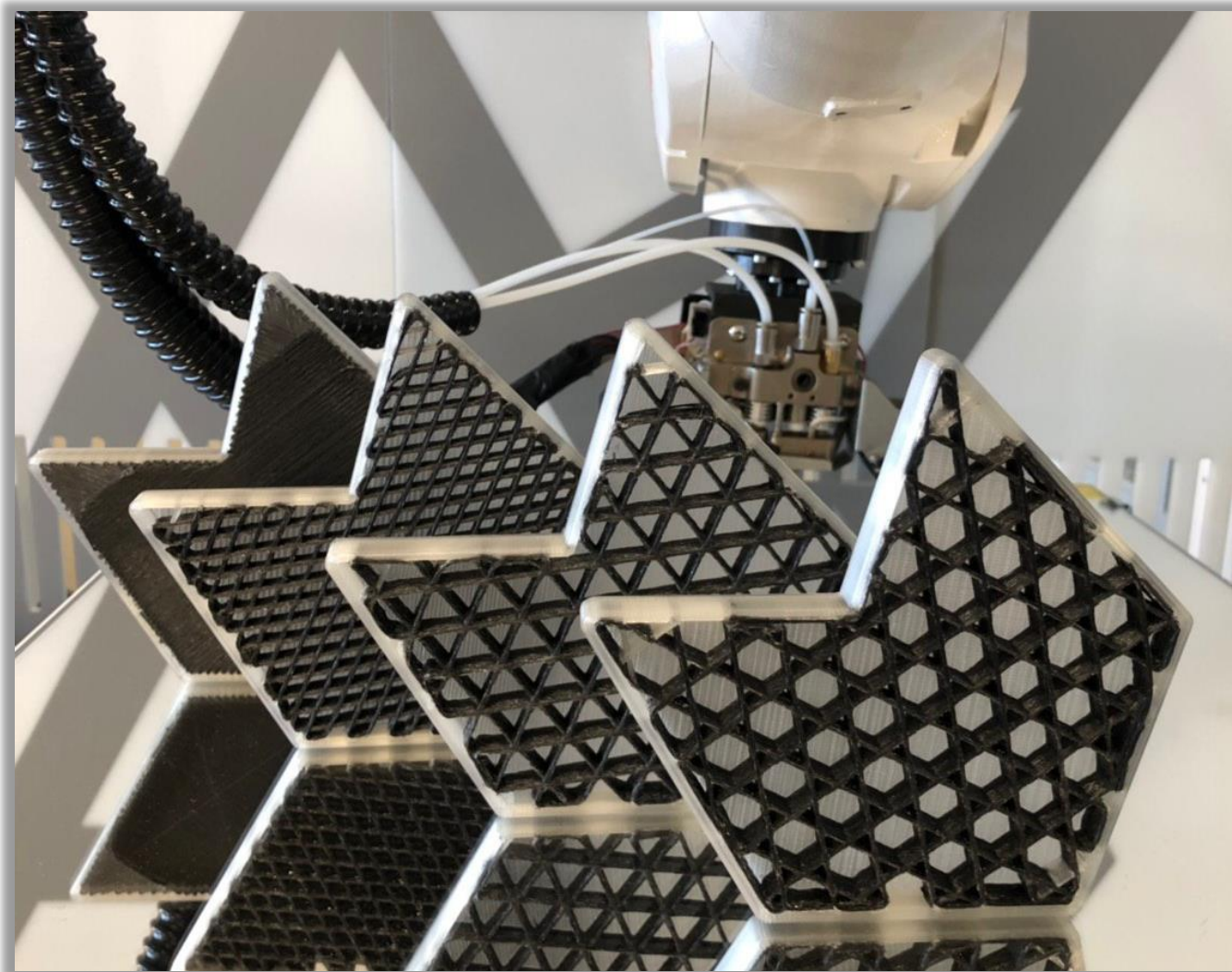
2 TIMES STRONGER AND LIGHTER THAN **ALUMINUM**

ANISOPRINT LATTICE STRUCTURES — OPTIMAL SHAPE FOR COMPOSITES

4 types of fiber reinforced infills

Solid, Rhombic,
Isogrid, Anisogrid

Vary density and directions

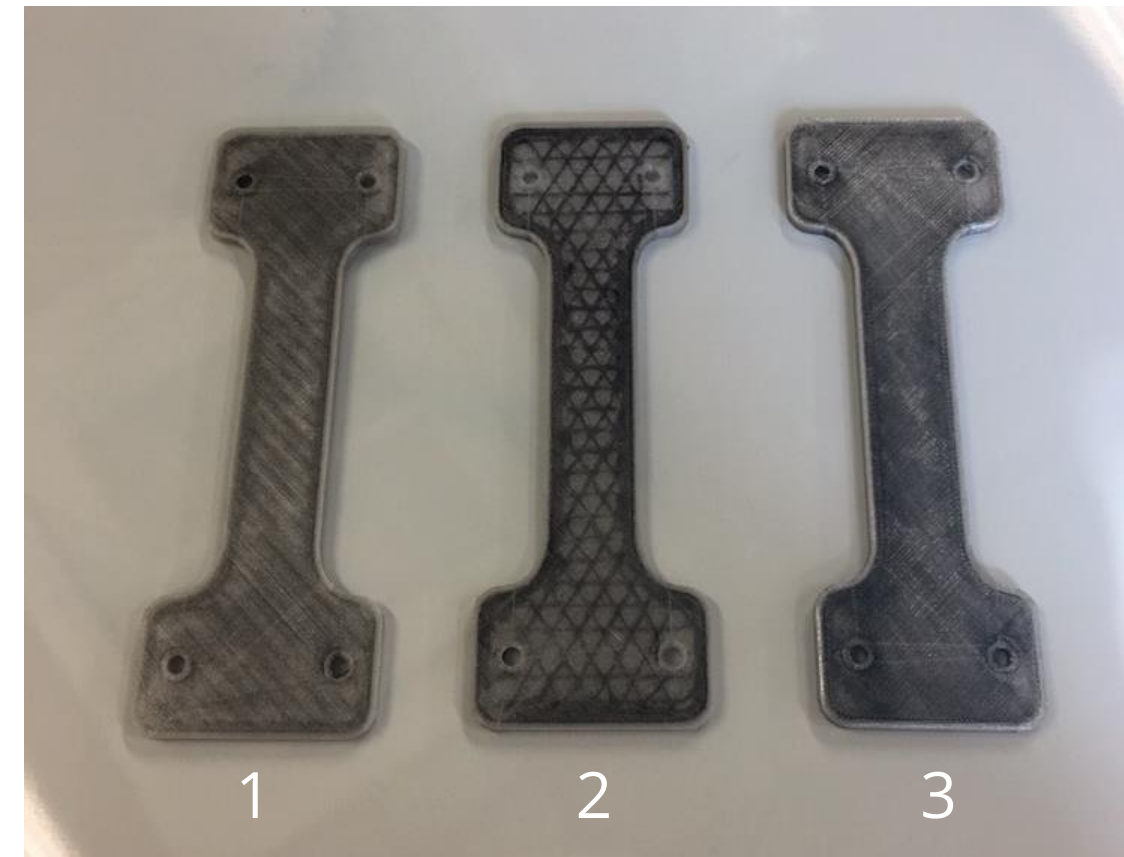
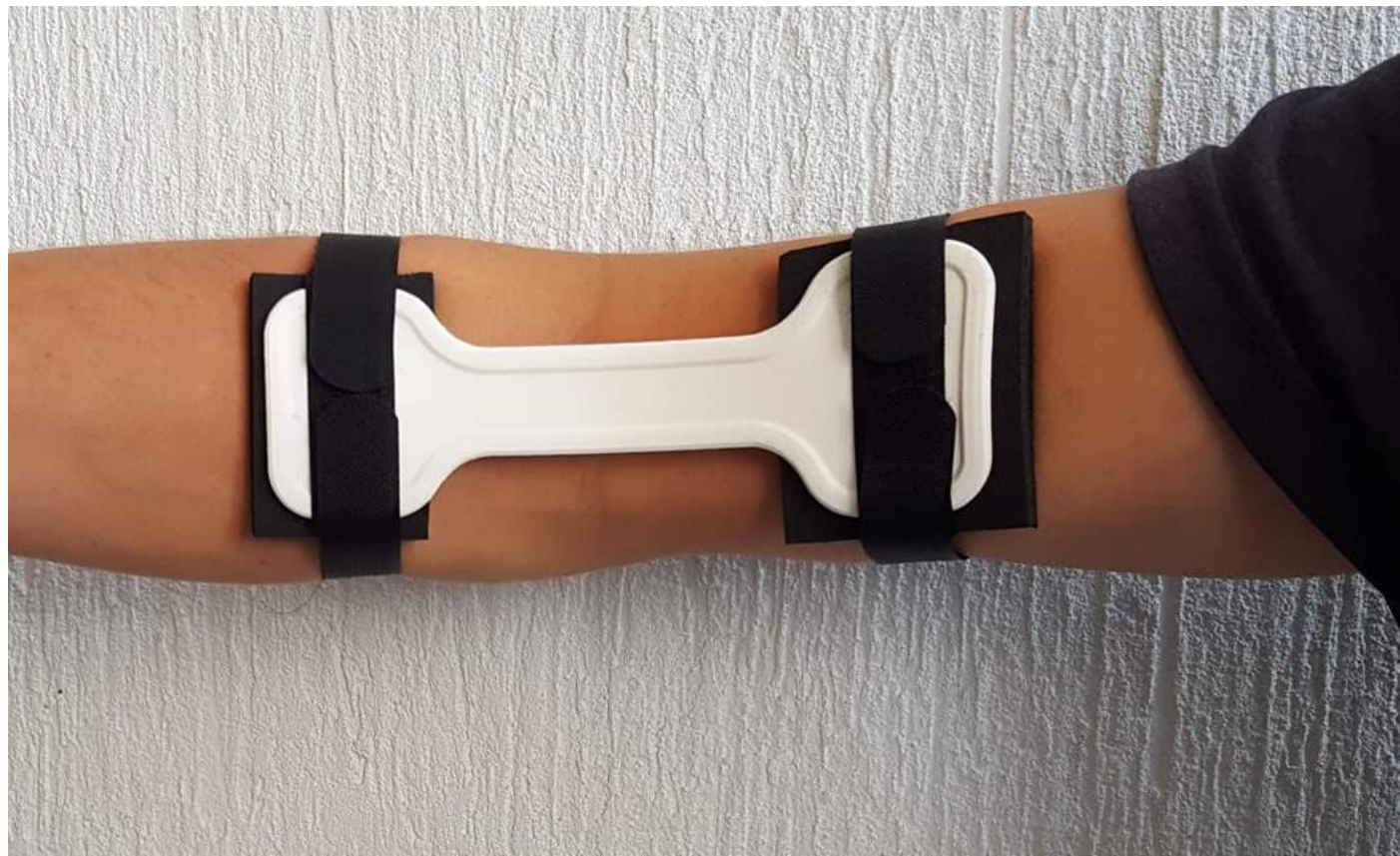


Applications

- Orthopedic bracers
- Medical devices
- Prosthetics
- Orthoses
- Orthopedic insoles

CUSTOM ORTHOSES

Higher stiffness while weight reduction, stiffness level customization



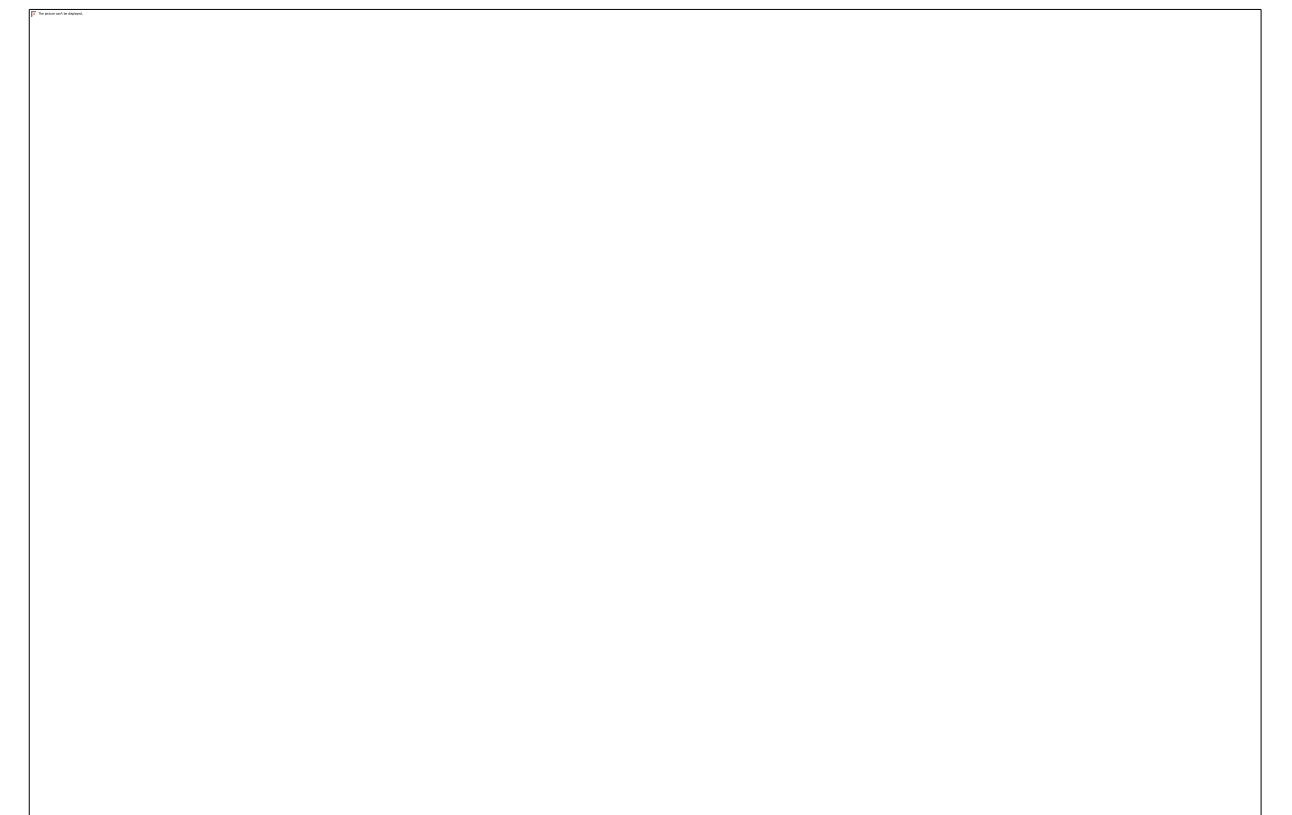
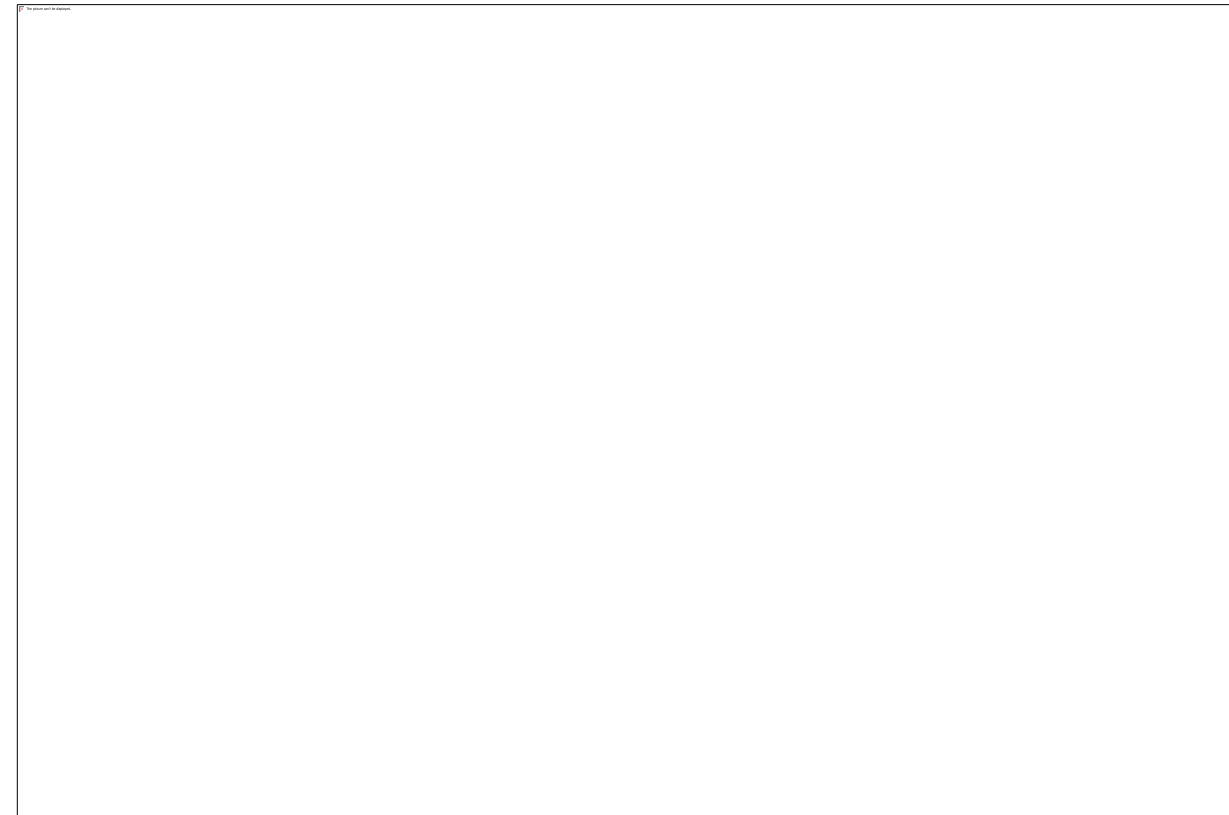
Part	Original	1	2	3
Material	Plastic	Composite Carbon Fiber		
Infill density	100%	20%	35%	100%
Weight	x	0.4x	0.5x	1.1x
Stiffness	y	5y	6.5y	17.5y

2 times weight reduction while 5-6 times higher stiffness.

Stiffness level is being varied for every patient through Anisoprinting software

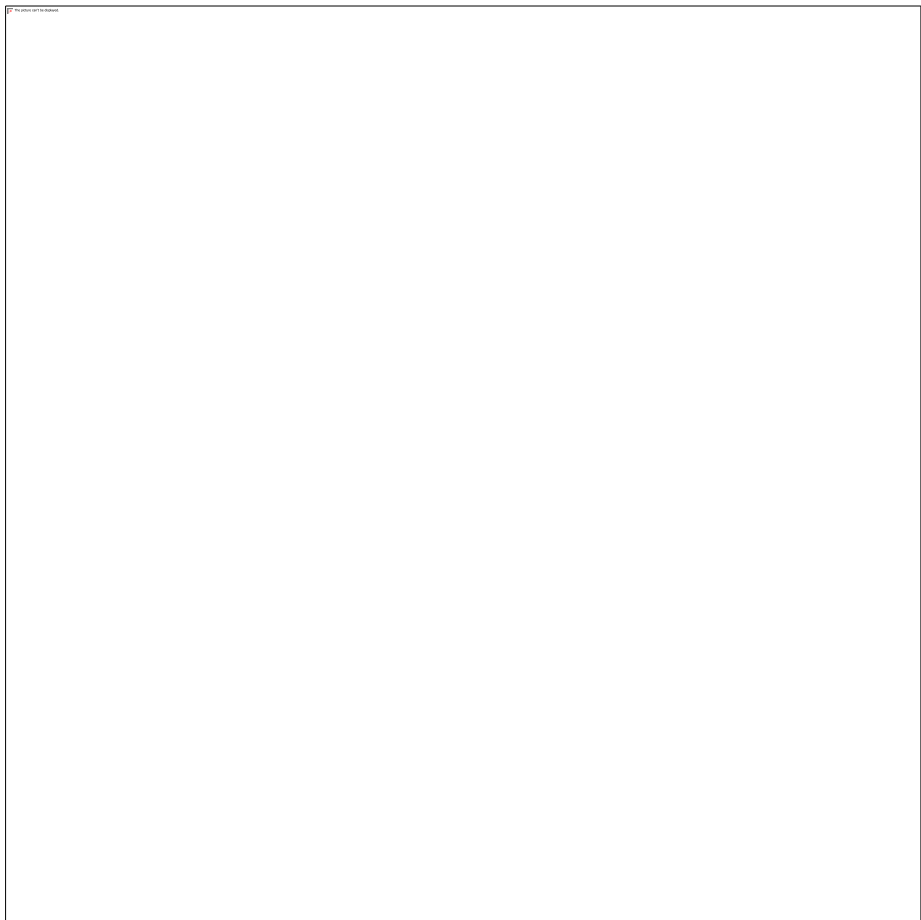
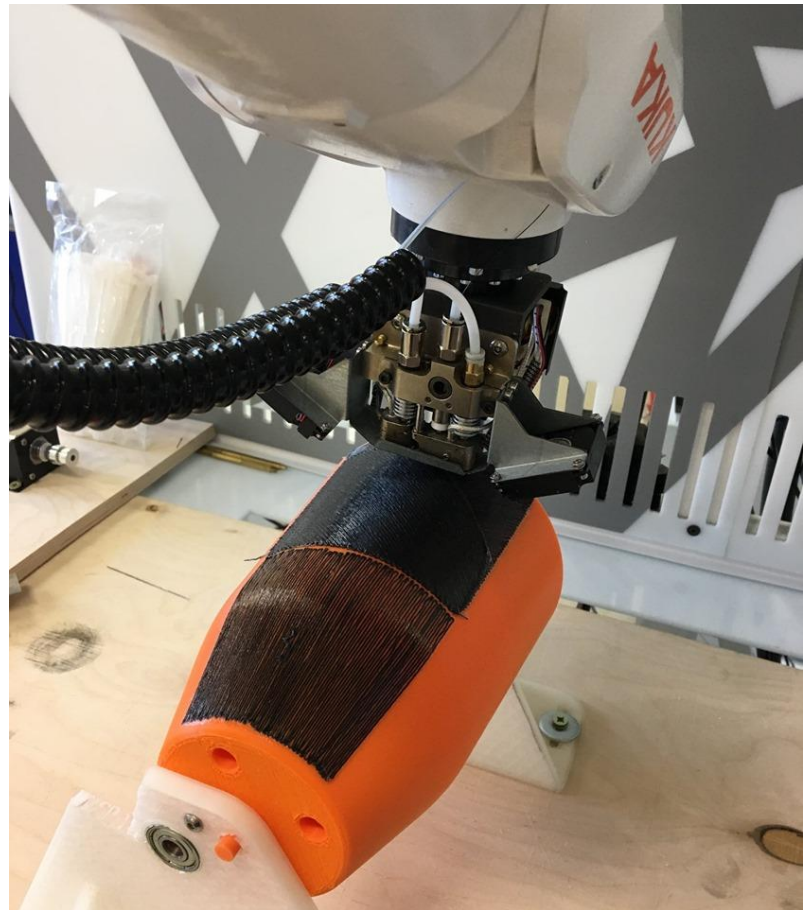
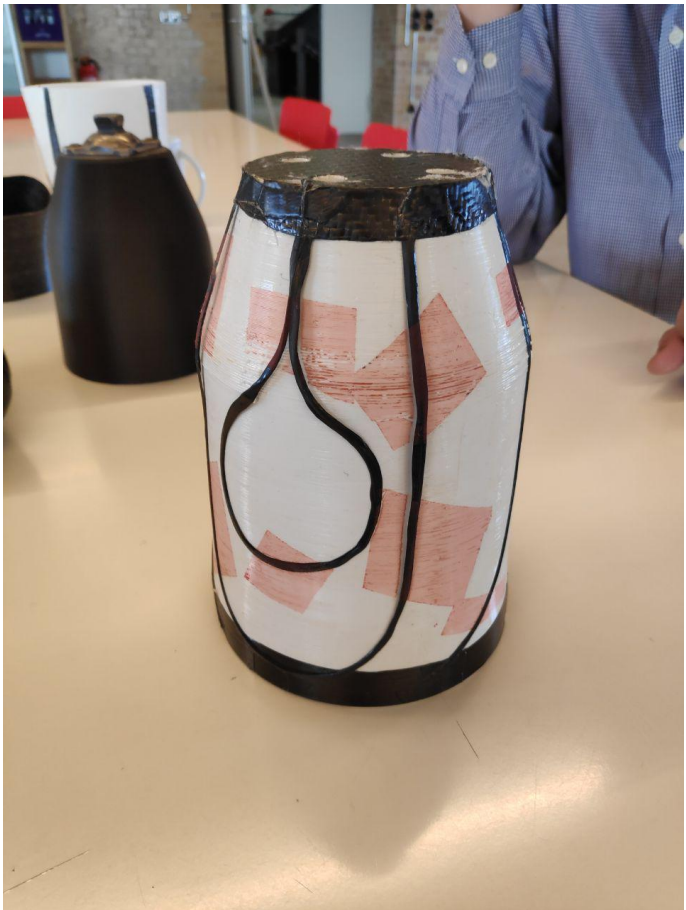
MEDICAL DEVICES

THE PART FOR ELECTRIC WHEELCHAIR DRIVE

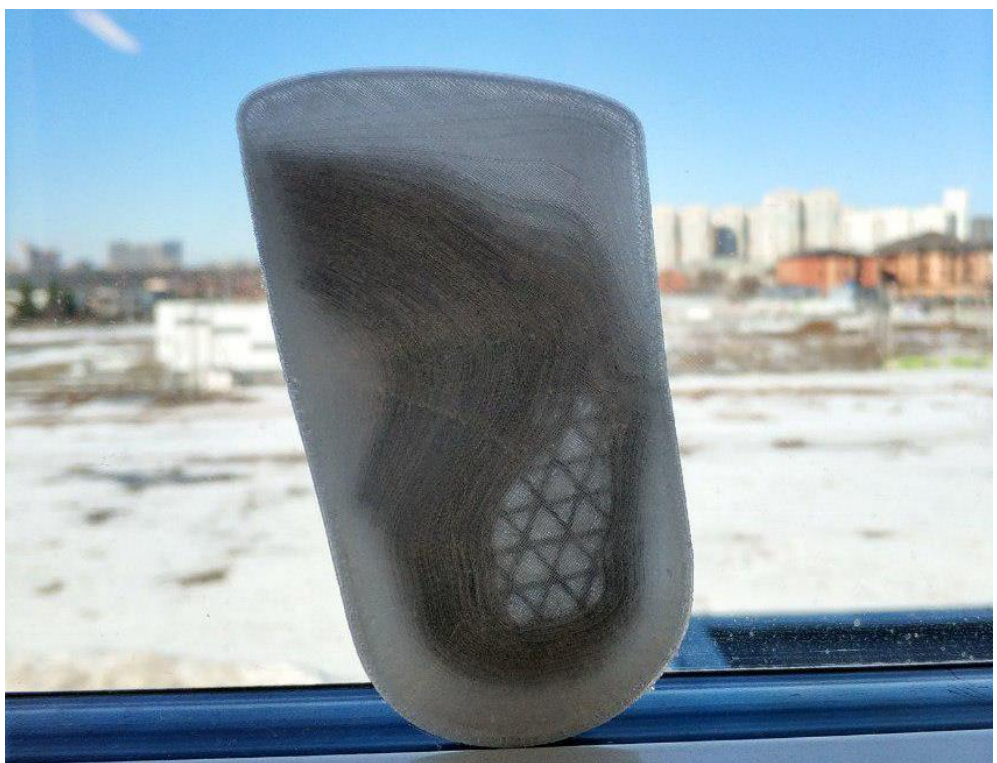
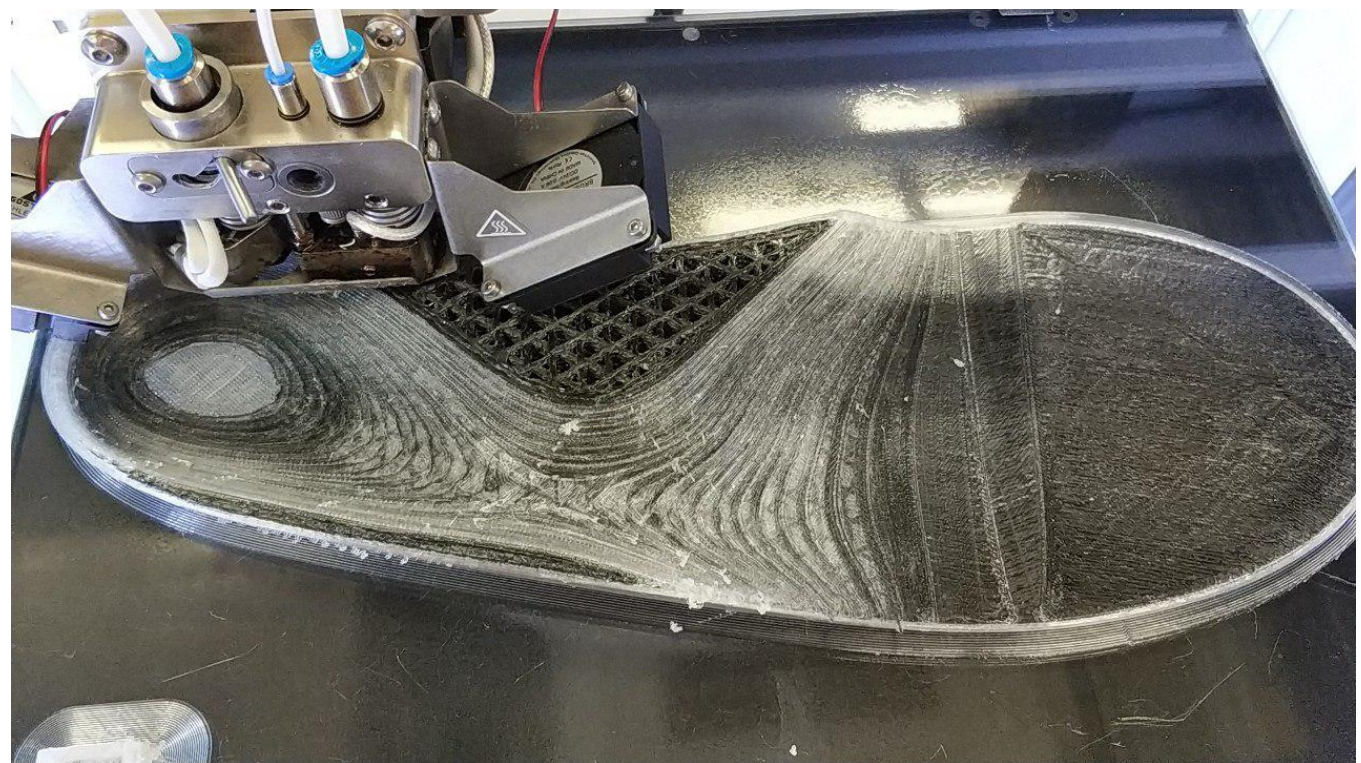


Part	Original	Anisoprint
Material	Steel	Composite Carbon Fiber
Weight	300 grams	41 grams
Fabrication time	48 hours	4 hours
Unit price	> EUR 100	EUR 26

PROSTHETIC SOCKETS, ORTHOPEDIC INSOLES, CUSTOM ORTHOSES, PROSTHETIC PARTS



Automation
Quality control
Custom made
On-demand



Solutions

- Materials
- Hardware
- Software

COMPOSITE MATERIALS: CCF AND CBF



Dry fiber

+ THERMOSET =



Stiff fiber:

Composite Carbon Fiber (CCF)
or Composite Basalt Fiber (CBF)

During printing — co-extrusion:

CCF/CBF + THERMOPLAST →

**DUAL-MATRIX
COMPOSITE**

CCF-1.5K + PETG

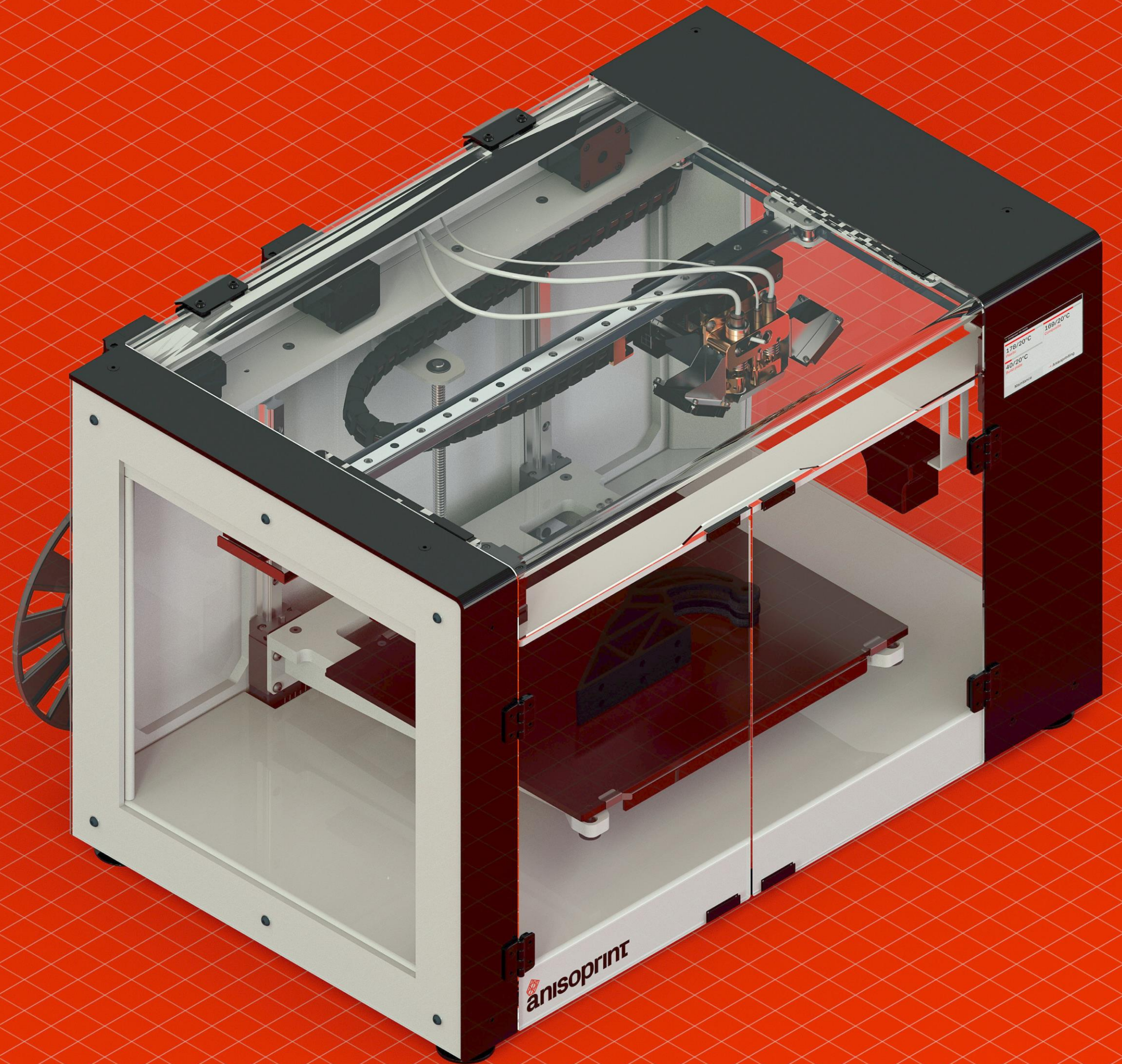
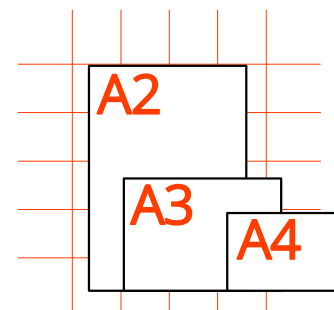
Density, g/cm ³	1.4
Tensile modulus in fiber direction, GPa	64
Tensile ultimate stress in fiber direction, MPa	860
Compressive ultimate stress in fiber direction, Mpa	290
Flexural Strength along axis 1 under bending in plane 1-3, MPa	520



DESKTOP 3D-PRINTER: COMPOSER

- Lattice structures: lower weight, price and production time
- Open material system — any plastic as a matrix
- 3 sizes

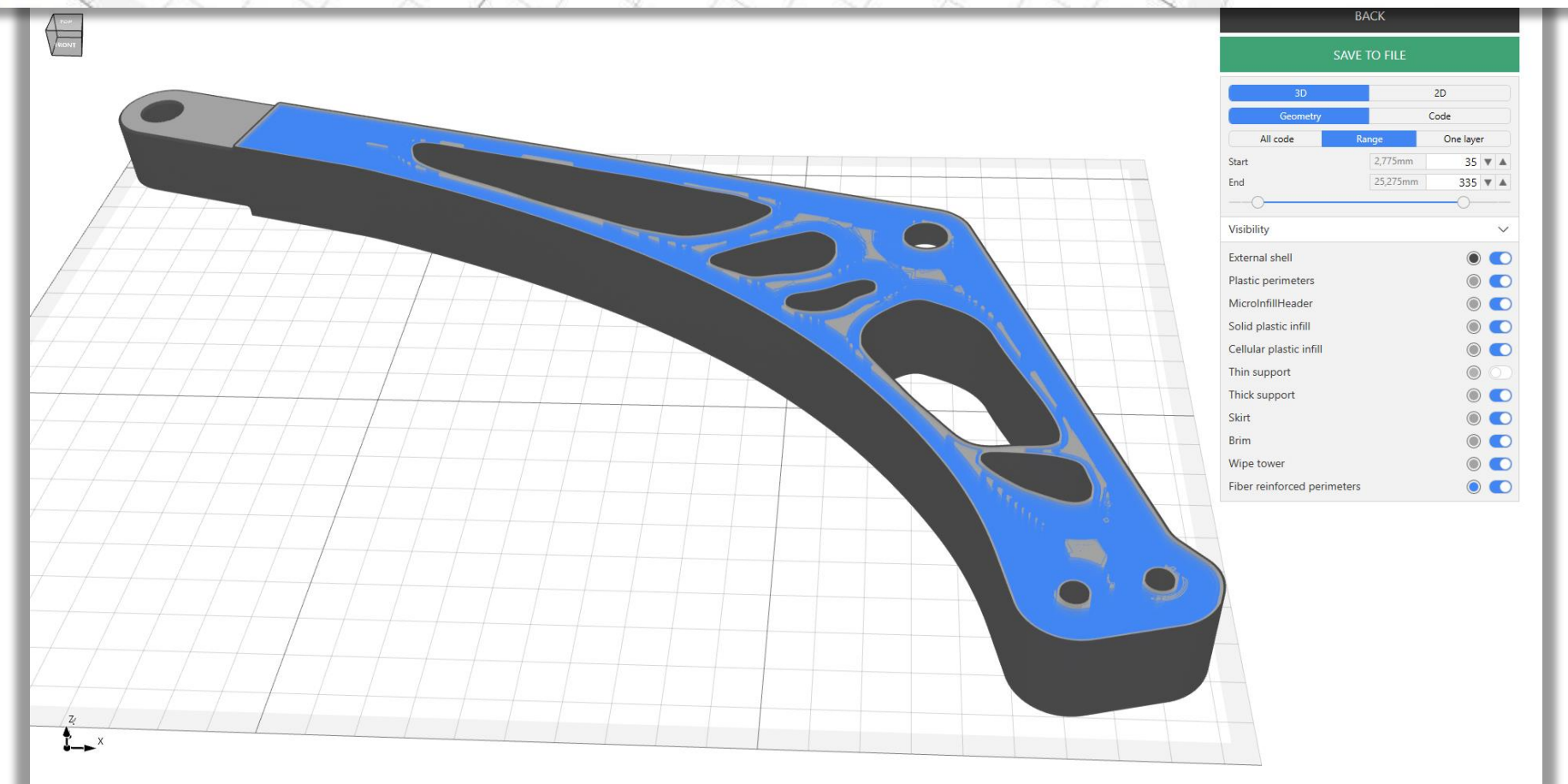
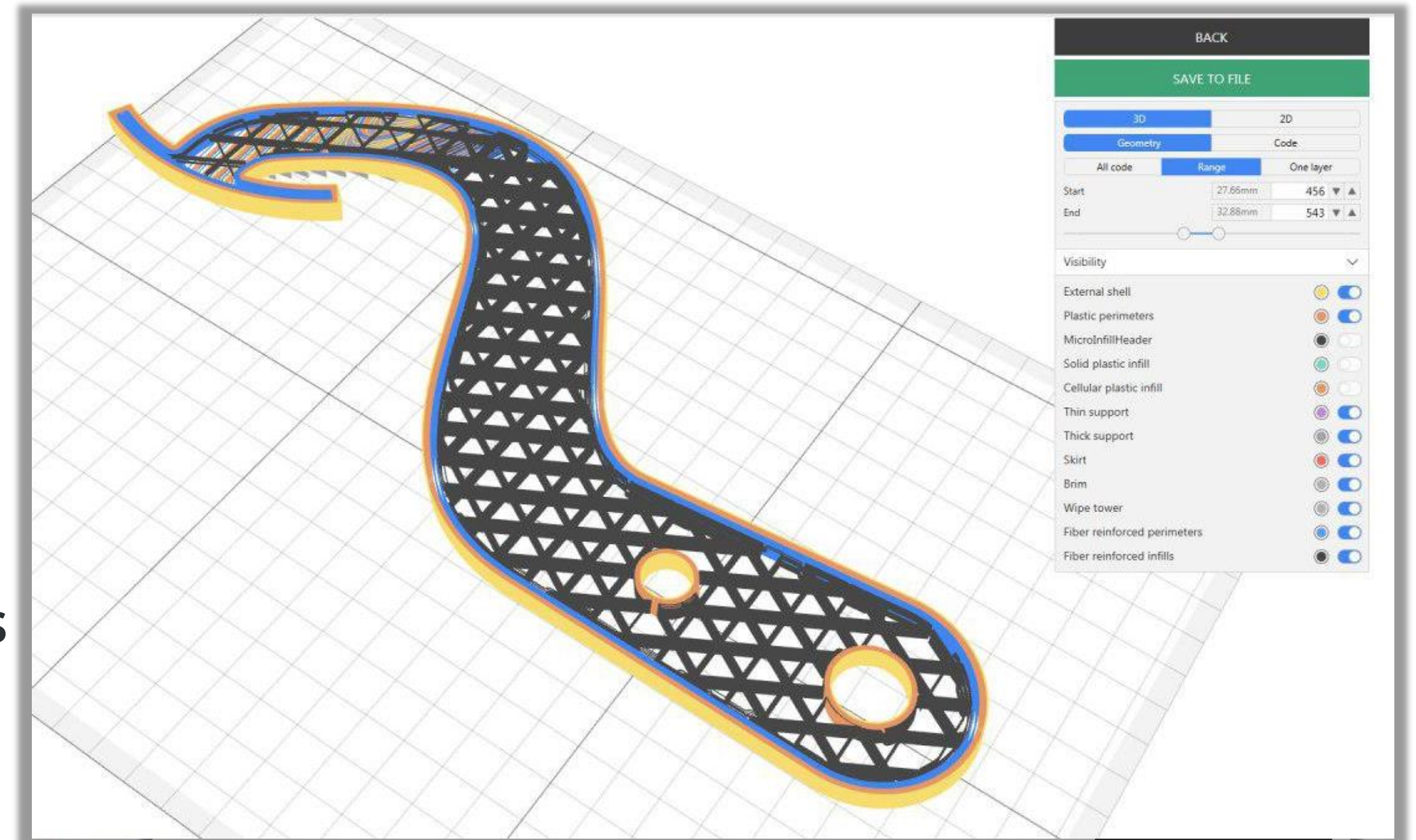
A4 297x210x147MM
A3 420x297x210MM
A2 594x420x297MM



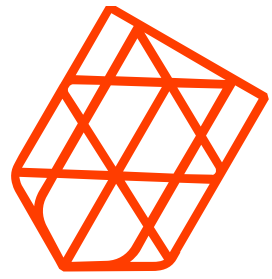
SLICING SOFTWARE: AURA

- For FFF and CFC printers
- Support for STL and CAD formats: stp, 3ds, obj
- Model saved on a local PC
- G-code generalization, geometry-view
- Separate setting and combining of printers, plastics and profiles
- Printing different parts with different materials

**AURA**



**STOP METAL
THINKING → START
ANISOPRINTING**



anisoprint

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