

# **Silicone 3D Printing Pioneer**







2020

2014	Established San Draw in Silicon Valley
2015	Established San Draw in Taiwan
2016	Graduated from accelerator of UC Berkele SkyDeck
2017	<ol> <li>US patent granted, FAM Technology</li> <li>Taiwan start-up SBIR stage1 granted</li> </ol>
2018	<ol> <li>Taiwan start-up SBIR stage2 granted</li> <li>Japan patent granted, FAM Technology</li> <li>Finished series Pre-A fund raising</li> </ol>
2019	<ol> <li>Taiwan patent granted, FAM Technology</li> <li>China patent granted, FAM Technology</li> </ol>

Introduce S200 3D Printer, world's first dual

silicone (RTV & LSR) 3D printer



#### **FAM Technology**

FAM<sup>TM</sup> stands for Fluid Additive Manufacturing, and it is an additive manufacturing process specially designed for RTV silicone and liquid silicone rubber (LSR). It's world's first silicone 3D printing technology and has been patented in many countries.

#### **Advantages**



#### **Multiple Silicone Selections**

We develop silicones with different features to apply to your versatile applications, including high elasticity, life-like touch, high strength, and high rigidity.



#### **Bio-compatibility**

Many of our silicones are certified by ISO10993, making it suitable for medical device, medical simulator, wearable, and prosthesis.



#### **Bridging prototyping & mass production**

We develop a series of LSR not only suitable for 3D printing, but also usable in liquid injection molding process, making a seamless transition from prototyping with S200 printer to mass production with injection molding machine.

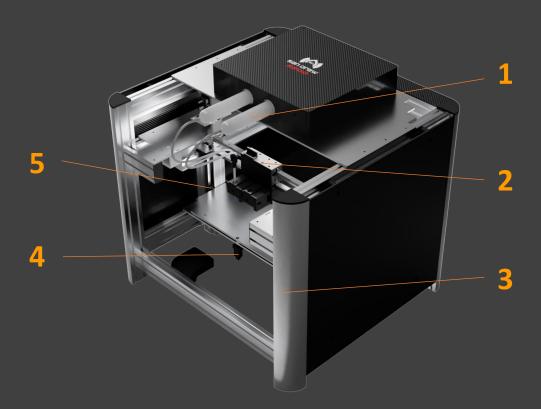


# **3D Printing Silicone**

Our Material
We have the broadest material selection of 3D printing silicone

Silicone	SIL 18	SIL 28	SIL 50	SIL 70
Туре	1-part RTV	1-part RTV	2-part LSR	2-part LSR
Color	Transparent Red Yellow	Transparent Skin	Transparent	Transparent
Hardness	Shore A 18	Shore A 28	Shore A 50	Shore A 70
Tensile Strength	200 psi	270 psi	1,750 psi	1,550 psi
Tear Strength	4 kgf/cm	5 kgf/cm	40 kgf/cm	25 kgf/cm
Elongation	800 %	300 %	700 %	460 %
Certification		ISO 10993-5	ISO 10993-5 ISO 10993-10	ISO 10993-5 ISO 10993-10
Liquid Injection Molding Compatibility			Yes	Yes





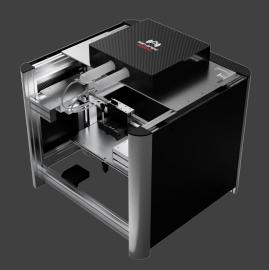
#### **Features**

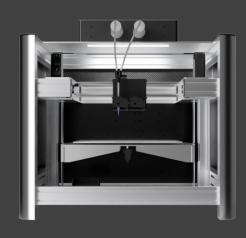
S200 is world's first dual silicone (RTV & LSR) 3D printer.

- (1) Injection System: The special design of barrel, piston, and O-ring can withstand the force more than 100 kgf.
- (2) Motion System: The special motion system can reduce the loading of printing module, reduce mechanical vibration, and increase printing quality.
- (3) Structure: We use 6063 aluminum extrusion as the main frame, and we use aluminum CNC plates as sub-frames, making it strong, precise, and light.
- (4) Calibration: Sensor to automatically calibrate the height of print head.
- (5) Linear Actuator: We choose industrial grade linear actuators from Oriental Motor to deliver precise and quiet Z motion.









Category	Industrial & Medical	
Print Volume	270 x 235 x 150 mm	
Printer Size	700 x 700 x 700 mm	
Z axis	Linear Actuator w/ ball screw	
Calibration	Automatic sensor	
Z Layer Resolution	0.05 mm	
Nozzle Diameter	0.3 mm	
Roller w/ brake	Yes	
Material	SIL18, SIL28, SIL50, SIL70	
Power	110 V	



### **Application** — Clinical Skill Trainer

S100 is the first silicone 3D printer used in commercial production.

### **Suture Training Kit**

Human skin is multi-layered with different hardness and touch, making it extremely challenging to replicate. S100 prints SIL18 and SIL28 in layers with different internal structures to make it an ultra-realistic and durable suture pad.











## **Application** — Simulation Model

### **Surgery Simulation Model**

SIL18 and SIL28 present highly similar hardness and density to human muscle, so it's suitable to be used as the material for simulation model, delivering super realistic touch.

# Liver Model



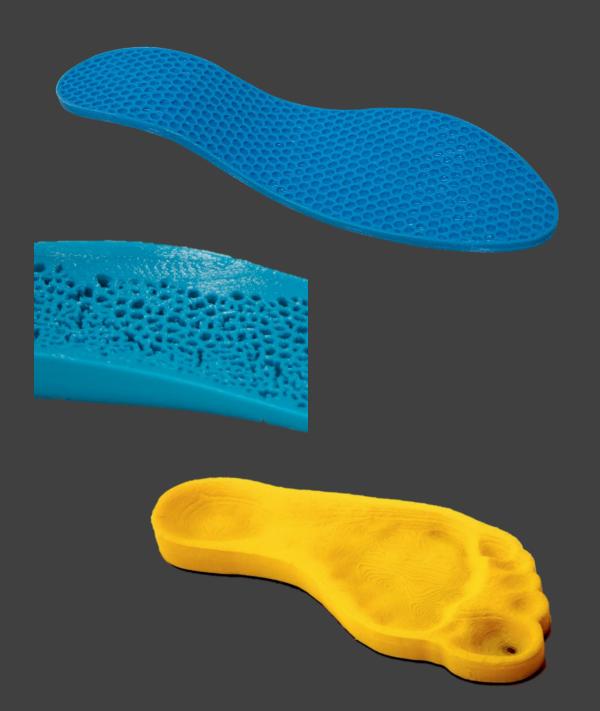
# Gallbladder Model







The user scenario of a pair of shoes is very challenging, and it faces thousands of temperature and loading changes. Midsole is the key to comfort and functionality of shoes, and S100 and S200 are able to print midsole in intricate designs, achieving better functionality and weight reduction.





### **Application** — Human Implant

Silicone is known for its great biocompatibility, and it is commonly used in human implants. S100 and S200 are able to print short-term and long-term implantable grade silicone, creating new business opportunity for you.

#### **Facial implants**





Email: info@sandraw.com

Website: https://www.sandraw.co/main

Facebook: https://www.facebook.com/san.draw.3dprinting/