ขั้นตอนของการขอรับบริการขึ้นชิ้นงาน 3D ของสำนักวิจัยและบริการวิทยาศาสตร์และเทคโนโลยี (สวท.)

สำนักวิจัยและบริการวิทยาศาสตร์และเทคโนโลยี (สวท.)
ให้บริการวัน จันทร์ - ศุกร์
เวลา 8.30 - 16.30

1. ผู้ใช้บริการติดต่อสอบถามรายละเอียดการใช้บริการได้ที่ สวท. โทร 02-470-9671

2. ผู้ใช้บริการกรอกรายละเอียดตามแบบฟอร์มใบขอรับใช้บริการทดสอบ
สามารถดาวน์โหลดเอกสารได้ที่เว็บไซต์http://www.kmutt.ac.th/istrs/website/th/service_2.html

3. เจ้าหน้าที่รับงาน และทำการส่งใบเสนอราคาภายใน 2 วันทำการ

4. ผู้ใช้บริการชำระค่ามัดจำ เป็นจำนวน 50% ของราคาทั้งหมด พร้อมนัดวันเวลารับชิ้นงาน
* ท่านสามารถชำระค่าบริการโดยชำระเป็นเงินสด หรือเช็คสั่งจ่ายในนาม มจธ.-บริการวิชาการ หรือ โอนเงินเข้าบัญชี ออมทรัพย์ ธนาคารกรุงศรีอยุธยา จำกัด สาขาย่อยถนนประชาอุทิศ ชื่อ บัญชี มจธ.-บริการวิชาการ เลขที่บัญชี 330-1-169272-2 แล้ว Fax ใบทำการมายังโทรสาร 0-2428-3374

5. มารับชิ้นงาน และชำระค่าบริการที่เหลือ

ProJet® 5500X

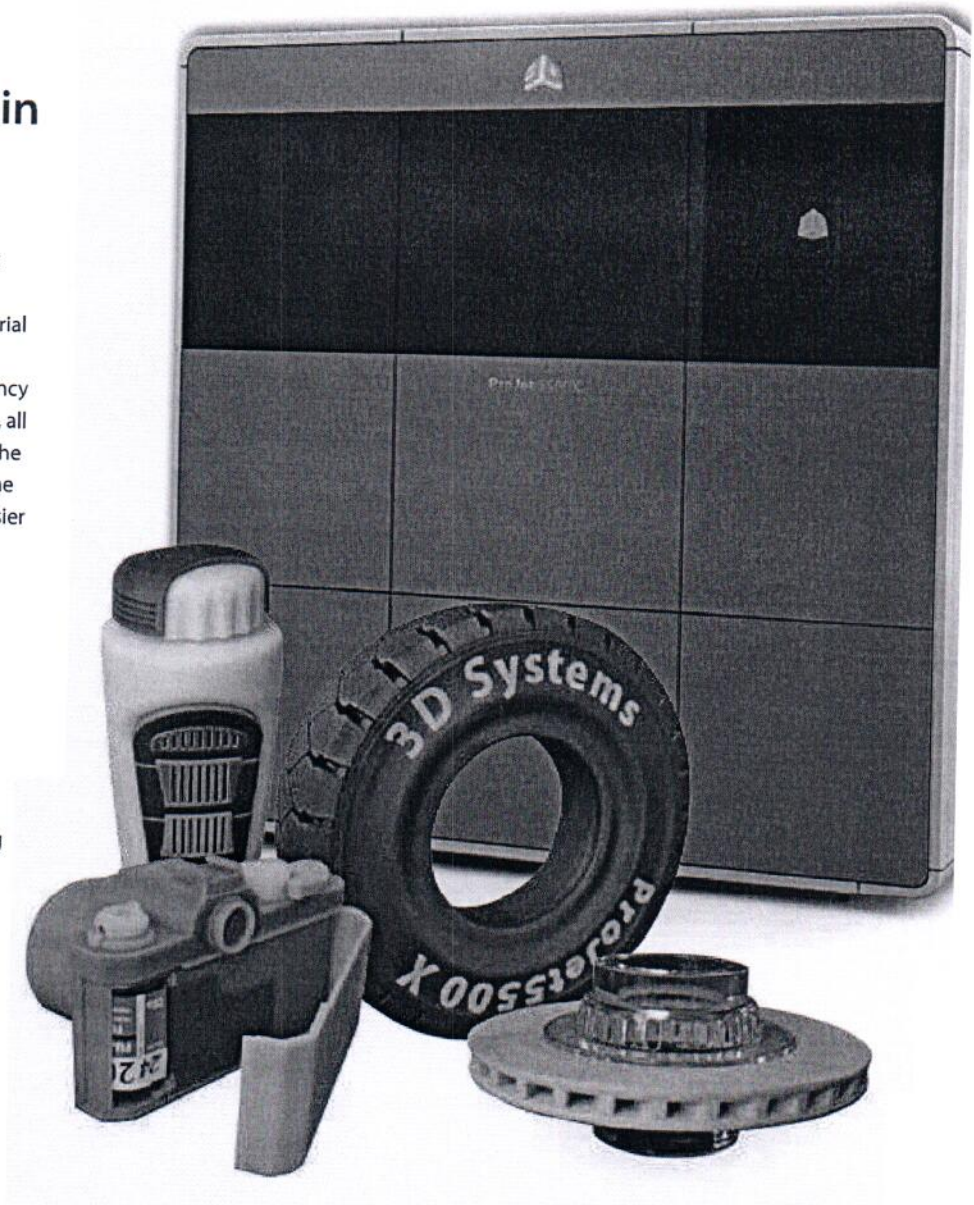
Multi-Material 3D Printer

3DSYSTEMS

Large, high-quality multi-material parts in a single build.

3D Systems' ProJet® 5500X uses proven MultiJet Printing (MJP) technology to build the highest quality, most accurate and toughest multi-material parts available. Print finely detailed parts with varying degrees of flexibility, material transparency and color (black, white, or select shades of grey), all from one 3D printer. The ProJet 5500X features the fastest print speeds, a large build volume, and the most convenient print-to-part process, so it's easier to create parts with engineered plastic or rubber properties.

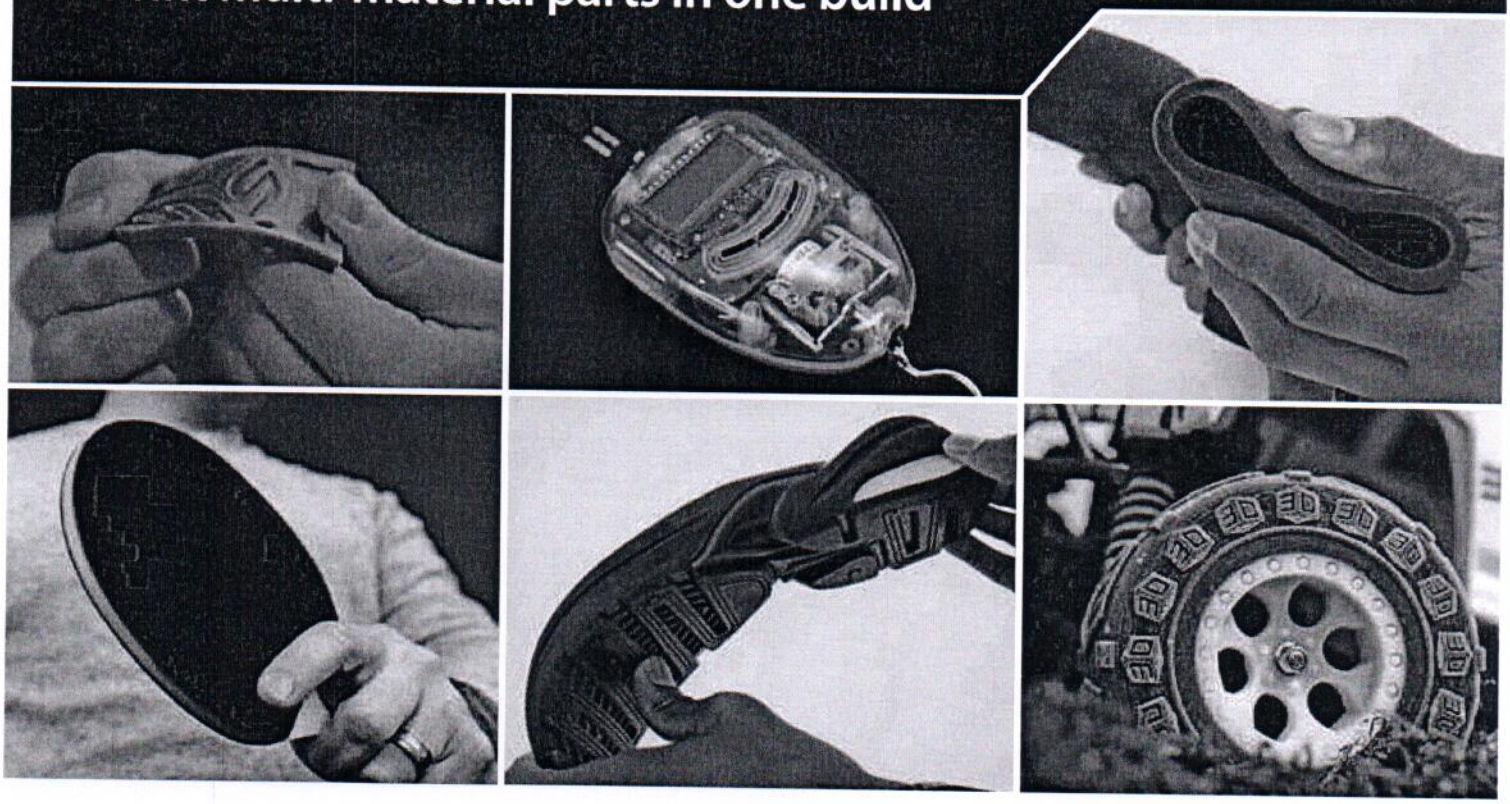
Using VisiJet® Composite materials, the ProJet 5500X offers more than one hundred material variations to precisely match your specifications. With so many options, the ProJet 5500X is perfect for a variety of applications, including overmolded parts, multi-material assemblies, rubber-like components, long-lasting living hinges and high-temperature testing.



www.3dsystems.com

MANUFACTURING*THE*FUTURE

Print multi-material parts in one build



VisiJet® Composite Materials for the ProJet® 5500X 3D Printer

The VisiJet composite family of materials is precisely mixed by the ProJet 5500X print head on-the-fly to achieve superior mechanical properties and custom performance characteristics to meet your exacting specifications. This ingenuous system simultaneously prints and blends together flexible and rigid material composites, layer-by-layer at the pixel level, in a variety of colors and shades including opaque, clear, black or white and numerous shades of gray.

PROPERTIES	ASTM	BASE MATERIALS		
Material Name		**VisiJet CR-WT**	**VisiJet CR-CL**	**VisiJet CF-BK**
Description		Rigid ABS-like	Rigid Polycarbonate-like	Flexible Rubber-like
Appearance		White	Clear	Black
Cartridge Quantity, kg		2	2	2
Density @ 80 °C (liquid), g/cm³	D-4164	1.04	1.04	1.04
Tensile Strength, MPa	D-638	56	56	2.2
Tensile Modulus, MPa	D-638	2400	2400	0.7
Elongation at Break, %	D-638	8.1	13	290
Flexural Strength, MPa	D-790	74	75.00	0.5
Flexural Modulus, MPa	D-790	2500	2500	5.5
Heat Deflection Temp. @ 0.45 MPa, °C	D-648	54	54	n/a
Impact Strength (Notched Izod), J/m	D-256	18	18	n/a
Shore Hardness (A), Scale A	D-2240	n/a	n/a	63
Shore Hardness (D), Scale D	D-2241	83	83	n/a
Glass Transition, Tg °C	DMA, E"	43	43	n/a

Composite Combinations Created on the Fly by the ProJet 5500X

In addition to printing in pure base materials, the ProJet 5500X can mix any two base materials together pixel-by-pixel to achieve your targeted properties, in seven different ratios. An entire object can be printed in any of these composites, or a user can easily select a specific region of a part to be any number of different material combinations.

PROPERTIES	ASTM	MULTI-MATERIAL COMPOSITES (VisiJet CR-WT + VisiJet CF-BK)						
Material Name		**RWT-FBK 100**	**RWT-FBK 200**	**RWT-FBK 300**	**RWT-FBK 400**	**RWT-FBK 500**	**RWT-FBK 600**	**RWT-FBK 700**
Description		Very Rigid	Rigid	Slightly rigid	Slightly flexible	Slightly flexible	Flexible	Very flexible
Appearance		Very light grey	Light grey	Light grey	Grey	Grey	Dark grey	Very dark grey
Tensile Strength, MPa	D-638	36	28	19	10	5.1	2.8	2.1
Tensile Modulus, MPa	D-638	1650	1200	630	160	23	11	1.4
Elongation at Break, %	D-638	10	15	17	25	31	34	150
Flexural Strength, MPa	D-790	57	43	22	7.3	1.7	1.3	0.74
Flexural Modulus, MPa	D-790	1960	1550	800	250	50	14.5	7.5
Heat Deflection Temp. @ 0.45 MPa, °C	D-648	51	48	40	33	n/a	n/a	n/a
Impact Strength (Notched Izod), J/m	D-256	25	20	20	21	18	19	47
Shore Hardness (A), Scale A	D-2240	n/a	n/a	n/a	n/a	n/a	n/a	85
Shore Hardness (D), Scale D	D-2241	80	79	74	65	55	44	n/a
Glass Transition, Tg °C	DMA, E"	40	33	31	24	19.5	15	8

PROPERTIES	ASTM	MULTI-MATERIAL COMPOSITES (VisiJet CR-CL + VisiJet CF-BK)						
Material Name		**RCL-FBK 100**	**RCL-FBK 200**	**RCL-FBK 300**	**RCL-FBK 400**	**RCL-FBK 500**	**RCL-FBK 600**	**RCL-FBK 700**
Description		Very Rigid	Rigid	Slightly rigid	Slightly flexible	Slightly flexible	Flexible	Very flexible
Appearance		Transparent Light Grey	Transparent Grey	Transparent Dark Grey	Translucent Light grey	Translucent grey	Opaque grey	Opaque dark grey
Mechanical Properties		*Identical properties to VisiJet CR-WT + VisiJet CF-BK composites in table above*						

PROPERTIES	ASTM	MULTI-MATERIAL COMPOSITES (VisiJet CR-CL + VisiJet CR-WT)						
Material Name		**RCL-RWT 100**	**RCL-RWT 200**	**RCL-RWT 300**	**RCL-RWT 400**	**RCL-RWT 500**	**RCL-RWT 600**	**RCL-RWT 700**
Description		Rigid ABS-like						
Appearance		Transparent Pale White	Transparent White	Transparent White	Translucent White	Translucent White	Opaque white	Opaque bright white
Tensile Strength, MPa	D-638	56	56	56	56	56	56	56
Tensile Modulus, MPa	D-638	2400	2400	2400	2400	2400	2400	2400
Elongation at Break, %	D-638	8.1	8.1	8.1	8.1	8.1	8.1	8.1
Flexural Strength, MPa	D-790	74	74	74	74	74	74	74
Flexural Modulus, MPa	D-790	2500	2500	2500	2500	2500	2500	2500
Heat Deflection Temp. @ 0.45 MPa, °C	D-648	54	54	54	54	54	54	54
Impact Strength (Notched Izod), J/m	D-256	18	18	18	18	18	18	18
Shore Hardness (D), Scale D	D-2241	83	83	83	83	83	83	83
Glass Transition, Tg °C	DMA, E"	43	43	43	43	43	43	43

ProJet® 5500X

Multi-Material 3D Printer

ProJet 5500X

Net Build Volume (xyz)	
HD Mode (High Definition)	20.39 x 14.99 x 11.59 in (517.78 x 380.75 x 294.39 mm)
HDS Mode (HD High Speed)	20.39 x 14.99 x 11.59 in (517.78 x 380.75 x 294.39 mm)
HDS prints 2x faster than HD for a single material	
UHD Mode (Ultra High Definition)	20.39 x 14.99 x 11.59 in (517.78 x 380.75 x 294.39 mm)
Resolution (xyz)	
HD Mode	375 x 375 x 790 DPI; 32µ (0.0012 in) layers
HDS Mode	375 x 375 x 790 DPI; 32µ (0.0012 in) layers
UHD Mode	750 x 750 x 890 DPI; 29µ (0.0011 in) layers
Build Materials	
VisiJet® CR-CL	Rigid Plastic Material - Clear
VisiJet® CR-WT	Rigid Plastic Material - White
VisiJet® CF-BK	Rubber-like Material - Black
Support Material	VisiJet® S500 Support Material
Material Packaging	Build materials in clean 2.0 kg cartridges and support material in clean 1.75 kg cartridges (printer holds 4 build and 4 support cartridges with auto-switching)
Electrical	100 VAC, 50/60 Hz, single-phase, 15 Amps 115 VAC, 50/60 Hz, single-phase, 15 Amps 240 VAC, 50/60 Hz, single-phase, 8 Amps
Dimensions (WxDxH)	
3D Printer Crated	80 x 48 x 78 in (2032 x 1219 x 1981 mm)
3D Printer Uncrated	67 x 35.4 x 65 in (1700 x 900 x 1650 mm)
Weight	
3D Printer Crated	2550 lbs (1157 kg)
3D Printer Uncrated	2060 lbs (934 kg)
ProJet Accelerator Software	Easy build job set-up, submission and job queue management; Automatic part placement and build optimization tools; Part stacking and nesting capability; Extensive part editing tools; Automatic support generation; Job statistics reporting tools
Network Compatibility	Network ready with 10/100 Ethernet interface
Client Hardware Recommendation	1.7 GHz or better with 4GB RAM OpenGL 1.1 Compatible 1280x1024 resolution or better
Client Operating System	Windows® 7, Windows® 8 or Windows® 8.1
Input Data File Formats Supported	STL, CTL
Operating Temperature Range	18 - 28 °C (64-82 °F)
Noise	< 65 dBa estimated (at medium fan setting)
Certification	CE

Multi-material composite printing in one part, at one time

- **Have more material options** – Print the precise variety of engineered plastic or rubber you need, no assembly required.
- **Make quality, exact parts** – Produce the most detailed, most accurate multi-material parts with superior strength, stability and temperature performance.
- **Fit your part size requirements** – High throughput to quickly print a large variety of small or big precision parts.
- **Increase productivity** – The ProJet 5500X features fast build speeds, ease of use, and hands-free post processing, all at lower cost of ownership.
- **Maximize spending** – By using less material than similar printers, and a 5-year guarantee on the print head, the ProJet 5500X offers a lower TCO.
- **Vary tone and clearness** – Print stunning clear parts as well as parts in white, black and select shades of grey.

Features:

- Print in multiple materials in a single build
- Produces strong, finely detailed, precise parts
- Easy post processing
- Larger net build volume for bigger parts or more parts per build
- Build speeds up to two times faster than other printers in class

MultiJet Printing (MJP)

MultiJet 3D Printers (MJP) print thin layers of UV-curable liquid plastic onto a flat platform, using wax to create supports that brace the part during production. UV lamps cure each layer, and the build platform lowers for the next layer. This process continues layer by layer until the part is complete.

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