Material Selection Guide for ProJet® MJP 2500 and 2500 Plus

VisiJet® M2 MultiJet Printing materials for functional precision plastic and elastomeric parts

3D SYSTEMS
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	MATERIAL PROPERTIES / CHARATERISTICS						KEY APPLICATION AREAS					
	Accuracy	High Temp Resistance	Moisture Resistance	Optical Clarity	Durability	Color	General Purpose Models	Functional Prototyping (Snap Fits)	Jigs, Fixtures and Tools	Patterns, Dies and Molds	Elastomeric Products Prototyping	Medical
ENGINEERING CLASS												
VisiJet Armor M2G-CL[1]	●●●●●		●●●●	●●●●●	●●●●●	Transparent Clear	●●●●●	●●●●●	●●●●●	●●●●●		
VisiJet ProFlex M2G-DUR	●●●●●		●●●●	●●●●	●●●●●	Transparent Clear	●●●●	●●●●●	●●●●	●●●●		
RIGID CLASS												
VisiJet M2R-GRY[1]	●●●●●	●●●	●●●●●		●●●●	Opaque Gray	●●●●●	●●●●	●●●●	●●●		●●●●●
VisiJet M2R-WT	●●●●●	●●●	●●●●●		●●●●	Opaque White	●●●●●	●●●●	●●●●	●●●		●●●●●
VisiJet M2R-BK	●●●●●	●●●●	●●●●●		●●●	Opaque Black	●●●●●	●●●	●●●	●●●		
VisiJet M2R-CL[1]	●●●●●	●●●	●●●●●	●●●●●	●●●●	Transparent Clear	●●●●●	●●●●	●●●●	●●●●		●●●●●
VisiJet M2R-TN[1]	●●●●●	●●●●	●●●●●		●●●	Opaque Tan	●●●●●	●●●	●●●	●●●		●●●●●
SPECIALTY CLASS												
VisiJet M2S-HT90[1]	●●●●●	●●●●●	●●●●●	●●●●	●●●	Transparent Clear	●●●	●●●	●●●●●	●●●●●		●●●●●
ELASTOMERIC CLASS												
VisiJet M2 ENT[1]	●●●●		●●●		●●●●	Amber Translucent					●●●●●	
VisiJet M2 EBK[1]	●●●●		●●●		●●●●	Opaque Black					●●●●●	

Ranking: Ratings are relative to other materials presented.

[1] Material compatible with ProJet MJP 2500 Plus printer only.

RATING SYSTEM

●●●●● = BEST
●●●● = BETTER
●●● = GOOD

		ENGINEERING CLASS		RIGID CLASS					SPECIALTY CLASS	ELASTOMERIC CLASS		SUPPORTS
Properties	ASTM	VisiJet Armor M2G-CL	VisiJet ProFlex M2G-DUR	VisiJet M2R-GRY	VisiJet M2R-WT*	VisiJet M2R-BK*	VisiJet M2R-CL*	VisiJet M2R-TN	VisiJet M2S-HT90	VisiJet M2 ENT	VisiJet M2 EBK	VisiJet M2 SUP
Composition		UV curable plastic		UV curable plastic					UV curable plastic	UV curable elastomeric		Wax support
Color		Clear	Clear	Opaque gray	Opaque white	Opaque black	Translucent clear	Opaque tan	Transparent	Translucent natural	Opaque black	White
USP Class VI and/or ISO 10993 Capable*		No	No	Yes	Yes	No	Yes	Yes	Yes	No	No	No
Bottle Quantity (kg)		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4
Density @ 20 °C (solid) (g/cm³)	D792	1.14	1.14	1.16	1.16	1.16	1.16	1.16	1.15	1.12	1.12	
Tensile Strength (MPa)	D638	30-35	15-20	35-45	35-45	45-55	35-45	60-70	70-80	0.2-0.4	0.2-0.4	
Tensile Modulus (MPa)	D638	1500-2000	250-350	1500-2000	1500-2000	2000-2500	1500-2000	2500-3000	2500-3000	0.27-0.43	0.27-0.43	
Elongation at Break	D638	55-65 %	65-75 %	20-30 %	20-30 %	6-12 %	20-30 %	6-12 %	4-9 %	160-230 %	160-230 %	
Flexural Strength (MPa)	D790	40-45	N/A	50-60	50-60	80-90	50-60	90-100	105-120			
Flexural Modulus (MPa)	D790	1000-1200	N/A	1700-2200	1700-2200	2400-3000	1700-2200	2400-3000	2600-3000			
Impact Strength (Notched Izod) (J/m)	D256	40-50	70-80	20-25	20-25	15-18	20-25	14-17	14-17			
Shore A Hardness	D2240									28-32	28-32	
Shore D Hardness	D2240	70	60	77	77	81	77	72	77-84			
Water Absorption (24 hr)	D570	≤ 0.5 %	≤ 0.5 %	≤ 0.5 %	≤ 0.5 %	≤ 0.5 %	≤ 0.5 %	≤ 0.5 %	≤ 0.5 %	0.9 %	0.6 %	
Heat Distortion Temp @ 0.45 MPa	D648	47 °C	N/A	51 °C	51 °C	61 °C	51 °C	71 °C	90-100 °C			
Heat Distortion Temp @ 1.82 MPa	D648	43 °C	N/A	45 °C	45 °C	53 °C	45 °C	61 °C	80-90 °C			
Melting Point												60 °C
Softening Point												40 °C
Printer Compatibility		ProJet MJP 2500 Plus	ProJet MJP 2500/2500 Plus	ProJet MJP 2500 Plus	ProJet MJP 2500/2500 Plus	ProJet MJP 2500/2500 Plus	ProJet MJP 2500 Plus	ProJet MJP 2500 Plus	ProJet MJP 2500 Plus	ProJet MJP 2500 Plus	ProJet MJP 2500 Plus	ProJet MJP 2500/2500 Plus
Description		Transparent clear, simulating ABS	Transparent clear, simulating PP	Rigid gray, high contrast	High modulus, rigid white	High modulus, rigid black	High modulus, transparent clear	High contrast, high modulus, heat resistant, rigid tan	High temperature resistant, transparent, rigid	Flexible, rubber-like	Flexible, rubber-like	Non-toxic wax for hands-free melt-away supports

* Biocompatibility is based on testing by an independent lab on a single geometry and sample set per USP Class VI and/or ISO 10993. Users should confirm fitness for use and biocompatibility for their applications.

DISCLAIMER: It is the responsibility of each customer to determine that its use of any VisiJet® material is safe, lawful and technically suitable to the customer's intended applications.
The values presented here are for reference only and may vary. Customers should conduct their own testing to ensure suitability for their intended application.

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