

# ProJet® MJP 5600

Composite multi-material 3D printer



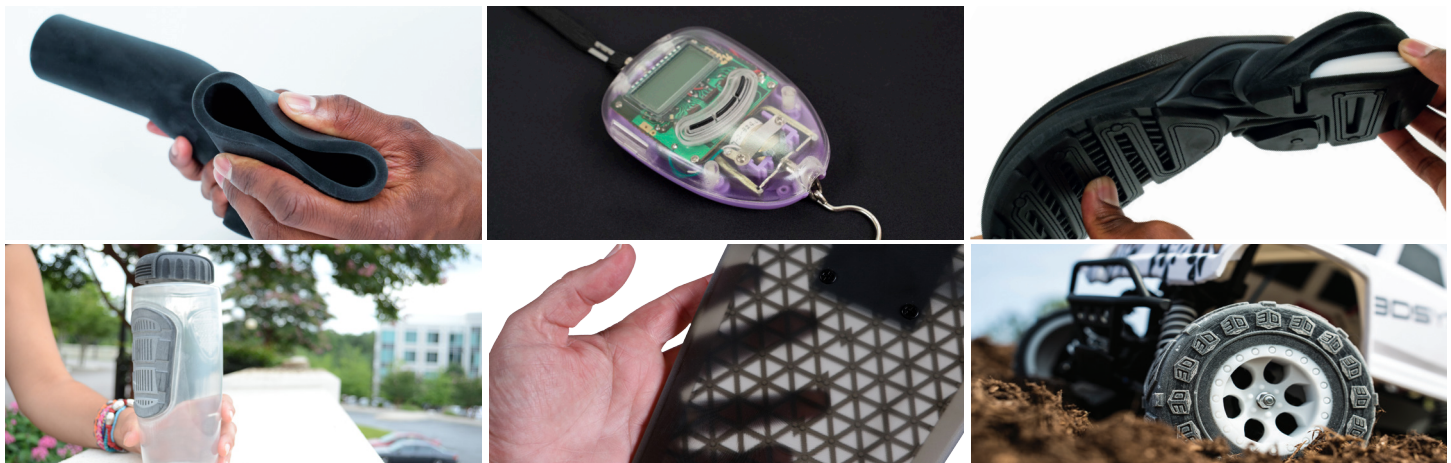
**ProJet MJP 5600**

<b>Printing Modes</b> UHD Mode UHDS Mode XHD Mode XHDS Mode	Ultra High Definition Ultra High Definition-Single Xtreme High Definition Xtreme High Definition-Single
<b>Net Build Volume (xyz)*</b>	20.4 x 15 x 11.8 in (518 x 381 x 300 mm)
<b>Resolution (xyz)</b> UHD Mode UHDS Mode XHD Mode XHDS Mode	600 x 600 x 1600 DPI; 16 µ layers 600 x 600 x 1600 DPI; 16 µ layers 750 x 750 x 2000 DPI; 13 µ layers 750 x 750 x 2000 DPI; 13 µ layers
<b>Accuracy (typical)</b>	±0.001-0.002 inch per inch (0.025-0.05 mm per 25.4 mm) of part dimension. Accuracy may vary depending on build parameters, part geometry and size, part orientation, and post-processing.
<b>Build Materials</b> Visijet CR-BK Visijet CR-WT Visijet CR-CL Visijet CE-BK Visijet CE-NT	Rigid Plastic Black Rigid Plastic White Rigid Plastic Clear Elastomeric Black Elastomeric Natural
<b>Support Material</b>	Visijet S500 non-toxic wax material for hands-free melt-away supports
<b>Material Packaging</b>	Build and support materials in clean 4.41 lbs (2 kg) bottles (printer holds 4 build and 4 support bottles with auto-switching)
<b>Electrical</b>	110-127 VAC, 50/60 Hz, 15A, single phase 200-240 VAC, 50 Hz, 10A, single phase Single C14 receptacle
<b>Dimensions (WxDxH)</b> 3D Printer Crated 3D Printer Uncrated	79 x 65 x 80 in (2007 x 1650 x 2032 mm) 66.9 x 35.4 x 63.8 in (1700 x 900 x 1620 mm)
<b>Weight</b> 3D Printer Crated 3D Printer Uncrated	2600 lbs (1180 kg) 2060 lbs (935 kg)
<b>3D Sprint™ Software</b>	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
<b>E-mail Notice Capability</b>	Yes
<b>Network Compatibility</b>	Network ready with 10/100/1000 base Ethernet interface
<b>Client Hardware Recommendation</b>	Minimum 320Gb internal hard drive capacity OpenGL 1.1 Compatible 1280 x 1024 resolution or better USB 2.0 host, single USB type A receptacle / 3.0 USB thumb drives supported at 2.0 USB speeds for export of log files
<b>Client Operating System</b>	Windows® 7, Windows 8 or Windows 8.1 (Service Pack)
<b>Input Data File Formats Supported</b>	stl, ctI, slc, 3dprint
<b>Post-Processing</b>	ProJet Finisher XL for easy removal of eco-friendly wax supports
<b>Operating Temperature Range</b>	64-82 °F (18-28 °C)
<b>Noise</b>	< 65 dBa estimated (at medium fan setting)
<b>5-Year Printhead Warranty</b>	Standard
<b>Certifications</b>	CE

\* Maximum part size is dependent on geometry, among other factors.

# VisiJet® Base Materials for the ProJet MJP 5600

The VisiJet composite family of materials is precisely mixed by the ProJet MJP 5600 print head on-the-fly to achieve superior mechanical properties and custom performance characteristics to meet your exacting specifications. This ingenious 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	Condition	VisiJet CR-BK	VisiJet CR-WT	VisiJet CR-CL	VisiJet CE-NT	VisiJet CE-BK
<b>Composition</b>		UV curable plastic	UV curable plastic	UV curable plastic	UV curable elastomeric	UV curable elastomeric
<b>Description</b>		Rigid ABS-like	Rigid ABS-like	Rigid polycarbonate-like	Elastomeric	Elastomeric
<b>Color</b>		Opaque black	Opaque white	Translucent clear	Translucent natural	Opaque black
<b>Bottle Quantity</b>		2 kg	2 kg	2 kg	2 kg	2 kg
<b>Solid Density</b>		1.18 g/cm <sup>3</sup>	1.18 g/cm <sup>3</sup>	1.18 g/cm <sup>3</sup>	1.12 g/cm <sup>3</sup>	1.12 g/cm <sup>3</sup>
<b>Tensile Strength</b>	ASTM D638	45-52 MPa	37-47 MPa	37-47 MPa	0.2-0.4 MPa	0.2-0.4 MPa
<b>Tensile Modulus</b>	ASTM D638	2200-2900 MPa	1000-1600 MPa	1000-1600 MPa	0.27-0.43 MPa	0.27-0.43 MPa
<b>Elongation at Break</b>	ASTM D638	7-11 %	7-16 %	7-16 %	160-230 %	160-230 %
<b>Flexural Strength</b>	ASTM D790	63-76 MPa	61-72 MPa	61-72 MPa	N/A	N/A
<b>Flexural Modulus</b>	ASTM D790	1800-2100 MPa	1400-2000 MPa	1400-2000 MPa	N/A	N/A
<b>Impact Strength (Notched Izod)</b>	ASTM D256	17-24 J/m	16-19 J/m	16-19 J/m	N/A	N/A
<b>Shore A Hardness</b>	ASTM 2240	N/A	N/A	N/A	27-33	27-33
<b>Shore D Hardness</b>	ASTM 2241	78-83	76-80	76-80	N/A	N/A
<b>Water Absorption</b>	ASTM D570 24 hr	0.5%	0.5%	0.5%	0.9%	0.6%
<b>Heat Distortion Temperature</b>	D648 @ 0.45 MPa	61 °C	46 °C	46 °C	N/A	N/A
<b>Heat Distortion Temperature</b>	D648 @ 1.82 MPa	41°C	41°C	41 °C	N/A	N/A
<b>Tear Resistance</b>	ASTM D624	N/A	N/A	N/A	3.1 - 3.7 kN/m	3.1 - 3.7 kN/m

# Visijet® Composite Combinations for the ProJet MJP 5600

In addition to printing in pure base materials, the ProJet MJP 5600 can mix any two base materials together pixel-by-pixel to achieve your targeted properties, in up to twelve different composite 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-BK + Visijet CE-BK)										
Material Name		RBK-EBK-D75	RBK-EBK-D70	RBK-EBK-D65	RBK-EBK-D60	RBK-EBK-D55	RBK-EBK-A90	RBK-EBK-A80	RBK-EBK-A70	RBK-EBK-A60	RBK-EBK-A50	RBK-EBK-A40
Description		Very rigid	Slightly rigid	Rigid	Rigid	Slightly rigid	Slightly flexible	Slightly flexible	Flexible	Flexible	More flexible	Very flexible
Appearance*		Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black
Tensile Strength	D-638	19-27 MPa	12-16 MPa	8-10 MPa	4-5 MPa	2-3 MPa	1.4-1.9 MPa	1.3-1.7 MPa	.75-1.1 MPa	.48-.77 MPa	.35-.48 MPa	.23-.32 MPa
Flexural Strength	D-790	18-21 MPa	12-13 MPa	7-7.4 MPa	3.9-4.2 MPa	1.6-1.9 MPa	N/A	N/A	N/A	N/A	N/A	N/A
Flexural Modulus	D-790	450-750 MPa	350-550 MPa	150-250 MPa	70-180 MPa	30-80 MPa	N/A	N/A	N/A	N/A	N/A	N/A
Impact Strength (Notched Izod)	D-256	18-25 J/m	22-30 J/m	32-52 J/m	29-42 J/m	74-114 J/m	N/A	N/A	N/A	N/A	N/A	N/A
Shore A Hardness, Scale A	D-2240	N/A	N/A	N/A	N/A	N/A	86-92	75-85	65-75	55-65	45-55	35-45
Shore D Hardness, Scale D	D-2240	70-80	65-75	60-70	55-65	50-60	N/A	N/A	N/A	N/A	N/A	N/A
Tear Resistance (kN/m)	D-624	N/A	N/A	N/A	N/A	N/A	44-62	25-32	18-23	11-17	6.6-9.3	6.5-8.5

PROPERTIES	ASTM	MULTI-MATERIAL COMPOSITES (Visijet CR-BK + Visijet CE-NT)											
Material Name		RBK-ENT-D78	RBK-ENT-D75	RBK-ENT-D70	RBK-ENT-D65	RBK-ENT-D60	RBK-ENT-D55	RBK-ENT-A90	RBK-ENT-A80	RBK-ENT-A70	RBK-ENT-A60	RBK-ENT-A50	RBK-ENT-A40
Description		Very rigid	Slightly rigid	Rigid	Rigid	Slightly rigid	Slightly rigid	Slightly flexible	Slightly flexible	Flexible	Flexible	More flexible	Very flexible
Appearance*		Translucent dark brown	Translucent dark brown	Translucent brown	Translucent brown	Light brown	Light brown	Light brown	Light tan	Light tan	Light tan	Light amber	Light amber
Tensile Strength	D-638	30-39 MPa	19-27 MPa	12-16 MPa	8-10 MPa	4-5 MPa	2-3 MPa	1.4-1.9 MPa	1.3-1.7 MPa	.75-1.1 MPa	.48-.77 MPa	.35-.48 MPa	.23-.32 MPa
Flexural Strength	D-790	18-21 MPa	12-13 MPa	7-7.4 MPa	3.9-4.2 MPa	1.6-1.9 MPa	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flexural Modulus	D-790	450-750 MPa	350-550 MPa	150-250 MPa	70-180 MPa	30-80 MPa	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Impact Strength (Notched Izod)	D-256	18-25 J/m	22-30 J/m	32-52 J/m	29-42 J/m	74-114 J/m	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Shore A Hardness, Scale A	D-2240	N/A	N/A	N/A	N/A	N/A	N/A	86-92	75-85	65-75	55-65	45-55	35-45
Shore D Hardness, Scale D	D-2240	75-81	70-80	65-75	60-70	55-65	50-60	N/A	N/A	N/A	N/A	N/A	N/A
Tear Resistance (kN/m)	D-624	N/A	N/A	N/A	N/A	N/A	N/A	44-62	25-32	18-23	11-17	6.6-9.3	6.5-8.5

\*Visual approximation. No guarantee that part output will match exactly to software or datasheet values.

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.

# VisiJet® Composite Combinations Continued

PROPERTIES	ASTM	MULTI-MATERIAL COMPOSITES (VisiJet CR-WT + VisiJet CE-BK)										
Material Name		RWT-EBK-D75	RWT-EBK-D70	RWT-EBK-D65	RWT-EBK-D60	RWT-EBK-D55	RWT-EBK-A90	RWT-EBK-A80	RWT-EBK-A70	RWT-EBK-A60	RWT-EBK-A50	RWT-EBK-A40
Description		Very rigid	Slightly rigid	Rigid	Rigid	Slightly rigid	Slightly flexible	Slightly flexible	Flexible	Flexible	More flexible	Very flexible
Appearance*		Very light grey	Lighter grey	Light grey	Light grey	Light grey	Medium light grey	Grey	Medium dark grey	Dark grey	Darker grey	Very dark grey
<b>Tensile Strength</b>	<b>D-638</b>	19-27 MPa	12-16 MPa	8-10 MPa	4-5 MPa	2-3 MPa	1.4-1.9 MPa	1.3-1.7 MPa	.75-1.1 MPa	.48-.77 MPa	.35-.48 MPa	.23-.32 MPa
<b>Flexural Strength</b>	<b>D-790</b>	18-21 MPa	12-13 MPa	7-7.4 MPa	3.9-4.2 MPa	1.6-1.9 MPa	N/A	N/A	N/A	N/A	N/A	N/A
<b>Flexural Modulus</b>	<b>D-790</b>	450-750 MPa	350-550 MPa	150-250 MPa	70-180 MPa	30-80 MPa	N/A	N/A	N/A	N/A	N/A	N/A
<b>Impact Strength (Notched Izod)</b>	<b>D-256</b>	18-25 J/m	22-30 J/m	32-52 J/m	29-42 J/m	74-114 J/m	N/A	N/A	N/A	N/A	N/A	N/A
<b>Shore A Hardness, Scale A</b>	<b>D-2240</b>	N/A	N/A	N/A	N/A	N/A	86-92	75-85	65-75	55-65	45-55	35-45
<b>Shore D Hardness, Scale D</b>	<b>D-2240</b>	70-80	65-75	60-70	55-65	50-60	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tear Resistance (kN/m)</b>	<b>D-624</b>	N/A	N/A	N/A	N/A	N/A	44-62	25-32	18-23	11-17	6.6-9.3	6.5-8.5

PROPERTIES	ASTM	MULTI-MATERIAL COMPOSITES (VisiJet CR-WT + VisiJet CE-NT)										
Material Name		RWT-ENT-D75	RWT-ENT-D70	RWT-ENT-D65	RWT-ENT-D60	RWT-ENT-D55	RWT-ENT-A90	RWT-ENT-A80	RWT-ENT-A70	RWT-ENT-A60	RWT-ENT-A50	RWT-ENT-A40
Description		Very rigid	Slightly rigid	Rigid	Rigid	Slightly rigid	Slightly flexible	Slightly flexible	Flexible	Flexible	More flexible	Very flexible
Appearance*		Very light white	Lighter white	Light tan	Light tan	Light tan	Medium tan	Medium tan	Tan	Tan	Amber	Amber
<b>Tensile Strength</b>	<b>D-638</b>	19-27 MPa	12-16 MPa	8-10 MPa	4-5 MPa	2-3 MPa	1.4-1.9 MPa	1.3-1.7 MPa	.75-1.1 MPa	.48-.77 MPa	.35-.48 MPa	.23-.32 MPa
<b>Flexural Strength</b>	<b>D-790</b>	18-21 MPa	12-13 MPa	7-7.4 MPa	3.9-4.2 MPa	1.6-1.9 MPa	N/A	N/A	N/A	N/A	N/A	N/A
<b>Flexural Modulus</b>	<b>D-790</b>	450-750 MPa	350-550 MPa	150-250 MPa	70-180 MPa	30-80 MPa	N/A	N/A	N/A	N/A	N/A	N/A
<b>Impact Strength (Notched Izod)</b>	<b>D-256</b>	18-25 J/m	22-30 J/m	32-52 J/m	29-42 J/m	74-114 J/m	N/A	N/A	N/A	N/A	N/A	N/A
<b>Shore A Hardness, Scale A</b>	<b>D-2240</b>	N/A	N/A	N/A	N/A	N/A	86-92	75-85	65-75	55-65	45-55	35-45
<b>Shore D Hardness, Scale D</b>	<b>D-2240</b>	70-80	65-75	60-70	55-65	50-60	N/A	N/A	N/A	N/A	N/A	N/A
<b>Tear Resistance (kN/m)</b>	<b>D-624</b>	N/A	N/A	N/A	N/A	N/A	44-62	25-32	18-23	11-17	6.6-9.3	6.5-8.5

\*Visual approximation. No guarantee that part output will match exactly to software or datasheet values.

# Visijet® Composite Combinations Continued

PROPERTIES	ASTM	MULTI-MATERIAL COMPOSITES (Visijet CR-CL + Visijet CE-BK)										
Material Name		RCL-EBK-D75	RCL-EBK-D70	RCL-EBK-D65	RCL-EBK-D60	RCL-EBK-D55	RCL-EBK-A90	RCL-EBK-A80	RCL-EBK-A70	RCL-EBK-A60	RCL-EBK-A50	RCL-EBK-A40
Description		Very rigid	Slightly rigid	Rigid	Rigid	Slightly rigid	Slightly flexible	Slightly flexible	Flexible	Flexible	More flexible	Very flexible
Appearance*		Clear	Clear	Light clear	Light clear	Light clear	Medium light clear	Medium clear	Medium clear	Dark clear	Darker clear	Very dark clear
Tensile Strength	D-638	19-27 MPa	12-16 MPa	8-10 MPa	4-5 MPa	2-3 MPa	1.4-1.9 MPa	1.3-1.7 MPa	.75-1.1 MPa	.48-.77 MPa	.35-.48 MPa	.23-.32 MPa
Flexural Strength	D-790	18-21 MPa	12-13 MPa	7-7.4 MPa	3.9-4.2 MPa	1.6-1.9 MPa	N/A	N/A	N/A	N/A	N/A	N/A
Flexural Modulus	D-790	450-750 MPa	350-550 MPa	150-250 MPa	70-180 MPa	30-80 MPa	N/A	N/A	N/A	N/A	N/A	N/A
Impact Strength (Notched Izod)	D-256	18-25 J/m	22-30 J/m	32-52 J/m	29-42 J/m	74-114 J/m	N/A	N/A	N/A	N/A	N/A	N/A
Shore A Hardness, Scale A	D-2240	N/A	N/A	N/A	N/A	N/A	86-92	75-85	65-75	55-65	45-55	35-45
Shore D Hardness, Scale D	D-2240	70-80	65-75	60-70	55-65	50-60	N/A	N/A	N/A	N/A	N/A	N/A
Tear Resistance (kN/m)	D-624	N/A	N/A	N/A	N/A	N/A	44-62	25-32	18-23	11-17	6.6-9.3	6.5-8.5

PROPERTIES	ASTM	MULTI-MATERIAL COMPOSITES (Visijet CR-CL + Visijet CE-NT)										
Material Name		RCL-ENT-D75	RCL-ENT-D70	RCL-ENT-D65	RCL-ENT-D60	RCL-ENT-D55	RCL-ENT-A90	RCL-ENT-A80	RCL-ENT-A70	RCL-ENT-A60	RCL-ENT-A50	RCL-ENT-A40
Description		Very rigid	Slightly rigid	Rigid	Rigid	Slightly rigid	Slightly flexible	Slightly flexible	Flexible	Flexible	More flexible	Very flexible
Appearance*		Very clear white	Light clear white	Light clear white	Light clear tan	Light clear tan	Medium clear tan	Medium clear tan	Medium clear tan	Translucent tan	Translucent amber	Translucent amber
Tensile Strength	D-638	19-27 MPa	12-16 MPa	8-10 MPa	4-5 MPa	2-3 MPa	1.4-1.9 MPa	1.3-1.7 MPa	.75-1.1 MPa	.48-.77 MPa	.35-.48 MPa	.23-.32 MPa
Flexural Strength	D-790	18-21 MPa	12-13 MPa	7-7.4 MPa	3.9-4.2 MPa	1.6-1.9 MPa	N/A	N/A	N/A	N/A	N/A	N/A
Flexural Modulus	D-790	450-750 MPa	350-550 MPa	150-250 MPa	70-180 MPa	30-80 MPa	N/A	N/A	N/A	N/A	N/A	N/A
Impact Strength (Notched Izod)	D-256	18-25 J/m	22-30 J/m	32-52 J/m	29-42 J/m	74-114 J/m	N/A	N/A	N/A	N/A	N/A	N/A
Shore A Hardness, Scale A	D-2240	N/A	N/A	N/A	N/A	N/A	86-92	75-85	65-75	55-65	45-55	35-45
Shore D Hardness, Scale D	D-2240	70-80	65-75	60-70	55-65	50-60	N/A	N/A	N/A	N/A	N/A	N/A
Tear Resistance (kN/m)	D-624	N/A	N/A	N/A	N/A	N/A	44-62	25-32	18-23	11-17	6.6-9.3	6.5-8.5

\*Visual approximation. No guarantee that part output will match exactly to software or datasheet values.

# Visijet® Composite Combinations Continued

PROPERTIES								MULTI-MATERIAL COMPOSITES (Visijet CE-BK + Visijet CE-NT)							
<b>Material Name</b>	EBK-ENT-R89		EBK-ENT-R78		EBK-ENT-R64		EBK-ENT-R50		EBK-ENT-R36		EBK-ENT-R22		EBK-ENT-R11		
<b>Description</b>	Very flexible		Very flexible		Very flexible		Very flexible		Very flexible		Very flexible		Very flexible		
<b>Appearance*</b>	Translucent dark brown		Translucent brown		Translucent brown		Light brown		Light brown		Light amber		Light amber		
<b>Mechanical Properties</b>	Similar properties to Visijet CE-NT or Visijet CE-BK base materials														

PROPERTIES								MULTI-MATERIAL COMPOSITES (Visijet CR-WT + Visijet CR-CL)							
<b>Material Name</b>	RWT-RCL-R89		RWT-RCL-R78		RWT-RCL-R64		RWT-RCL-R50		RWT-RCL-R36		RWT-RCL-R22		RWT-RCL-R11		
<b>Description</b>	Rigid		Rigid		Rigid		Rigid		Rigid		Rigid		Rigid		
<b>Appearance*</b>	Translucent white		Translucent white		Translucent white-clear		Translucent white-clear		Translucent white-clear		Light white-clear		Light clear		
<b>Mechanical Properties</b>	Similar properties to Visijet CR-WT or Visijet CR-CL base materials														

PROPERTIES								MULTI-MATERIAL COMPOSITES (Visijet CR-BK + Visijet CR-CL)							
<b>Material Name</b>	RBK-RCL-L10		RBK-RCL-L20		RBK-RCL-L30		RBK-RCL-L40		RBK-RCL-L50		RBK-RCL-L60		RBK-RCL-L70		
<b>Description</b>	Rigid		Rigid		Rigid		Rigid		Rigid		Rigid		Rigid		
<b>Appearance*</b>	Translucent black		Translucent black		Translucent dark clear		Translucent dark clear		Translucent clear		Translucent clear		Translucent clear		
<b>Mechanical Properties</b>	Similar properties to Visijet CR-BK or Visijet CR-CL base materials														

PROPERTIES								MULTI-MATERIAL COMPOSITES (Visijet CR-BK + Visijet CR-WT)							
<b>Material Name</b>	RBK-RWT-L10		RBK-RWT-L20		RBK-RWT-L30		RBK-RWT-L40		RBK-RWT-L50		RBK-RWT-L60		RBK-RWT-L70		
<b>Description</b>	Rigid		Rigid		Rigid		Rigid		Rigid		Rigid		Rigid		
<b>Appearance*</b>	Darker grey		Medium dark grey		Grey		Medium light grey		Light grey		Lighter grey		Very light grey		
<b>Mechanical Properties</b>	Similar properties to Visijet CR-BK or Visijet CR-WT base materials														

\*Visual approximation. No guarantee that part output will match exactly to software or datasheet values.

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