

Vero

The [Vero™ family](#) includes the Rigid Opaque collection of materials. These seven multi-purpose materials are most widely used for visual models, engineering prototypes, product assemblies and RTV molding patterns. Rigid Opaque materials are good material choices for light functional testing, patterns, prototypes and models.

Available in seven hues including blue, white, black, gray, cyan, magenta and yellow, the Vero family shares similar mechanical, thermal and electrical properties. The medium shades of VeroBlue™ and VeroGray™ provide the best detail visualization, without glare or darkness. The VeroVivid™ family of VeroCyanV™, VeroMagentaV™ and VeroYellowV™ offers more saturated and vibrant color. Vero PureWhite™ is twice as opaque, 20 percent brighter and more UV resistant than VeroWhitePlus™.

Vero PureWhite, VeroBlackPlus, VeroCyan, VeroCyanV, VeroGray, VeroMagenta, VeroMagentaV, VeroWhitePlus, VeroYellow, VeroYellowV		
	ASTM	Value
Tensile Strength	D-638-03	50 – 65 MPa (7,250 – 9,450 psi)
Elongation at Break	D-638-05	10 – 25%
Modulus of Elasticity	D-638-04	2,000 – 3,000 MPa (290,000 – 435,000 psi)
Flexural Strength	D-790-03	75 – 110 MPa (11,000 – 16,000 psi)
Flexural Modulus	D-790-04	2,200 – 3,200 MPa (320,000 – 465,000 psi)
HDT, °C @ 0.45MPa	D-648-06	45 – 50 °C (113 – 122 °F)
HDT, °C @ 1.82MPa	D-648-07	45 – 50 °C (113 – 122 °F)
Izod Notched Impact	D-256-06	20 – 30 J/m (0.375 – 0.562 ft-lb/inch)
Water Absorption	D-570-98 24hr	1.1 – 1.5%
Tg	DMA, E _u	52 – 54 °C (126 – 129 °F)
Shore Hardness (D)	Scale D	83 – 86 (Scale D)
Rockwell Hardness	Scale D	73 – 76 (Scale M)
Polymerized Density	Scale M	1.17 – 1.18 g/cm ³
Ash Content (VeroGray, VeroWhitePlus)	USP281	0.23 – 0.26%
Ash Content (VeroBlackPlus)	USP281	0.01 – 0.02%

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VeroBlue		
	ASTM	Value
Tensile Strength	D-638-03	50 – 60 MPa (7,250 – 8,700 psi)
Elongation at Break	D-638-05	15 – 25%
Modulus of Elasticity	D-638-04	2,000 – 3,000 MPa (290,000 – 435,000 psi)
Flexural Strength	D-790-03	60 – 70 MPa (8,700 – 10,200 psi)
Flexural Modulus	D-790-04	1,900 – 2,500 MPa (265,000 – 365,000 psi)
HDT, °C @ 0.45MPa	D-648-06	45 – 50 °C (113 – 122 °F)
HDT, °C @ 1.82MPa	D-648-07	45 – 50 °C (113 – 122 °F)
Izod Notched Impact	D-256-06	20 – 30 J/m (0.375 – 0.562 ft-lb/inch)
Water Absorption	D-570-98 24hr	1.5 – 2.2%
Tg	DMA, E»	48 – 50 °C (118 – 122 °F)
Shore Hardness (D)	Scale D	83 – 86 (Scale D)
Rockwell Hardness	Scale D	73 – 76 (Scale M)
Polymerized Density	Scale M	1.18 – 1.19 g/cm ³
Ash Content	USP281	0.21 – 0.22%

System Availability			
Printer	Minimum Layer Thickness Capability	Support Structure	Available Colors
Objet30 Pro™	28 microns (0.0011 in.)	SUP705 (WaterJet removable)	VeroBlackPlus™, VeroBlue, VeroGray, VeroWhitePlus
Objet30 Prime™	28 microns (0.0011 in.)	SUP705 (WaterJet removable), SUP706 (soluble)	VeroBlackPlus, VeroBlue, VeroGray, VeroWhitePlus
Eden260VS™	16 microns (0.0006 in.)	SUP705 (WaterJet removable), SUP706 (soluble)	VeroBlackPlus, VeroBlue, VeroGray, VeroWhitePlus
Objet260 Connex1™	16 microns (0.0006 in.)	SUP705 (WaterJet removable), SUP706 (soluble)	VeroBlackPlus, VeroBlue, VeroGray, VeroWhitePlus
Objet260 Connex3™	16 microns (0.0006 in.)	SUP705 (WaterJet removable), SUP706 (soluble)	VeroBlackPlus, VeroBlue, VeroCyan, VeroGray, VeroMagenta™, VeroMagentaV, Vero PureWhite, VeroWhitePlus, VeroYellow™, VeroYellowV

Vero

System Availability (Continued)			
Printer	Minimum Layer Thickness Capability	Support Structure	Available Colors
Objet500 Connex1™	16 microns (0.0006 in.)	SUP705 (WaterJet removable), SUP706 (soluble)	VeroBlackPlus, VeroBlue, VeroGray, Vero PureWhite, VeroWhitePlus
Objet350/500 Connex3™	16 microns (0.0006 in.)	SUP705 (WaterJet removable), SUP706 (soluble)	VeroBlackPlus, VeroBlue, VeroCyan, VeroGray, VeroMagenta, VeroMagentaV, Vero PureWhite, VeroWhitePlus, VeroYellow, VeroYellowV
Objet1000 Plus™	16 microns (0.0006 in.)	SUP705 (WaterJet removable)	VeroBlackPlus, VeroBlue, VeroGray, Vero PureWhite, VeroWhitePlus
Stratasys J735™/J750™	14 microns (0.00055 in.)	SUP705 (WaterJet removable), SUP706 (soluble)	VeroBlackPlus, VeroBlue, VeroCyan, VeroGray, VeroMagenta, Vero PureWhite, VeroYellow, VeroMagentaV, VeroYellowV, VeroCyanV

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VeroClear

Rigid Transparent PolyJet Material

VeroClear™, a transparent PolyJet™ photopolymer, offers strength, stiffness and impact resistance ideal for concept modeling, design verification and functional testing of clear parts.

VeroClear simulates PMMA (polymethyl methacrylate), commonly known as acrylic, and enables the visualization of internal components and features ideal for form and fit testing of see-through parts such as eyewear, light covers and medical devices. 3D print transparent parts, or blend with other PolyJet materials for a range of opacities, stunning hues or hardnesses, a versatility ideal for rapid prototyping. To achieve the best clarity, parts should be polished, lacquered or photo bleached.

	ASTM	Value
Tensile Strength	D-638-03	50 – 65 MPa (7,250 – 9,450 psi)
Elongation at Break	D-638-05	10 – 25%
Modulus of Elasticity	D-638-04	2,000 – 3,000 MPa (290,000 – 435,000 psi)
Flexural Strength	D-790-03	75 – 110 MPa (11,000 – 16,000 psi)
Flexural Modulus	D-790-04	2,200 – 3,200 MPa (320,000 – 465,000 psi)
HDT, °C @ 0.45MPa	D-648-06	45 – 50 °C (113 – 122 °F)
HDT, °C @ 1.82MPa	D-648-07	45 – 50 °C (113 – 122 °F)
Izod Notched Impact	D-256-06	20 – 30 J/m (0.375 – 0.562 ft-lb/inch)
Water Absorption	D-570-98 24hr	1.1 – 1.5%
Tg	DMA, E»	52 – 54 °C (126 – 129 °F)
Shore Hardness (D)	Scale D	83 – 86
Rockwell Hardness	Scale M	73 – 76
Polymerized Density	ASTM D792	1.18 – 1.19 g/cm³
Ash Content	USP281	0.02 – 0.06%

VeroClear

System Availability	Minimum Layer Thickness	Support Structure	Available Colors
Objet30 Pro™	16 microns (0.0006 in.)	SUP705 (WaterJet removable) SUP706B (soluble)	☐ Clear
Objet30 Prime™	16 microns (0.0006 in.)	SUP705 (WaterJet removable) SUP706B (soluble)	☐ Clear
Objet Eden260VS™	16 microns (0.0006 in.)	SUP705 (WaterJet removable) SUP706B (soluble)	☐ Clear
Objet260/500 Connex1™	16 microns (0.0006 in.)	SUP705 (WaterJet removable) SUP706B (soluble)	☐ Clear
Objet260/350/500 Connex3™	16 microns (0.0006 in.)	SUP705 (WaterJet removable) SUP706B (soluble)	☐ Clear
Stratasys J735™/J750™	14 microns (0.00055 in.)	SUP705 (WaterJet removable) SUP706B (soluble)	☐ Clear
Stratasys J55™	18 microns (0.0007 in.)	SUP710 (WaterJet removable)	☐ Clear
Objet1000 Plus™	16 microns (0.0006 in.)	SUP705 (WaterJet removable) SUP706B (soluble)	☐ Clear


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VeroUltraClear



VeroUltraClear™ is a transparent PolyJet™ digital material offering exceptional clarity combined with strength, stiffness and impact resistance. VeroUltraClear simulates PMMA (polymethyl methacrylate), commonly known as acrylic, achieving 86% light transmission through a 6 mm thick sample. VeroUltraClear has a higher level of clarity and transparency and a lower yellow index than standard VeroClear™. Thermal properties are similar but mechanical properties are somewhat lower than VeroClear.

Typical applications include concept models and prototypes for eyewear, lighting components, and the replication of glass and clear polymers. Other uses include modeling clear tubes and housings for pumps and gearboxes to view fluid flow and internal mechanisms.

	ASTM	Value
Tensile Strength	D-638-03	39 – 43 MPa (5,650 – 6,240 psi)
Elongation at Break	D-638-05	20 – 35%
Modulus of Elasticity	D-638-04	1,400 – 2,100 MPa (203,000 – 304,600 psi)
Flexural Strength	D-790-03	58 – 72 MPa (8,400 – 10,400 psi)
Flexural Modulus	D-790-04	1,900 – 2,300 MPa (275,000 – 333,000 psi)
HDT, °C @ 0.45 MPa Before Photobleaching	D-648-06	47 – 49 °C (117 – 120 °F)
HDT, °C @ 0.45 MPa After Photobleaching	D-648-06	48 – 52 °C (118 – 126 °F)
Izod Notched Impact	D-256-06	20 – 30 J/m (0.375 – 0.562 ft-lb/in.)
Water Absorption	D-570-98 24hr	1.25 – 1.40%
Tg	DMA, E ₂	52 – 54 °C (125.6 – 129.2 °F)
Shore Hardness	Scale D	80 – 85
Rockwell Hardness	Scale M	70 – 75
Polymerized Density	ASTM D792	1.18 – 1.19 g/cm ³
Ash Content	USP 281	0.02 – 0.06%

System Availability

Printers	Minimum Layer Thickness	Support Structure	Available Colors
J735™ / J750™ J826™ / J835™ / J850™	27 microns (0.00106299 in.)	SUP705 (water jet removable) SUP706B (soluble)	Clear

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Agilus30

PolyJet Rubber-Like Material

[Agilus30™](#) is a superior Rubber-like [PolyJet™](#) photopolymer family ideal for advanced design verification and [rapid prototyping](#). Get more durable, tear-resistant prototypes that can stand up to repeated flexing and bending. With a Shore A value of 30 in clear, black and white, Agilus30 accurately simulates the look, feel and function of Rubber-like products. 3D print rubber surrounds, overmolds, soft-touch coatings, living hinges, jigs and fixtures, wearables, grips and seals with improved surface texture.

Mechanical Properties	Test Method	Value	
		Black / Translucent	White
Tensile Strength	ASTM D-412	2.4 – 3.1 MPa (348 – 450 psi)	2.1-2.6 MPa (305 – 377 psi)
Elongation at Break	ASTM D-412	220 – 270%	185 – 230%
Compressive Set	ASTM D-395	6 – 7%	6 – 7%
Tensile Tear Resistance	ASTM D-624	4 – 7 Kg/cm (22 – 39 lb/in)	4 – 7 Kg/cm (22 – 39 lb/in)

Other	Test Method	Value	
		Black / Translucent	White
Shore Hardness	ASTM D-2240	30 – 35 Scale A	30 – 40 Scale A
Polymerized Density	ASTM D-792	1.14 – 1.15 g/cm ³	1.14 – 1.15 g/cm ³

System Availability	Layer Thickness Capability	Support Structure	Available Color
Objet260/350/500 Connex1/2/3™ Stratasys J735™/ Stratasys J750™	High Speed mode: 30 microns (0.0012 in.)	SUP705 (WaterJet removable) SUP706B (soluble + WaterJet removable)	☒ Black ☐ Translucent ☐ White ¹

¹ Stratasys J735 and Stratasys J750 only.

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