Vero

The Vero™ family includes the rigid collection of materials. These multi-purpose materials are most widely used for visual models, engineering prototypes, product assemblies and RTV molding patterns. Rigid materials are good 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 opaque medium shades of VeroBlue™ and VeroGray™ provide the best detail visualization, without glare or darkness. The opaque 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™. DraftGrey™ is a low-cost alternative for single material printing with medium opacity and a smooth finish. Also available are transparent VeroClear™ and VeroUltra™Clear, acrylic-simulating materials ideal for clear parts.

Vero PureWhite, VeroBlackPlus, VeroCyan, VeroCyanV, VeroGray, DraftGrey, VeroMagenta, VeroMagentaV, VeroWhitePlus, VeroYellow, VeroYellowV, VeroClear		
	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 (Scale D)
Rockwell Hardness	Scale D	73 – 76 (Scale M)
Polymerized Density	Scale M	1.17 – 1.18 g/cm3
Ash Content (VeroGray, VeroWhitePlus)	USP281	0.23 – 0.26%
Ash Content (VeroBlackPlus)	USP281	0.01 – 0.02%

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VeroUltraClear		
	ASTM	**Value**
Tensile Strength	D-638-03	39 - 43MPa (5,650 – 6,240 psi)
Elongation at Break	D-638-05	20 - 35%
Modulus of Elasticity	D-638-04	1400 - 2100 MPa (203,000 – 304,600 psi)
Flexural Strength	D-790-03	58 - 72MPa (8,400 – 10,400 psi)
Flexural Modulus	D-790-04	1900 - 2300MPa (275,000 – 333,000 psi)
HDT, °C @ 0.45MPa	D-648-06	48 – 52 °C (118 – 126 °F)
HDT, °C @ 1.82MPa	D-648-07	42-44 °C (108-111 °F)
Izod Notched Impact	D-256-06	20 – 30 J/m (0.375 – 0.562 ft-lb/in.)
Water Absorption	D-570-98 24hr	1.2 – 1.4 %
Tg	DMA, E»	52 – 54 (126 – 129 °F)
Shore Hardness (D)	Scale D	80-85
Polymerized Density	ASTM D792	1.18-1.19

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%

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System Availability			
Printer	**Min Layer Thickness**	**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, VeroPureWhite, VeroWhitePlus, VeroYellow™, VeroYellowV
Objet500 Connex1™	16 microns (0.0006 in.)	SUP705 (WaterJet removable), SUP706 (soluble)	VeroBlackPlus, VeroBlue, VeroGray, VeroPureWhite, VeroWhitePlus
Objet350/500 Connex3™	16 microns (0.0006 in.)	SUP705 (WaterJet removable), SUP706 (soluble)	VeroBlackPlus, VeroBlue, VeroCyan, VeroGray, VeroMagenta, VeroMagentaV, VeroPureWhite, VeroWhitePlus, VeroYellow, VeroYellowV
Objet1000 Plus™	16 microns (0.0006 in.)	SUP705 (WaterJet removable)	VeroBlackPlus, VeroBlue, VeryGray, VeroPureWhite, VeroClear
J4100™	27 microns (0.001 in.)	SUP705 (WaterJet removable)	VeroBlackPlus, VeroBlue, VeroGray, VeroPureWhite, VeroClear, VeroUltraClear
Stratasys J735™/J750™	14 microns (0.00055 in.)	SUP705 (WaterJet removable), SUP706 (soluble)	VeroBlackPlus, VeroBlue, VeroCyan, VeroGray, VeroMagenta, VeroPureWhite, VeroYellow, VeroMagentaV, VeroYellowV, VeroCyanV, VeroClear

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System Availability			
Printer	**Min Layer Thickness**	**Support Structure**	**Available Colors**
Stratasys J826™ Prime / J835™ / J850™ Prime	14 microns (0.00055 in.)	SUP705 (WaterJet removable), SUP706B (soluble)	VeroBlackPlus, VeroBlue, VeroCyan, VeroGray, VeroMagenta, VeroPureWhite, VeroYellow, VeroMagentaV, VeroYellowV, VeroCyanV, VeroClear, VeroUltraClear, DraftGrey
Stratasys J850 Pro	14 microns (0.00055 in.)	SUP705 (WaterJet Removable) SUP706B (soluble)	VeroBlackPlus, VeroPureWhite, VeroClear, VeroUltraClear, DraftGrey

For information on the Vero material properties on the J55™, please visit www.stratasys.com/3d-printers/j55.

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