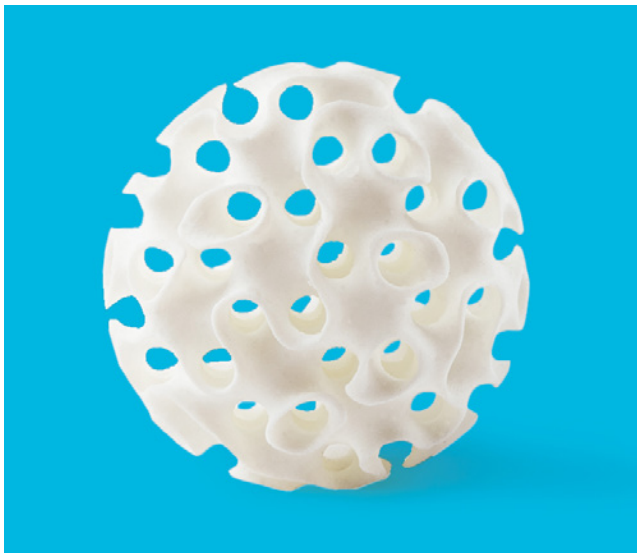
stratasys

BROCHURE
POLYJET

PolyJet Systems and Materials

Precision, Power,
Pace and Productivity



Agilus30 White geometric orb

Simple choice.
Any application.

PolyJet 3D printers are scaled to meet diverse needs in capability and printing capacity. The printers fall within two groups: single-material printers that jet one material (base resin) at a time and multimaterial printers with the capacity to jet several base resins simultaneously.

Dream it.
Print it.

PolyJet™ 3D printers empower designers, engineers, educators and healthcare professionals to create and problem-solve without the limitations of traditional methods of modeling. The power lies with PolyJet technology, curable liquid photopolymers capable of producing very fine layers for smooth surfaces, intricate details and vivid color.

Stratasys® PolyJet technology helps bring ideas to life in virtually any spectrum of colors, and any combination of translucency, opacity, rigidity and elasticity, while simulating a number of desired materials and finishes.

The versatility of PolyJet technology is based on a wide range of available material properties and a suite of 3D printers to suit varied budgets and applications. No matter the industry, PolyJet technology provides the power to hone ideas quickly and accurately.

- Help designers save 50 percent of their time. Product designers and developers can create realistic prototypes, models, and functional parts with full-color elements, labels and true-to-life textures in one operation.
- Full-color, flexible materials enable lifelike anatomical models for physician training and pre-surgical planning that lower operating room costs and improve patient outcomes.
- Educators can empower students to design, test and discover in a matter of days, not weeks.
- Dental labs can increase productivity by making multiple models and try-ins in a single print operation to boost production capacity and fuel growth.

Vivid cyan light

Print single materials.

Single-material printers start with affordable desktop models, featuring PolyJet technology's fine resolution and smooth surface finish. Depending on the specific model, these printers employ a single base resin or several base resins, with a choice of either rigid or flexible characteristics. All single-material printers use SUP705™ support material, removable with a water jet. Several models are also compatible with SUP706B™ soluble support for hands-free, labor-saving support removal.

Print multiple materials.

Multimaterial printers offer the most in PolyJet versatility, performance and productivity, exploiting the benefits of multi-jetting technology. Multimaterial printers enable mixed parts — the combination of several base resins in the same part — and Digital Materials, which is the blending of individual base resins to create new materials with distinct properties. Mixed trays are also possible, meaning one build tray can accommodate multiple parts made with different materials, increasing efficiency.

The PolyJet lineup also includes the J55™ 3D printer, created for the office or studio environment. With a small footprint, quiet operation and full color capabilities, the J55 puts the power of PolyJet right at your fingertips.

Vivid tail light

At the top of the versatility and performance spectrum is the J8 Series™, with the versatility to meet any design need. The J826 Prime and J850 Prime are equipped with over 500,000 colors, texture-mapping and the full complement of rigid materials. For engineering applications that don't require color, the J850 Pro provides all the multi-material and accuracy capabilities of the J850 Prime, at a lower cost. These printers allow users to produce everything from visually stunning, highly realistic prototypes and tools featuring soft-touch parts to visually and tactilely realistic medical models, as well as functional prototypes and final parts.

The Stratasys J8 series and J55 are Pantone Validated™

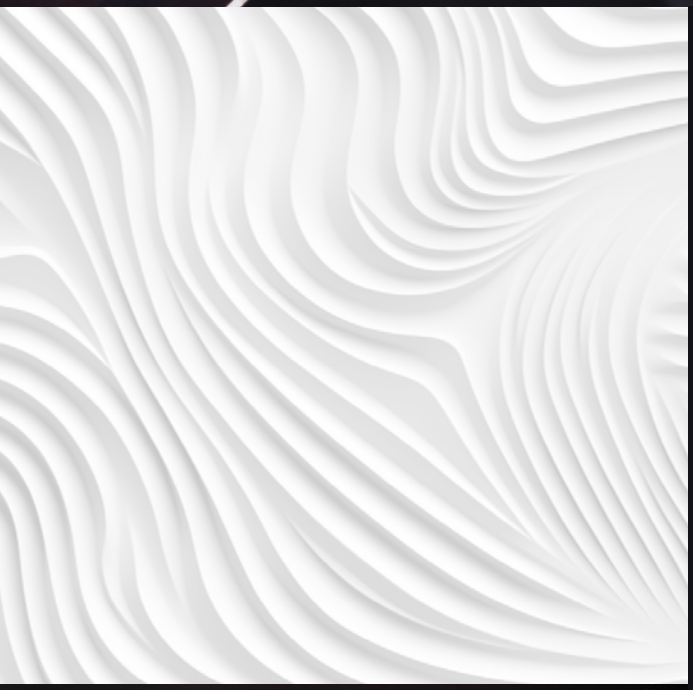
Glasses frame

Pantone color blocks

Auto console in vivid color

Agilus console

These printers provide the capability to produce everything from visually stunning, highly-realistic prototypes and tools featuring soft-touch parts to visually and tactilely realistic medical models.



Colored dental models

Anatomical model

Get More Materials and More Potential With PolyJet Printers

	J55™ Prime	J35™ Pro
Maximum Build Size (XYZ)	Round Print Tray with up to 1,174 cm^2 (182 $in.^2$) Print Height: 190 mm* (7.48 in.)*	Round Print Tray with up to 1,174 cm^2 (182 $in.^2$) Print Height: 158 mm* (6.22 in.)*
System Size	651 x 661 x 1511 mm (25.63 x 26.02 x 59.49 in.)	651 x 661 x 774 mm (25.63 x 26.02 x 30.48 in.)
System Weight	228 kg (503 lbs.)	98 kg (216 lbs.)
Layer Thickness	18 microns (0.0007 in.)	18 microns (0.0007 in.)
Accuracy*	Deviation from STL dimensions, for 1 Sigma (67%) of models printed with rigid materials, based on size: under 100 mm – ±150µ; above 100 mm – ±0.15% of part length.** Deviation from STL dimensions, for 2 Sigma (95%) of models printed with rigid materials, based on size: under 100 mm – ±180µ; above 100 mm – ±0.2% of part length.**	Deviation from STL dimensions, for 1 Sigma (67%) of models printed with rigid materials, based on size: under 100 mm – ±150µ; above 100 mm – ±0.15% of part length.** Deviation from STL dimensions, for 2 Sigma (95%) of models printed with rigid materials, based on size: under 100 mm – ±180µ; above 100 mm – ±0.2% of part length.**
Model Material Options	• **Rigid Transparent:** Vero Clear, VeroUltra ClearS • **Rigid Opaque:** Vero Black Plus, Vero Pure White, DraftGrey, VeroUltra™ BlackS, VeroUltra™ WhiteS • **Rigid Color:** Vivid Yellow, Vivid Cyan, Vivid Magenta • **High Impact:** PolyJet 531S™ Reinforcer, RGD515S Digital ABS Plus™ Material Component • **Flexible:** Elastico™ Black, Elastico™ Clear • **Biocompatible:** Vero™ ContactClear	• **Rigid and Clear (Vero family):** DraftGrey, VeroUltra™ ClearS, VeroUltra™ BlackS, VeroUltra™ WhiteS • **Flexible:** Elastico™ Black, Elastico™ Clear • **High Impact:** PolyJet 531S™ Reinforcer, RGD515S Digital ABS Plus™ Material Component • **Bio-compatible:** Vero™ ContactClear
Digital Material Options	**Unlimited number of composite materials including:** • Over 640,000 colors • Full CMF • Digital ABS Plus • Rubberlike blends in a variety of Shore A values • Overmolding simulation • Translucent color tints • Opaque Colors	**Composite materials including:** • Digital ABS Plus • Rubberlike blends in a variety of Shore A values • Overmolding simulation • Monochromatic CMF • Translucent gray shade tints • Opaque Colors
Support Material	SUP710S™ WSS™150	SUP710S™ WSS™150
Software	GrabCAD Print	GrabCAD Print

* For J35 Pro the printable height is 158 mm (6.22 in.) and the max printable model height is 155 mm (6.1 in.).
For J55 Prime the printable height is 190 mm (7.48 in.) and the max printable model height is 187 mm (7.36 in.).
** Measured when ambient temperature is 23 °C and relative humidity is 50%.

J8 Series	J826 Prime
Maximum Build Size (XYZ)	255 x 252 x 200 mm (10 x 9.9 x 7.9 in.)
System Size	820 x 1310 x 665 mm (32.28 x 51.57 x 26.18 in.) **Material Cabinet:** 656 x 1119 x 637 (25.8 x 44 x 25.1)
System Weight	234 kg (516 lbs.) **Material Cabinet:** 153 kg (337 lbs.)
Layer Thickness	Horizontal build layers range between 14 microns – 27 microns (.00055 in.– .001 in.) depending on the print mode.
Resolution	X Printing Resolution: 2400 DPI (HQ mode: 1200 DPI) X Slicing Resolution: 600 DPI Y Printing Resolution: 300 DPI
Accuracy*	Typical deviation from STL dimensions, for models printed with rigid materials, based on size: under 100 mm – ±100µ; above100 mm – ±200µ.
Model Material Options	• **Tough:** ToughONE™ for excellent impact resistance and flexibility • **Rigid Opaque:** Vero family including natural and color shades and VeroUltra opaque materials in black and white. • **Rigid Transparent:** Vero Vivid family that includes VeroCyanV, VeroMagentaV, VeroYellowV • **Rubberlike:** Agilus family of flexible materials • **Transparent:** VeroClear and VeroUltraClear • **Bio-compatible:** Vero ContactClear • DraftGrey
Digital Material Options	**Unlimited number of composite materials including:** • ToughONE™ Reinforced for high dimensional stability • Over 500,000 colors • Digital ABS Plus and Digital ABS2 Plus in ivory • Rubberlike blends in a variety of Shore A values • Translucent color tints • Opaque Colors
Support Material	SUP705 (water jet removable) SUP705B SUP706B (soluble)
Software	GrabCAD Print

* Varies depending on part geometry, size, orientation, material and post-processing method.

J8 Series	J850 Prime	J850 Pro
Maximum Build Size (XYZ)	490 x 390 x 200 mm (19.3 x 15.35 x 7.9 in.)	490 x 390 x 200 mm (19.3 x 15.35 x 7.9 in.)
System Size	1,400 x 1,260 x 1,100 mm (55.1 x 49.6 x 43.3 in.) **Material Cabinet:** 656 x 1119 x 637 (25.8 x 44 x 25.1)	1,400 x 1,260 x 1,100 mm (55.1 x 49.6 x 43.3 in.) **Material Cabinet:** 656 x 1119 x 637 (25.8 x 44 x 25.1)
System Weight	430 kg (948 lbs) **Material Cabinet:** 152 kg (335 lbs)	430 kg (948 lbs) **Material Cabinet:** 152 kg (335 lbs)
Layer Thickness	Horizontal build layers range between 14 microns – 27 microns (.00055 in. – .001 in.) depending on the print mode and 55 microns (.002 in.) for super high speed printing mode.	Horizontal build layers range between 14 microns – 27 microns (.00055 in. – .001 in.) depending on the print mode and 55 microns (.002 in.) for super high speed printing mode.
Resolution	X Printing Resolution: 2400 DPI (HQ mode: 1200 DPI) X Slicing Resolution: 600 DPI Y Printing Resolution: 300 DPI	X Printing Resolution: 2400 DPI (HQ mode: 1200 DPI) X Slicing Resolution: 600 DPI Y Printing Resolution: 300 DPI
Accuracy*	Typical deviation from STL dimensions, for models printed with rigid materials, based on size: under 100 mm – ±100µ; above100 mm – ±200µ or ± 0.06% of part length, whichever is greater.	Typical deviation from STL dimensions, for models printed with rigid materials, based on size: under 100 mm – ±100µ; above100 mm – ±200µ or ± 0.06% of part length, whichever is greater.
Model Material Options	• **Tough:** ToughONE™ for excellent impact resistance and flexibility • **Rigid Opaque:** Vero family including natural and color shades and VeroUltra opaque materials in black and white. • **Rigid Transparent:** Vero Vivid family that includes VeroCyanV, VeroMagentaV, VeroYellowV • **Rubberlike:** Agilus family of flexible materials • **Transparent:** VeroClear and VeroUltraClear • **Bio-compatible:** Vero ContactClear • DraftGrey	• **Tough:** ToughONE™ for excellent impact resistance and flexibility • **Rigid Opaque:** Vero and VeroUltra families of Opaque materials in black and white • **Rubberlike:** Agilus family of flexible materials • **Transparent:** VeroClear and VeroUltraClear • **Bio-compatible:** Vero ContactClear • DraftGrey
Digital Material Options	**Unlimited number of composite materials including:** • ToughONE™ Reinforced for high dimensional stability • Over 500,000 colors • Digital ABS Plus and Digital ABS2 Plus in ivory • Rubberlike blends in a variety of Shore A values • Translucent color tints • Opaque Colors	**Composite materials including:** • ToughONE™ Reinforced for high dimensional stability • Digital ABS Plus and Digital ABS2 Plus in ivory • Rubberlike blends in a variety of Shore A values • Translucent shade tints • Opaque Colors
Support Material	SUP705 (water jet removable) SUP705B SUP706B (soluble)	SUP705 (water jet removable) SUP705B SUP706B (soluble)
Software	GrabCAD Print	GrabCAD Print

* Varies depending on part geometry, size, orientation, material and post-processing method.

	J750™ Digital Anatomy™
Maximum Build Size (XYZ)	490 x 390 x 200 mm (19.3 x 15.35 x 7.9 in.)
System Size	1,400 x 1,260 x 1,100 mm (55.1 x 49.6 x 43.3 in.) **Material Cabinet:** 670 x 1,170 x 640 mm (26.4 x 46.1 x 25.2 in.)
System Weight	430 kg (948 lbs) **Material Cabinet:** 152 kg (335 lbs)
Layer Thickness	Horizontal build layers range between 14 microns – 27 microns (.00055 in. – .001 in.) depending on the print mode.
Accuracy*	**Vero Materials:** Typical deviation from STL dimensions, for models printed with rigid materials, based on size: under 100 mm – ±100µ; above100 mm – ±200µ or ± 0.06% of part length, whichever is greater. **Digital Anatomy Materials:** Not validated for accuracy, see technical documentation for design guidelines.
Model Material Options	• **Tough:** ToughONE™ for excellent impact resistance and flexibility • **Rigid Opaque:** Vero family including natural and color shades and VeroUltra opaque materials in black and white. • **Rigid Transparent:** Vero Vivid family that includes VeroCyanV, VeroMagentaV, VeroYellowV • **Rubberlike:** TangoPlus, TangoBlackPlus and Agilus family • **Transparent:** VeroClear, VeroUltraClear, RGD720 and Biocompatible Clear (MED610) • **Digital ABS:** PolyJet 531S™ Reinforcer, Digital ABS Plus™ Material Component • VeroFlex and VeroFlexVivid Families • Biocompatible Clear (MED610) Digital Anatomy materials to mimic human tissue and replicate anatomies • **TissueMatrix™:** Ultra-soft material • **GelMatrix™:** Enables support removal from blood vessel models • **BoneMatrix™:** High-strength material for bone and connective tissue
Digital Material Options	**Unique anatomy engine, enabling:** • More than 100 pre-validated anatomical presets • Automatic generation of microstructures, including muscle fibers and porous bone regions • Quick support removal from blood vessel models • Opaque Colors
Support Material	SUP705 (water jet removal) SUP705B SUP706B (soluble) GelMatrix (gel-like)
Software	GrabCAD Print GrabCAD Print Digital Anatomy

* Varies depending on part geometry, size, orientation, material and post-processing method.
** Except VeroWhitePlus and DraftGrey.

Countless Combinations. Limitless Possibilities.

PolyJet 3D printers use photopolymers that feature properties ranging from rubberlike to transparent and characteristics like high toughness and heat resistance.

Digital Materials expand the possibilities by blending two or more base resins to create thousands of material combinations. Achieve full-color capabilities, translucencies, Shore A values and other properties for maximum product realism.

Material	Highlights
ToughONE	• Very high impact strength (170-250 J/m) • Simulates HDPE thermoplastic. (If cured with ProLight, can also simulate PP and PBT.) • Used for pipes and fittings, detergent bottles, food containers, monobloc chairs, furniture, electrical components, and automotive parts
Digital Materials	• Wide range of flexibility, from Shore A 27 to Shore A 95 • Rigid materials ranging from simulated standard plastics to the toughness and temperature resistance of Digital ABS Plus™ Material Component • Vibrant colors in rigid or flexible materials, with over 500,000 color options on the Stratasys J850 and J835 • Available on PolyJet multi-jetting 3D printers • Opaque Colors are available for J8 Series, J35 and J55 printers
Digital ABS Plus	• Simulates ABS plastics by combining strength with high temperature resistance • Digital ABS Plus™ Material Component offers enhanced dimensional stability for thin-walled parts • Ideal for functional prototypes, snap-fit parts for high or low temperature usage, electrical parts, castings, mobile telephone casings and engine parts and covers
High Temperature	• Exceptional dimensional stability for thermal functional testing • Combine with PolyJet rubberlike materials to produce varying Shore A values, gray shades and high temperature parts with overmolding • Ideal for form, fit and thermal functional testing, high-definition models requiring excellent surface quality, exhibition models that endure strong lighting conditions, taps, pipes and household appliances, hot air and hot water testing
Transparent	• Print clear and tinted parts and prototypes with VeroClear, VeroUltraClear, VeroUltraClearS, VeroVivid family, and RGD720 • Combine with color materials for stunning transparent shades • Ideal for form and fit testing of see-through parts, like glass, consumer products, eyewear, light covers and cases, visualization of liquid flow, medical applications, artistic and exhibition modeling
Rigid Opaque	• Brilliant color options for unprecedented design freedom • Combine with rubberlike materials for overmolding, soft touch handles and more • Ideal for fit and form testing, moving and assembled parts, sales, marketing and exhibition models, assembly of electronic components and silicone molding
Simulated Polypropylene	• Simulates the appearance and functionality of polypropylene • Ideal for prototyping containers and packaging, flexible snap-fit applications and living hinges, toys, battery cases, laboratory equipment, loudspeakers and automotive components
Rubberlike	• Offers various levels of elastomer characteristics • Combine with rigid materials for a variety of Shore A values, from Shore A 27 to Shore A 95 • Ideal for rubber surrounds and overmolding, soft-touch coatings and nonslip surfaces, knobs, grips, pulls, handles, gaskets, seals, hoses, footwear, and exhibition and communication models
Biocompatible	• Features high dimensional stability and colorless transparency • Has five medical approvals including cytotoxicity, genotoxicity, delayed type hypersensitivity, irritation and USP plastic Class VI • Ideal for applications requiring prolonged skin contact of more than 30 days and short-term mucosal-membrane contact of up to 24 hours

PolyJet Materials in Detail

	Tough		Digital ABS Plus	High Temperature
Materials	ToughONE™ (Single Material)	ToughONE™ Reinforced (with RGD531S)	Digital ABS Plus™ Material Component, Ivory, made of RGD515S & RGD531S	RGD525
Tensile Strength	48 – 53 MPa	61 – 63 MPa	55 – 60 MPa (8,000 – 8,700 psi)	70 – 80 MPa (10,000 – 11,500 psi)
Elongation at Break	47 – 58%	22 – 36%	25 – 40%	10 – 15%
Modulus of Elasticity	–	–	2,600 – 3,000 MPa (375,000 – 435,000 psi)	3,200 – 3,500 MPa (465,000 – 510,000 psi)
Flexural Strength	77 – 87 MPa	85 – 87 MPa	65 – 75 MPa (9,500 – 11,000 psi)	110 – 130 MPa (16,000 – 19,000 psi)
Flexural Modulus	–	–	1,700 – 2,200 MPa (245,000 – 320,000 psi)	3,100 – 3,500 MPa (450,000 – 510,000 psi)
HDT, °C @ 1.82 MPa	59 – 62 °C	75 – 77 °C	51 – 55 °C (124 – 131 °F)	55 – 57 °C (131 – 135 °F)
Izod Notched Impact	90 J/m	90 J/m	90 – 110 J/m (1.69 – 2.06 ft lb/inch)	14 – 16 J/m (0.262 – 0.300 ft lb/inch)
Water Absorption	–	–	–	1.2 – 1.4%
Tg	–	–	47 – 53 °C (117 – 127 °F)	62 – 65 °C (144 – 149 °F)
Shore Hardness	–	–	85 – 87 Scale D	87 – 88 Scale D
Rockwell Hardness	–	–	67 – 69 Scale M	78 – 83 Scale M
Polymerized Density	–	–	1.17 – 1.18 g/cm^3	1.17 – 1.18 g/cm^3
Ash Content	–	–	–	0.38 – 0.42%

	Transparent			
Materials	RGD720, VeroMagentaV (RGD852)*, VeroYellowV (RGD838)*, VeroCyanV (RGD845)*	VeroClear (RGD810)	VeroUltraClear (RGC820)	VeroUltraClearS (RGD821)
Tensile Strength	50 – 65 MPa (7,250 – 9,450 psi)	50 – 65 MPa (7,250 – 9,450 psi)	39 – 43 MPa (5,650 – 6,240 psi)	26 – 37 MPa (3,770 – 5,370 psi)
Elongation at Break	15 – 25%	10 – 25%	20 – 35%	45 – 60%
Modulus of Elasticity	2,000 – 3,000 MPa (290,000 – 435,000 psi)	2,000 – 3,000 MPa (290,000 – 435,000 psi)	1,400 – 2,100 MPa (203,000 – 304,600 psi)	1,500 – 2,000 MPa (217,000 – 290,000 psi)
Flexural Strength	80 – 110 MPa (12,000 – 16,000 psi)	75 – 110 MPa (11,000 – 16,000 psi)	58 – 72 MPa (8,400 – 10,400 psi)	48 – 60 MPa (6,700 – 8,700 psi)
Flexural Modulus	2,700 – 3,300 MPa (390,000 – 480,000 psi)	2,200 – 3,200 MPa (320,000 – 465,000 psi)	1,900 – 2,300 MPa (275,000 – 333,000 psi)	1,300 – 1,800 MPa (189,000 – 261,000 psi)
HDT, °C @ 1.82 MPa	45 – 50 °C (113 – 122 °F)	45 – 50 °C (113 – 122 °F)	Before photobleaching: 47 – 49 °C (117 – 120 °F) After photobleaching: 48 – 52 °C (118 – 126 °F)	45 – 48 °C (113 – 118 °F)
Izod Notched Impact	20 – 30 J/m (0.375 – 0.562 ft lb/inch)	20 – 30 J/m (0.375 – 0.562 ft lb/inch)	20 – 30 J/m (0.375 – 0.562 ft lb/inch)	20 – 30 J/m (0.375 – 0.562 ft lb/inch)
Water Absorption	1.5 – 2.2%	1.1 – 1.5%	1.25 – 1.4%	1.2 – 1.4%
Tg	48 – 50 °C (118 – 122 °F)	52 – 54 °C (126 – 129 °F)	52 – 54 °C (126 – 129 °F)	47 – 48 °C (117 – 118 °F)
Shore Hardness	83 – 86 Scale D	83 – 86 Scale D	80 – 85 Scale D	75 – 80 Scale D
Rockwell Hardness	73 – 76 Scale M	73 – 76 Scale M	70 – 75 Scale M	60 – 70 Scale M
Polymerized Density	1.18 – 1.19 g/cm^3	1.18 – 1.19 g/cm^3	1.18 – 1.19 g/cm^3	1.17 – 1.18 g/cm^2
Ash Content	0.01 – 0.02%	0.02 – 0.06%	0.02 – 0.06%	0.02 – 0.06%

* Tinted Transparent

	Rigid Opaque (Vero Family)			Rigid Opaque (VeroUltra Family)	
Materials	Vero PureWhite (RGD837), VeroGray (RGD850), VeroBlackPlus (RGD875), VeroWhitePlus (RGD835), VeroYellow (RGD836), VeroCyan (RGD843), VeroMagenta (RGD851), VeroMagentaV (RGD852)*, VeroYellowV (RGD838)*, VeroCyanV (RGD845)*	VeroBlue (RGD840)	DraftGrey	VeroUltraWhite (RGD825) VeroUltraBlack (RGD865)	VeroUltraWhiteS (RGD824) VeroUltraBlackS (RGD864)
Tensile Strength	50 – 65 MPa (7,250 – 9,450 psi)	50 – 60 MPa (7,250 – 8,700 psi)	50 – 65 MPa (7,250 – 9,450 psi)	50 – 65 (7250 – 9430 psi)	50 – 65 (7250 – 9430 psi)
Elongation at Break	10 – 25%	15 – 25%	10 – 25%	5 – 20 %	5 – 20 %
Modulus of Elasticity	2,000 – 3,000 MPa (290,000 – 435,000 psi)	2,000 – 3,000 MPa (290,000 – 435,000 psi)	2,000 – 3,000 MPa (290,000 – 435,000 psi)	2,000 – 3,000 MPa (290,000 – 435,000 psi)	2,000 – 3,000 MPa (290,000 – 435,000 psi)
Flexural Strength	75 – 110 MPa (11,000 – 16,000 psi)	60 – 70 MPa (8,700 – 10,200 psi)	75 – 110 MPa (11,000 – 16,000 psi)	65 – 85 (9,400 – 12,300 psi)	65 – 85 (9,400 – 12,300 psi)
Flexural Modulus	2,200 – 3,200 MPa (320,000 – 465,000 psi)	1,900 – 2,500 MPa (265,000 – 365,000 psi)	2,200 – 3,200 MPa (320,000 – 465,000 psi)	2,000 – 2,800 (290,000 – 406,100 psi)	2,000 – 2,800 (290,000 – 406,100 psi)
HDT, @ 0.45 MPa	–	–	–	48 – 52 °C (118 – 126 °F)	48 – 52 °C (118 – 126 °F)
HDT, °C @ 1.82 MPa	45 – 50 °C (113 – 122 °F)	45 – 50 °C (113 – 122 °F)	45 – 50 °C (113 – 122 °F)	44 – 47 (111 – 117 °F)	44 – 47 °C (111 – 117 °F)
Izod Notched Impact	20 – 30 J/m (0.375 – 0.562 ft lb/inch)	20 – 30 J/m (0.375 – 0.562 ft lb/inch)	20 – 30 J/m (0.375 – 0.562 ft-lb/inch)	20 – 30 J/m (0.375 – 0.562 ft-lb/in.)	20 – 30 J/m (0.375 – 0.562 ft-lb/in.)
Water Absorption	1.1 – 1.5%	1.5 – 2.2%	1.1 – 1.5%	1.1 – 1.4%	1.1 – 1.4%
Tg	52 – 54 °C (126 – 129 °F)	48 – 50 °C (118 – 122 °F)	52 – 54 °C (126 – 129 °F)	54 – 56 °C (124 – 133 °F)	49 – 56 °C (120 – 133 °F)
Shore Hardness	83 – 86 Scale D	83 – 86 Scale D	83 – 86 Scale D	83 – 86	83 – 86
Rockwell Hardness	73 – 76 Scale M	73 – 76 Scale M	73 – 76 Scale M	–	–
Polymerized Density	1.17 – 1.18 g/cm^3	1.18 – 1.19 g/cm^3	1.17 – 1.18 g/cm^3	1.19 – 1.23	1.19 – 1.23
Ash Content	0.23 – 0.26% (VeroGray, VeroWhitePlus) 0.01 – 0.02% (VeroBlackPlus, VeroMagentaV, VeroYellowV)	0.21 – 0.22%	0.23 – 0.26%	–	–

* Opaque only when printed with core

	Rubberlike					
Materials	TangoBlack (FLX973)	TangoGray (FLX950)	TangoBlackPlus (FLX980) TangoPlus (FLX930)	Agilus30 Clear (FLX935) Agilus30 Black (FLX 985)	Agilus30 White (FLX945)	Agilus30 Cyan (FLX941) Agilus30 Magenta (FLX951) Agilus30 Yellow (FLX931)
Tensile Strength	1.8 – 2.4 MPa (115 – 350 psi)	3.0 – 5.0 MPa (435 – 725 psi)	0.8 – 1.5 MPa (115 – 220 psi)	2.4 – 3.1 MPa (348 – 450 psi)	2.1 – 2.6 MPa (305 – 377 psi)	2.2 – 2.6 MPa (319 – 377 psi)
Elongation at Break	45 – 55%	45 – 55%	170 – 220%	220 – 240%	185 – 230%	315 – 335%
Shore Hardness	60 – 62 Scale A	73 – 77 Scale A	26 – 28 Scale A	30 – 35 Scale A	30 – 40 Scale A	28 – 33 Scale A
Polymerized Density	1.14 – 1.15 g/cm^3	1.16 – 1.17 g/cm^3	1.12 – 1.13 g/cm^3	1.14 – 1.15 g/cm^3	1.14 – 1.15 g/cm^3	1.14 – 1.15 g/cm^3

	VeroFlex, VeroFlexVivid	Simulated Polypropylene	Elastico	VeroContactClear
Materials	VeroFlex Black (RGD895), VeroFlex Clear (RGD896), VeroFlex White (RGD894), VeroFlex Cyan (RGD891), VeroFlex Magenta (RGD892), VeroFlex Yellow (RGD893), VeroFlex CyanV (RGD898), VeroFlex MagentaV (RGD899), VeroFlexYellowV (RGD890)	Durus White (RGD430)	Black/Clear	–
Tensile Strength	43 – 64 MPa (6,237 – 9,282 psi)	20 – 30 MPa (2,900 – 4,350 psi)	3 - 5 Mpa (435 -725 psi)	J8 Series: 50 – 65 MPa (7,252 – 9,427 psi) J55/35: 40 – 55 MPa (5,800 – 8,000 psi)
Elongation at Break	8 – 20%	40 – 50%	360 - 400%	J8 Series: 10 – 25% J55/35: 5 – 20%
Modulus of Elasticity	950 – 1600 MPa (137,786 – 232,060 psi)	1,000 – 1,200 MPa (145,000 – 175,000 psi)	–	J8 Series: 2,000 – 3,000 MPa (290.1 – 435.1 ksi) J55/35: 2,200 – 3,000 MPa (320,000 – 435,000 psi)
Flexural Strength	48 – 88 MPa (6,962 – 12,763 psi)	30 – 40 MPa (4,350 – 5,800 psi)	–	J8 Series: 75 – 110 Mpa (10,878 – 15,954 psi) J55/35: 70 – 85 MPa (10,000 – 16,000 psi)
Flexural Modulus	1,600 – 2,300 MPa (232,061 – 333,587 psi)	1,200 – 1,600 MPa (175,000 – 230,000 psi)	–	J8 Series: 2,200 – 3,200 Mpa (319.1 – 464.1 ksi) J55/35: 2,000 – 2,500 MPa (290,000 – 365,000 psi)
Shore Hardness	75 – 85 Scale D	74 – 78 Scale D	45 – 50 Scale A	83 – 86 D
HDT, @ 0.45 MPa	42 – 50 °C (108 – 122 °F)		–	45 – 50 °C (113 – 122 °F)
HDT, °C @ 1.82MPa	–	32 – 34 °C (90 – 93 °F)	–	45 – 50 °C (113 – 122 °F)
Izod Notched Impact	20 – 30 J/m (0.375 – 0.562 lb/in)	40 – 50 J/m (0.749 – 0.937 ft lb/inch)	–	J8 Series: 20 – 30 (0.37 – 0.56 ft-lb/in) J55/35: 20 – 30 J/m (0.375 – 0.562 ft-lb/in)
Water Absorption	–	1.5 – 1.9%	–	1.1 – 1.5%
Tg	–	35 – 37 °C (95 – 99 °F)	–	52 – 54 °C (126 – 129 °F)
Polymerized Density	–	1.15 – 1.17 g/cm3	1.1 – 1.3 (g/cm^3)	1.17 – 1.18 (g/cm^3) (0.676 – 0.682 oz/in^3)
Ash Content	–	0.10 – 0.12%	–	–
Tensile Tear Resistance	–	–	5 – 7.5 Kg/cm (28 – 42 lb/in)	–
Compressive Set	–	–	0.8 – 1.7 %	–

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