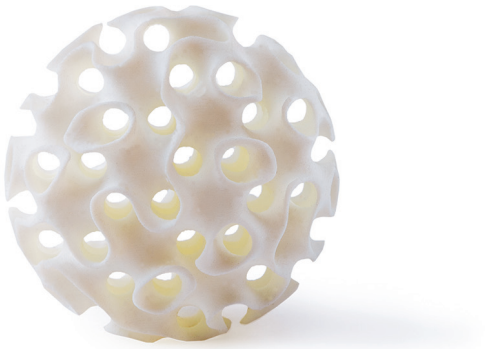
# PolyJet Systems and Materials

PolyJet

# Precision, Power, Pace and Productivity

**Agilus30 White geometric orb**



## 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 to life ideas 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 and models with full-color elements, labels and true-to-life textures in one operation, to gain focus-group feedback before committing to full production.
- 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.

## Simple choice.
## Any application.

PolyJet 3D printers are scaled to meet diverse needs in capability and production 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.

## 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.

**Vivid cyan light**

## 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 production efficiency. Large-capacity needs are easily handled by the J4100™, boasting the largest build volume of any PolyJet 3D printer.

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.

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 multimaterial 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.

# The Stratasys J8 series and J55 are Pantone Validated™

**Pantone color blocks**

**Vivid tail light**

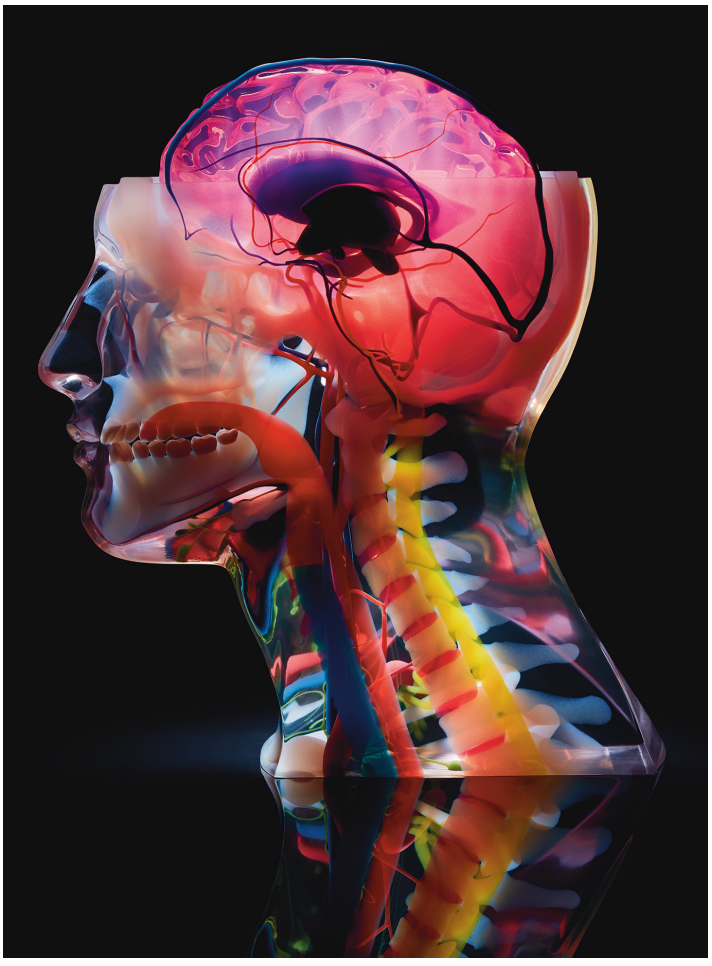
**Glasses frame**

Colored dental models

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.**

Anatomical model



Auto console in vivid color

# Get More Materials and More Potential With PolyJet Printers

| | Objet30 V5 | |
|---|---|---|
| | **Objet30 Pro™** | **Objet30 Prime™** |
| Maximum Build Size (XYZ) | 294 x 192 x 148.6 mm<br>(11.57 x 7.55 x 5.85 in.) | 294 x 192 x 148.6 mm<br>(11.57 x 7.55 x 5.85 in.) |
| System Size | 826 x 600 x 620 mm<br>(32.5 x 23.6 x 24.4 in.) | 826 x 600 x 620 mm<br>(32.5 x 23.6 x 24.4 in.) |
| System Weight | 106 kg<br>(234 lbs) | 106 kg<br>(234 lbs) |
| Layer Thickness | 28 microns (0.0011 in.)<br>16 microns (0.0006 in.) for VeroClear™ material | 28 microns (0.0011 in.) for Tango™ materials<br>36 microns for fast draft mode<br>16 microns (0.0006 in.) for all other materials |
| Accuracy* | 0.1 mm<br>(0.0039 in.) | 0.1 mm<br>(0.0039 in.) |
| Model Material Options | • **Rigid Opaque:** VeroWhitePlus™, VeroGray™, VeroBlue™, VeroBlackPlus™<br>• **Transparent:** VeroClear<br>• **Simulated Polypropylene:** Rigur™, Durus™<br>• High Temperature<br>• DraftGrey™ | • **Rigid Opaque:** VeroWhitePlus, VeroGray, VeroBlue, VeroBlackPlus<br>• **Transparent:** VeroClear, RGD720<br>• **Simulated Polypropylene:** Rigur, Durus<br>• High Temperature<br>• **Rubberlike:** TangoGray™ and TangoBlack™<br>• Biocompatible Clear (MED610)<br>• DraftGrey |
| Digital Material Options | N/A | N/A |
| Support Material | SUP705 (water jet removable)<br>SUP705B (APJ)<br>SUP706B (soluble) | SUP705 (water jet removable)<br>SUP705B (APJ)<br>SUP706B (soluble) |
| Software | GrabCAD Print™ | GrabCAD Print |

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

**Measured when ambient temperature is 23 °C and relative humidity is 50%.

| | J55™ Prime | J35™ Pro |
|---|---|---|
| Maximum Build Size (XYZ) | Round Print Tray with up to 1,174cm² (182 in²)<br>Print Height: 190 mm* (7.48 in.)* | Round Print Tray with up to 1,174cm² (182 in²)<br>Print Height: 158 mm* (6.22 in.)* |
| System Size | 651 x 661 x 1511 mm<br>(25.63 x 26.02 x 59.49 in.) | 651 x 661 x 774 mm<br>(25.63 x 26.02 x 30.48 in.) |
| System Weight | 228 kg<br>(503 lbs.) | 98 kg<br>(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<br>• **Rigid Opaque:** Vero Black Plus, Vero Pure White, DraftGrey, VeroUltra™ BlackS, VeroUltra™ WhiteS<br>• **Rigid Color:** Vivid Yellow, Vivid Cyan, Vivid Magenta<br>• **High Impact:** D-ABS 515PLUS, D-ABS 531<br>• **Flexible:** Elastico™ Black, Elastico™ Clear<br>• **Biocompatible:** Vero™ ContactClear | • **Rigid and Clear (Vero family):** DraftGrey, VeroUltra™ ClearS, VeroUltra™ BlackS, VeroUltra™ WhiteS<br>• **Flexible:** Elastico™ Black, Elastico™ Clear<br>• **High Impact:** D-ABS 515PLUS, D-ABS 531<br>• **Bio-compatible:** Vero™ ContactClear |
| Digital Material Options | Unlimited number of composite materials including:<br>• Over 640,000 colors<br>• Full CMF<br>• Digital ABS Plus<br>• Rubberlike blends in a variety of Shore A values<br>• Overmolding simulation<br>• Translucent color tints<br>• Opaque Colors | Composite materials including:<br>• Digital ABS Plus<br>• Rubberlike blends in a variety of Shore A values<br>• Overmolding simulation<br>• Monochromatic CMF<br>• Translucent gray shade tints<br>• Opaque Colors |
| Support Material | SUP710™ | SUP710™ |
| 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 (7.36in.).

**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<br>(10 x 9.9 x 7.9 in.) |
| System Size | 820 x 1310 x 665 mm<br>(32.28 x 51.57 x 26.18 in.)<br>**Material Cabinet:**<br>656 x 1119 x 637<br>(25.8 x 44 x 25.1) |
| System Weight | 234 kg<br>(516 lbs.)<br>**Material Cabinet:**<br>153 kg<br>(337 lbs.) |
| Layer Thickness | Horizontal build layers range between<br>14 microns - 27 microns<br>(.00055 in. - .001 in.) depending on the print mode. |
| 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 | • **Rigid Opaque:** Vero family including natural and color shades and VeroUltra opaque materials in black and white.<br>• **Rigid Transparent:** Vero Vivid family that includes VeroCyanV, VeroMagentaV, VeroYellowV<br>• **Rubberlike:** Agilus family of flexible materials<br>• **Transparent:** VeroClear and VeroUltraClear<br>• **Bio-compatible:** Vero ContactClear<br>• DraftGrey |
| Digital Material Options | Unlimited number of composite materials including:<br>• Over 500,000 colors<br>• Digital ABS Plus and Digital ABS2 Plus in ivory<br>• Rubberlike blends in a variety of Shore A values<br>• Translucent color tints<br>• Opaque Colors |
| Support Material | SUP705 (water jet removable)<br>SUP705B (APJ)<br>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 × 390 × 200 mm<br>(19.3 x 15.35 x 7.9 in.) | 490 × 390 × 200 mm<br>(19.3 x 15.35 x 7.9 in.) |
| System Size | 1,400 x 1,260 x 1,100 mm<br>(55.1 x 49.6 x 43.3 in.)<br>**Material Cabinet:**<br>656 x 1119 x 637<br>(25.8 x 44 x 25.1) | 1,400 x 1,260 x 1,100 mm<br>(55.1 x 49.6 x 43.3 in.)<br>**Material Cabinet:**<br>656 x 1119 x 637<br>(25.8 x 44 x 25.1) |
| System Weight | 430 kg<br>(948 lbs)<br>**Material Cabinet:**<br>152 kg<br>(335 lbs) | 430 kg<br>(948 lbs)<br>**Material Cabinet:**<br>152 kg<br>(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. |
| 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 | • **Rigid Opaque:** Vero family including natural and color shades and VeroUltra opaque materials in black and white.<br>• **Rigid Transparent:** Vero Vivid family that includes VeroCyanV, VeroMagentaV, VeroYellowV<br>• **Rubberlike:** Agilus family of flexible materials<br>• **Transparent:** VeroClear and VeroUltraClear<br>• **Bio-compatible:** Vero ContactClear<br>• DraftGrey | • **Rigid Opaque:** Vero and VeroUltra families of Opaque materials in black and white<br>• **Rubberlike:** Agilus family of flexible materials<br>• **Transparent:** VeroClear and VeroUltraClear<br>• **Bio-compatible:** Vero ContactClear<br>• DraftGrey |
| Digital Material Options | Unlimited number of composite materials including:<br>• Over 500,000 colors<br>• Digital ABS Plus and Digital ABS2 Plus in ivory<br>• Rubberlike blends in a variety of Shore A values<br>• Translucent color tints<br>• Opaque Colors | Composite materials including:<br>• Digital ABS Plus and Digital ABS2 Plus in ivory<br>• Rubberlike blends in a variety of Shore A values<br>• Translucent shade tints<br>• Opaque Colors |
| Support Material | SUP705 (water jet removable)<br>SUP705B (APJ)<br>SUP706B (soluble) | SUP705 (water jet removable)<br>SUP705B (APJ)<br>SUP706B (soluble) |
| Software | GrabCAD Print | GrabCAD Print |

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

| | J750™ Digital Anatomy™ | J4100™ |
|---|---|---|
| Maximum Build Size (XYZ) | 490 × 390 × 200 mm<br>(19.3 x 15.35 x 7.9 in.) | 1000 x 800 x 500 mm<br>(39.3 x 31.4 x 19.6 in.)<br>**Max model weight on tray:**<br>135 kg |
| System Size | 1,400 x 1,260 x 1,100 mm<br>(55.1 x 49.6 x 43.3 in.)<br>**Material Cabinet:**<br>670 x 1,170 x 640 mm<br>(26.4 x 46.1 x 25.2 in.) | 1960 x 2868 x 2102 mm<br>(77.5 x 113 x 83 in.) |
| System Weight | 430 kg<br>(948 lbs)<br>**Material Cabinet:**<br>152 kg<br>(335 lbs) | 2,200 kg<br>(4,850 lbs) |
| Layer Thickness | Horizontal build layers range between 14 microns - 27 microns<br>(.00055 in. - .001 in.) depending on the print mode. | Horizontal build layers range between<br>27 microns - 55 microns<br>(0.001 in. - 0.002 in.)<br>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.<br>**Digital Anatomy Materials:** Not validated for accuracy, see technical documentation for design guidelines. | Up to 600 microns for full model size<br>(for rigid materials only, depending on geometry, build parameters and model orientation) |
| Model Material Options | • **Rigid Opaque:** Vero family including natural and color shades and VeroUltra opaque materials in black and white.<br>• **Rigid Transparent:** Vero Vivid family that includes VeroCyanV, VeroMagentaV, VeroYellowV<br>• **Rubberlike:** TangoPlus, TangoBlackPlus and Agilus family<br>• **Transparent:** VeroClear, VeroUltraClear, RGD720 and Biocompatible Clear (MED610)<br>• **Digital ABS:** Digital ABS Plus Ivory (RGD515 Plus & RGD531)<br>• VeroFlex and VeroFlexVivid Families<br>• Biocompatible Clear (MED610)<br>Digital Anatomy materials to mimic human tissue and replicate anatomies<br>• TissueMatrix™: Ultra-soft material<br>• GelMatrix™: Enables support removal from blood vessel models<br>• BoneMatrix™: High-strength material for bone and connective tissue | • **Rigid Opaque:** VeroPureWhite, VeroBlackPlus, VeroGray, VeroBlue, VeroUltraBlack, VeroUltraWhite<br>• **Rubberlike:** Agilus family of flexible materials<br>• **Transparent:** VeroClear, VeroUltraClear<br>• **Digital ABS:** Digital ABS Plus Ivory (RGD515 Plus & RGD531) |
| Digital Material Options | Unique anatomy engine, enabling:<br>• More than 100 pre-validated anatomical presets<br>• Automatic generation of microstructures, including muscle fibers and porous bone regions<br>• Quick support removal from blood vessel models<br>• Opaque Colors | • Transparent shades and patterns<br>• Rigid Opaque shades<br>• Rubberlike blends in a range of Shore A values<br>• Simulated polypropylene blends in rigid and flexible options<br>• Opaque Colors |
| Support Material | SUP705 (water jet removal)<br>SUP705B (APJ)<br>SUP706B (soluble)<br>GelMatrix (gel-like) | SUP705 (water jet removable)<br>SUP705B (APJ) |
| Software | GrabCAD Print<br>GrabCAD Print Digital Anatomy | GrabCAD Print |

* 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 |
|---|---|
| Digital Materials | • Wide range of flexibility, from Shore A 27 to Shore A 95<br>• Rigid materials ranging from simulated standard plastics to the toughness and temperature resistance of Digital ABS Plus<br>• Vibrant colors in rigid or flexible materials, with over 500,000 color options on the Stratasys J850 and J835<br>• Available on PolyJet multi-jetting 3D printers<br>• Opaque Colors are available for J7/J8 Series, J35 and J55 printers |
| Digital ABS Plus | • Simulates ABS plastics by combining strength with high temperature resistance<br>• Digital ABS2 Plus offers enhanced dimensional stability for thin-walled parts<br>• 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<br>• Combine with PolyJet rubberlike materials to produce varying Shore A values, gray shades and high temperature parts with overmolding<br>• 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<br>• Combine with color materials for stunning transparent shades<br>• 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<br>• Combine with rubberlike materials for overmolding, soft touch handles and more<br>• 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<br>• 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<br>• Combine with rigid materials for a variety of Shore A values, from Shore A 27 to Shore A 95<br>• 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<br>• Has five medical approvals including cytotoxicity, genotoxicity, delayed type hypersensitivity, irritation and USP plastic Class VI<br>• 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

| | Digital ABS Plus | High Temperature | Transparent | | | |
|---|---|---|---|---|---|---|
| Materials | Digital ABS Plus, Ivory, made of RGD515 Plus & RGD531 | | RGD720, VeroMagentaV (RGD852)*, VeroYellowV (RGD838)*, VeroCyanV (RGD845)* | VeroClear (RGD810) | VeroUltraClear (RGC820) | VeroUltraClearS (RGD821) |
| Tensile Strength | 55 – 60 MPa (8,000 – 8,700 psi) | 70 – 80 MPa (10,000 – 11,500 psi) | 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 | 25 – 40% | 10 – 15% | 15 – 25% | 10 – 25% | 20 – 35% | 45 – 60% |
| Modulus of Elasticity | 2,600 – 3,000 MPa (375,000 – 435,000 psi) | 3,200 – 3,500 MPa (465,000 – 510,000 psi) | 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) | 1500 – 2000 MPa (217,000 – 290,000 psi) |
| Flexural Strength | 65 – 75 MPa (9,500 – 11,000 psi) | 110 – 130 MPa (16,000 – 19,000 psi) | 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 | 1,700 – 2,200 MPa (245,000 – 320,000 psi) | 3,100 – 3,500 MPa (450,000 – 510,000 psi) | 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) | 1300 – 1800 MPa (189,000 – 261,000 psi) |
| HDT, °C @ 1.82 MPa | 51 – 55 °C (124 – 131 °F) | 55 – 57 °C (131 – 135 °F) | 45 – 50 °C (113 – 122 °F) | 45 – 50 °C (113 – 122 °F) | Before photobleaching: 47 – 49 °C (117 – 120 °F)<br>After photobleaching: 48 – 52 °C (118 – 126 °F) | 45 – 48 °C (113 – 118 °F) |
| Izod Notched Impact | 90 – 110 J/m (1.69 – 2.06 ft lb/inch) | 14 – 16 J/m (0.262 – 0.300 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) | 20 – 30 J/m (0.375 – 0.562 ft lb/inch) |
| Water Absorption | – | 1.2 – 1.4% | 1.5 – 2.2% | 1.1 – 1.5% | 1.25 – 1.4% | 1.2 – 1.4% |
| Tg | 47 – 53 °C (117 – 127 °F) | 62 – 65 °C (144 – 149 °F) | 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 | 85 – 87 Scale D | 87 – 88 Scale D | 83 – 86 Scale D | 83 – 86 Scale D | 80 – 85 Scale D | 75 – 80 Scale D |
| Rockwell Hardness | 67 – 69 Scale M | 78 – 83 Scale M | 73 – 76 Scale M | 73 – 76 Scale M | 70 – 75 Scale M | 60 – 70 Scale M |
| Polymerized Density | 1.17 – 1.18 g/cm$^3$ | 1.17 – 1.18 g/cm$^3$ | 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 | – | 0.38 – 0.42% | 0.01 – 0.02% | 0.02 – 0.06% | 0.02 – 0.06% | 0.02 – 0.06% |

* Tinted Transparent

| | Rigid Opaque (Vero Family) | | | Rigid Opaue (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) | 2000 - 3000 MPa (290000 - 435000 psi) | 2000 - 3000 MPa (290000 - 435000 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 (9400-12300 psi) | 65-85 (9400-12300 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) | 2000-2800 (290000-406100 psi) | 2000-2800 (290000-406100 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) | Agilus30 Clear (FLX935), Agilus30 Black (FLX 985) | Agilus30 White (FLX945) | TangoBlackPlus (FLX980), TangoPlus (FLX930) |
| Tensile Strength | 1.8 – 2.4 MPa (115 – 350 psi) | 3.0 – 5.0 MPa (435 – 725 psi) | 2.4 – 3.1 MPa (348 – 450 psi) | 2.1 – 2.6 MPa (305 – 377 psi) | 0.8 – 1.5 MPa (115 – 220 psi) |
| Elongation at Break | 45 – 55% | 45 – 55% | 220 – 240% | 185 – 230% | 170 – 220% |
| Shore Hardness | 60 – 62 Scale A | 73 – 77 Scale A | 30 – 35 Scale A | 30 – 40 Scale A | 26 – 28 Scale A |
| Polymerized Density | 1.14 – 1.15 g/cm$^3$ | 1.16 – 1.17 g/cm$^3$ | 1.14 – 1.15 g/cm$^3$ | 1.14 – 1.15 g/cm$^3$ | 1.12 – 1.13 g/cm$^3$ |

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

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