

Select Laser Sintering Printers

Production thermoplastic parts with ProX[®] and sPro[™] SLS printers



ProX SLS 500



sPro 60 HD-HS



sPro 140



sPro 230

| | | | | |
|---|--|--|---|---|
| Build Envelope Capacity (XYZ)* | 15 x 13 x 18 in (381 x 330 x 460 mm) 15.2 U.S. gal (57.5 l) | 15 x 13 x 18 in (381 x 330 x 460 mm), 15.2 U.S. gal (57.5 l) | 22 x 22 x 18 in (550 x 550 x 460 mm), 8,500 cu in (139 l) | 22 x 22 x 30 in (550 x 550 x 750 mm), 13,900 cu in (227 l) |
| Powder Layout | Variable Speed Counter Rotating Roller | Precision Counter Rotating Roller | Precision Counter Rotating Roller | Precision Counter Rotating Roller |
| Layer Thickness Range (typical) | 0.003 – 0.006 in 0.08 – 0.15 mm (0.004 in, 0.10 mm) | 0.003 - 0.006 in 0.08 mm - 0.15 mm (0.004 in, 0.10 mm) | 0.003 - 0.006 in 0.08 mm - 0.15 mm (0.004 in, 0.10 mm) | 0.003 - 0.006 in 0.08 mm - 0.15 mm (0.004 in, 0.10 mm) |
| Imaging System | ProScan [™] DX Digital High Speed | ProScan [™] CX (digital) | ProScan [™] Standard Digital Imaging Systems | ProScan [™] Standard Digital Imaging System |
| Scanning Speed | Fill - 500 in/s (12.7 m/s) Outline - 200 in/s (5m/s) | 200 in/s (6 m/s) | 400 in/s (10 m/s) | 400 in/s (10 m/s) |
| Laser Power/Type | 100 W / CO ₂ | 70 W / CO ₂ | 70 W / CO ₂ | 70 W / CO ₂ |
| Volume Build Rate | 2.7 l/hr | 1.8 l/hr | 3.0 l/hr | 3.0 l/hr |
| Powder Recycling and Handling | Fully automatic (automatically collects, blends and recycles powder) | Manual | Automatic (automatically blends and recycles powder) | Automatic (automatically blends and recycles powder) |
| Materials | DuraForm ProX PA DuraForm ProX GF DuraForm ProX EX BLK DuraForm ProX HST DuraForm ProX AF+ DuraForm ProX FR1200 | DuraForm PA DuraForm GF DuraForm EX DuraForm HST DuraForm TPU DuraForm Flex DuraForm FR1200 CastForm PS | DuraForm PA DuraForm GF DuraForm EX DuraForm HST CastForm PS | DuraForm PA DuraForm GF DuraForm EX DuraForm HST CastForm PS |
| | Broad range of DuraForm [®] plastics, composites, elastomer and CastForm [®] PS (powders). See back page for material overview and www.3dsystems.com for technical datasheets for each material. | | | |
| Materials Packaging | 7.5kg bottles for hands-free automatic powder handling | 10 kg (DuraForm PA, Ex, HST, CastForm PS) and 15 kg (DuraForm GF) boxes | 100 kg (DuraForm PA, Ex, HST) and 150 kg (DuraForm GF) IPCs (Intelligent Powder Cartridges) | 100 kg (DuraForm PA, Ex, HST) and 150 kg (DuraForm GF) IPCs (Intelligent Powder Cartridges) |
| Dimensions (WxDxH) | | | | |
| 3D Printer Crated | 81 x 60 x 94 in (2060 x 1520 x 2390 mm) | 75 x 55 x 90 in (1910 x 1400 x 2290 mm) | 90 x 70 x 101 in (2290 x 1780 x 2570 cm) | 105 x 88 x 115 in (2670 x 2240 x 2920 cm) |
| 3D Printer Uncrated | 75 x 52 x 86 in (1910 x 1320 x 2180 mm) | 69 x 50 x 84 in (1750 x 1270 x 2130 mm) | 84 x 64 x 95 in (2130 x 1630 x 2410 cm) | 99 x 82 x 108 in (2510 x 2080 x 2740 cm) |
| Weight (not incl. MQC, MDM or BOS) | | | | |
| 3D Printer Crated | 4250 lb (1928 kg) | 4147 lb (1885 kg) | 4950 lbs (2250 kg) | 5586 lbs (2539 kg) |
| 3D Printer Uncrated | 4197 lb (1908 kg) | 4103 lb (1865 kg) | 4893 lbs (2224 kg) | 5531 lbs (2541 kg) |
| Electrical Requirements | | | | |
| System | 208 VAC/7.5 kVA, 50/60 Hz, 3 PH | 208 VAC/17 kvA, 50/60Hz, 3 PH | 208 VAC/17 kvA, 50/60Hz, 3 PH | 208 VAC/17 kvA, 50/60Hz, 3 PH |
| HMS | 100-240 VAC, 50/60 Hz, 1 PH | | | |
| System Warranty | ————— One-year warranty, under 3D Systems purchase terms and conditions ————— | | | |

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

DuraForm® Materials for SLS Printing

Production thermoplastic parts with ProX® and sPro™ SLS printers



| Density Sintered Part (g/cm ³) | Flexural Modulus (MPa) | Flexural Strength (MPa) | Tensile Modulus (MPa) | Tensile Strength (MPa) | Elongation at Break (%) | Impact Strength (J/m) Notched Izod, 23 °C Unnotched Izod, 23 °C | Heat Deflection Temperature (°C) @ 0.45 MPa @ 1.82 MPa | Flammability | Hardness |
|--|------------------------------|-------------------------------|-----------------------------|------------------------------|-------------------------------|--|---|--------------|------------|
| ASTM 792 | ASTM D790 | ASTM D790 | ASTM D638 | ASTM D638 | ASTM D638 | ASTM D256 | ASTM D648 | UL 94 | ASTM D2240 |

sPro Compatible Material Properties

| | | | | | | | | | | |
|------------------|------|-----------|-------|-----------|-------|-------|-------------|------------|----|--------|
| DuraForm TPU* | 0.78 | 6.0 | - | 5.3 | 2.0 | 220 % | - | - | - | 59A |
| DuraForm Flex* | - | 5.9 | 48 | 5.9 | 1.8 | 110 % | - | - | - | 45-75A |
| DuraForm EX | 1.01 | 1310 | 46 | 1517 | 48 | 47 % | 74 1486 | 188 48 | HB | 74D |
| DuraForm PA | 1.03 | 1387 | 48 | 1586 | 43 | 14 % | 32 336 | 180 95 | HB | 73D |
| DuraForm GF | 1.49 | 3106 | 37 | 4068 | 26 | 1.4 % | 41 123 | 179 134 | HB | 77D |
| DuraForm HST | 1.20 | 4400-4550 | 83-89 | 5475-5725 | 48-51 | 4.5 % | 37.4 310 | 184 179 | HB | 75D |
| CastForm® PS* | 0.86 | - | - | 1604 | 2.84 | - | < 11 14 | - - | - | - |
| DuraForm FR1200* | 1.02 | 1770 | 62 | 2040 | 41 | 5.9 % | 25 233 | 180 94 | HB | 76D |

* Material compatible only with sPro™ 60 HD-HS.

ProX Compatible Material Properties

| | | | | | | | | | | |
|----------------------|------|------|----|------|----|-------|------------|------------|----|-----|
| DuraForm ProX PA | 0.95 | 1650 | 63 | 1770 | 47 | 22 % | 45 644 | 182 97 | HB | 73D |
| DuraForm ProX GF | 1.33 | 3120 | 60 | 3720 | 45 | 2.8 % | 48 207 | 180 129 | HB | 73D |
| DuraForm ProX HST | 1.12 | 3430 | 75 | 4123 | 44 | 4.3 % | 55 307 | 183 171 | HB | 73D |
| DuraForm ProX EX BLK | 1.02 | 1360 | 51 | 1570 | 43 | 60 % | 75 3336 | 193 57 | HB | 76D |
| DuraForm ProX AF+ | 1.31 | 3710 | 64 | 4340 | 37 | 3 % | 54 255 | 182 174 | HB | 78D |
| DuraForm ProX FR1200 | 1.03 | 1720 | 61 | 2010 | 45 | 8 % | 24 278 | 180 94 | HB | 77D |

For more information refer to our SLS Material Selection Guide or the individual DuraForm and CastForm material datasheets on www.3dsystems.com

www.3dsystems.com

Warranty/Disclaimer: The performance characteristics of these products may vary according to product application, operating conditions, material combined with, or with end use. 3D Systems makes no warranties of any type, express or implied, including, but not limited to, the warranties of merchantability or fitness for a particular use.

© 2017 by 3D Systems, Inc. All rights reserved. Specifications subject to change without notice. 3D Systems, ProX, DuraForm and CastPro are registered trademarks and the 3D Systems logo and sPro are trademarks of 3D Systems, Inc.