

# Select Laser Sintering Printers

Production thermoplastic parts with ProX<sup>®</sup> and sPro<sup>™</sup> SLS printers



**ProX SLS 500**



**sPro 60 HD-HS**



**sPro 140**



**sPro 230**

<b>Build Envelope Capacity (XYZ)*</b>	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)
<b>Powder Layout</b>	Variable Speed Counter Rotating Roller	Precision Counter Rotating Roller	Precision Counter Rotating Roller	Precision Counter Rotating Roller
<b>Layer Thickness Range (typical)</b>	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)
<b>Imaging System</b>	ProScan <sup>™</sup> DX Digital High Speed	ProScan <sup>™</sup> CX (digital)	ProScan <sup>™</sup> Standard Digital Imaging Systems	ProScan <sup>™</sup> Standard Digital Imaging System
<b>Scanning Speed</b>	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)
<b>Laser Power/Type</b>	100 W / CO <sub>2</sub>	70 W / CO <sub>2</sub>	70 W / CO <sub>2</sub>	70 W / CO <sub>2</sub>
<b>Volume Build Rate</b>	2.7 l/hr	1.8 l/hr	3.0 l/hr	3.0 l/hr
<b>Powder Recycling and Handling</b>	Fully automatic (automatically collects, blends and recycles powder)	Manual	Automatic (automatically blends and recycles powder)	Automatic (automatically blends and recycles powder)
<b>Materials</b>	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 <sup>®</sup> plastics, composites, elastomer and CastForm <sup>®</sup> PS (powders). See back page for material overview and <a href="http://www.3dsystems.com">www.3dsystems.com</a> for technical datasheets for each material.			
<b>Materials Packaging</b>	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)
<b>Dimensions (WxDxH)</b>				
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)
<b>Weight (not incl. MQC, MDM or BOS)</b>				
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)
<b>Electrical Requirements</b>				
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			
<b>System Warranty</b>	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 <sup>3</sup> )	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](http://www.3dsystems.com)

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