

# Selective Laser Sintering Printers

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



**ProX SLS 6100**



**sPro 60 HD-HS**



**sPro 140**



**sPro 230**

<b>Max Build Envelope Capacity (XYZ)*</b>	381 x 330 x 460 mm (15 x 13 x 18 in) 57.5 l (3510 cu in)	381 x 330 x 460 mm (15 x 13 x 18 in) 57.5 l (3510 cu in)	550 x 550 x 460 mm (22 x 22 x 18 in) 139 l (8500 cu in)	550 x 550 x 750 mm (22 x 22 x 30 in) 227 l (13900 cu in)
<b>Powder Layout</b>	Variable Speed Counter Rotating Roller	Precision Counter Rotating Roller	Counter Rotating Roller	Counter Rotating Roller
<b>Layer Thickness Range (typical)</b>	0.08 – 0.15 mm 0.003 – 0.006 in (0.10 mm, 0.004 in)	0.08 – 0.15 mm 0.003 – 0.006 in (0.10 mm, 0.004 in)	0.08 – 0.15 mm 0.003 – 0.006 in (0.10 mm, 0.004 in)	0.08 – 0.15 mm 0.003 – 0.006 in (0.10 mm, 0.004 in)
<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	12.7 m/s (500 in/s)	HD: 6 m/s (200 in/s); HS: 12.7 m/s (500 in/s)	10 m/s (400 in/s)	10 m/s (400 in/s)
Outline	5 m/s (200 in/s)	HD: 2.5 m/s (100 in/s); HS: 5 m/s (200 in/s)	5 m/s (200 in/s)	5 m/s (200 in/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>Included software</b>	3D Sprint <sup>™</sup>	Build Setup	Build Setup	Build Setup
<b>Powder Recycling and Handling</b>	Fully automatic (automatically blends, recycles and delivers 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	DuraForm PA DuraForm GF DuraForm EX DuraForm HST
	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>	7.5 kg bottles for hands-free automatic powder handling	10 kg boxes; 15 kg boxes for DuraForm GF only	100 kg IPCs (Intelligent Powder Cartridges); 150 kg IPCs for DuraForm GF only	100 kg IPCs (Intelligent Powder Cartridges); 150 kg IPCs for DuraForm GF only
<b>Dimensions (WxDxH)</b>				
3D Printer Crated	204 x 153 258 cm (80 x 60 x 101 in)	191 x 140 x 229 cm (75 x 55 x 90 in)	229 x 178 x 257 cm (90 x 70 x 101 in)	267 x 224 x 292 cm (105 x 88 x 115 in)
3D Printer Uncrated	174 x 123 x 230 cm (69 x 48 x 90 in)	175 x 127 x 213 cm (69 x 50 x 84 in)	213 x 163 x 241 cm (84 x 64 x 95 in)	251 x 208 x 274 cm (99 x 82 x 108 in)
<b>Weight (not incl. MQC, MDM or BOS)</b>				
3D Printer Crated	1485 kg (3274 lb)	1885 kg (4147 lb)	2250 kg (4950 lbs)	2539 kg (5586 lbs)
3D Printer Uncrated	1360 kg (3000 lb)	1865 kg (4103 lb)	2224 kg (4893 lbs)	2541 kg (5531 lbs)
<b>Electrical Requirements</b>				
System	208 VAC/10 kVA, 50/60 Hz, 3 PH	240 VAC/17 kVA, 50/60Hz, 3 PH	208 VAC/17 kVA, 50/60Hz, 3 PH	208 VAC/17 kVA, 50/60Hz, 3 PH
Single or dual MQCs	208-230VAC, 50/60Hz, 1PH			
<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/cm³)	Flexural Modulus (MPa)	Flexural Strength (MPa)	Tensile Modulus (MPa)	Tensile Strength (MPa)	Elongation at Break (%)	Impact Strength (J/m)	Heat Deflection Temperature (°C)	Flammability	Hardness
ASTM 792	ASTM D790	ASTM D790	ASTM D638	ASTM D638	ASTM D638	ASTM D256	@ 0.45 MPa @ 1.82 MPa	UL 94	ASTM D2240
						Notched Izod, 23 °C Unnotched Izod, 23 °C			

## 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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