

Material Selection Guide for Selective Laser Sintering – SLS

	DuraForm PAx Black and Natural	DuraForm EX / DuraForm ProX EX (BLK & NAT)	DuraForm PA / DuraForm ProX PA	DuraForm GF / DuraForm ProX GF	DuraForm HST / DuraForm ProX HST	DuraForm ProX AF+
Base Material	Nylon/PA12	Nylon/PA11	Nylon/PA12	Nylon/PA12	Nylon/PA12	Nylon/PA12
Stiff / rigid				●●●●	●●●●●	●●●●
Non-rigid / durable-tough	●●●●●	●●●●	●●●●			
High-temperature resistance				●●●	●●●●	●●●●
High elongation	●●●●●	●●●	●●●			
High-impact strength	●●●●	●●●●	●●●●		●●●	●●●
Accuracy	●●●●	●●●●●	●●●●●	●●●●	●●●●	●●●●
Surface finish	●●●●	●●●●●	●●●●●	●●●	●●●	●●●●
Color	Black or Natural	Black or White	White	Pale grey	Pale grey	Metallic grey

RECOMMENDED APPLICATIONS						
Production parts	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●
Snap fits / living hinges	●●●●●	●●●●●	●●●●			
Automotive design	●●●●	●●●●	●●●●●	●●●●	●●●●	●●●●●
Aerospace parts and ducting	●●●●	●●●●●	●●●●	●●●●	●●●●●	●●●●
Medical applications	●●●		●●●●●			
Jigs / fixtures / tools	●●●	●●●	●●●●	●●●●●	●●●●●	●●●●

Ranking: Ratings are relative to other materials presented.

* Please see the product datasheet for more detailed information.

RATING SYSTEM { ●●●●● = BEST
●●●● = BETTER
●●● = GOOD

Sintered Part Density (g/cm ³)	Flexural Modulus (MPa)	Flexural Strength (MPa)	Tensile Modulus (MPa)	Tensile Strength (MPa)	Elongation at Break (%)	Impact Strength (J/m) Notched Izod Unnotched Izod	Heat Deflection Temperature (°C) @ 0.45 MPa @ 1.82 MPa	Flammability	Hardness
ASTM 792	ASTM D 790	ASTM D 790	ASTM D 638	ASTM D 638	ASTM D 638	ASTM D 256	ASTM D 648	UL 94	ASTM D2240

sPro™ Compatible Material Properties

DuraForm EX (Black and Natural)	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

SLS Material Properties

DuraForm PAx Natural	1.03	880	37	1300	40	282 %	41 Did not break	105 46	HB	66D
DuraForm PAx Black	1.04	900	50	1500	40	100 %	58 +400	110 45	HB	Part of final data set
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 % ¹	75 3336	193 57	HB	76D
DuraForm ProX EX NAT	1.02	1436	56	1590	51	61 % ¹	91 Did not break	192 56	HB	77D
DuraForm ProX AF+	1.31	3710	64	4340	37	3 %	54 255	182 174	HB	78D

¹ XY orientation at 5mm/min