

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.



 $[\]ensuremath{^{\star}}$ Please see the product data sheet for more detailed information.

	Sintered Part Density (g/cm³)	Flexural Modulus (MPa) ASTM D 790	Flexural Strength (MPa) ASTM D 790	Tensile Modulus (MPa) ASTM D 638	Tensile Strength (MPa) ASTM D 638	Elongation at Break (%) ASTM D 638	Impact Strength (J/m) Notched Izod Unnotched Izod ASTM D 256	Heat Deflection Temperature (°C) @ 0.45 MPa @ 1.82 MPa ASTM D 648	Flammability UL 94	Hardness ASTM D2240
sPro [™] Compatible Material Prope	erties									
DuraForm EX (Black and Natural)	1.01	1310	46	1517	48	47 %	74 1486	188 48	НВ	74D
DuraForm PA	1.03	1387	48	1586	43	14 %	32 336	180 95	НВ	73D
DuraForm GF	1.49	3106	37	4068	26	1.4 %	41 123	179 134	НВ	77D
DuraForm HST	1.20	4400-4550	83-89	5475-5725	48-51	4.5 %	37.4 310	184 179	НВ	75D

SLS Material Properties										
DuraForm PAx Natural	1.03	880	37	1300	40	282 %	41 Did not break	105 46	НВ	66D
DuraForm PAx Black	1.04	900	50	1500	40	100 %	58 +400	110 45	НВ	Part of final data set
DuraForm ProX PA	0.95	1650	63	1770	47	22 %	45 644	182 97	НВ	73D
DuraForm ProX GF	1.33	3120	60	3720	45	2.8 %	48 207	180 129	НВ	73D
DuraForm ProX HST	1.12	3430	75	4123	44	4.3 %	55 307	183 171	НВ	73D
DuraForm ProX EX BLK	1.02	1360	51	1570	43	60 %1	75 3336	193 57	НВ	76D
DuraForm ProX EX NAT	1.02	1436	56	1590	51	61 %1	91 Did not break	192 56	НВ	77D
DuraForm ProX AF+	1.31	3710	64	4340	37	3 %	54 255	182 174	НВ	78D

¹ XY orientation at 5mm/min

www.3dsystems.com

Warranty/Disclaimer: The performance characteristics of these products may vary according to product application, operating conditions, 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.

©2023 by 3D Systems, Inc. All rights reserved. Specifications subject to change without notice. 3D Systems, the 3D Systems logo,
DuraForm and CastPro are registered trademarks and sPro is a trademark of 3D Systems, Inc.

3DS-30101D 03-23

