

MATERIALS	PROPERTIES						CERTIFICATIONS						ADVANTAGES
	Easy to print	Rigidity	Impact resistance	Sensitive to moisture	Weather resistance	Temperature resistance	RoHS	REACH	EU 10/2011	FDA	UL94 - Vo	ESD protection	
ASA-S	4/5	3/5	3/5	1/5	5/5	3/5	Y	Y	N	N	N	N	High weather and UV resistance. Suitable for outdoor applications.
ABS-S	4/5	3/5	4/5	1/5	1/5	3/5	Y	Y	Y	White only	N	N	Impact resistance. High heat resistance compared to PLA (around 90°C). Can be used on all 3D printers on the market. Large formats from 5kg to 10kg and different colors available on request. Food contact certified under EU 10/2011 and FDA 21 CFR. Impact resistance, good temperature resistance compare to PLA.
ABS CARBON	3/5	4/5	2/5	1/5	1/5	3/5	Y	Y	N	N	N	N	No shrinkage. Lightweight. Better tensile modulus and less warpage compared to ABS.
ABS-EC	3/5	4/5	4/5	1/5	1/5	3/5	Y	Y	N	N	N	N	Electrical Conductor. High temperature resistance. Good impact resistance.
ABS-ESD	3/5	3/5	3/5	2/5	1/5	3/5	Y	Y	N	N	N	Y	Easy to print. Electric discharge protection.
ABS KEVLAR	3/5	3/5	2/5	1/5	1/5	3/5	Y	Y	N	N	N	N	Lighter-weight compared to ABS Carbon. Low warping compared to ABS-S.
HIPS-R	4/5	3/5	2/5	1/5	1/5	3/5	Y	Y	N	N	N	N	Support material - soluble in D-Limonene. Made from 100% recycled material. Good impact resistance.
PC-S	2/5	4/5	2/5	2/5	3/5	4/5	Y	Y	Y	Y	N	N	Resistant to heat up to 140°C. Stérilizable. Food contact certification EU 10/2011, FDA 21 CFR
PEBA-S	3/5	1/5	5/5	4/5	3/5	3/5	Y	Y	Y	Y	N	N	Flexibility (elongation at break >550%). Impact resistance.
PEKK-A <sup>a</sup>	1,5/5	4/5	1/5	4/5	5/5	4/5	Y	Y	N	N	Y	N	Temperature resistance. Flame retardant – eligible to UL94 V0.
PEKK CARBON <sup>a</sup>	1,5/5	4/5	2/5	4/5	5/5	4/5	N	Y	N	N	Y	N	Temperature resistance. Reinforced with carbon.
PEKK-SC <sup>*</sup>	1/5	4/5	1/5	4/5	5/5	5/5	Y	Y	N	N	Y	N	Semi-crystalline structure. Excellent mechanical properties. Heat resistance (up to 260°C). Railway fire and smoke standard EN45545. Aerospace FAR 25.853 Standard. Flame retardant – eligible to UL94 V0
PEI-1010 <sup>a</sup>	1/5	4/5	3/5	4/5	3/5	4/5	Y	Y	Y	Y	Y	N	High rigidity. UV resistance. Flame retardant – UL94 V0 eligible. Food contact certification EU 10/2011, FDA 21 CFR
PEI-9085 <sup>a</sup>	1/5	4/5	.	4/5	3/5	4/5	Y	Y	N	N	Y	N	High temperature resistance. Flame retardant – eligible to UL94 V0. Railway fire and smoke standard EN45545. Aerospace FAR 25.853

<sup>a</sup> Based on injected plates, printed parts are in progress

<sup>\*</sup> Depending on colors, please for more information contact us

<sup>c</sup> UL 94 is the standard for safety of flammability of plastic materials. From lowest (least flame-retardant) - to highest (most flame-retardant) HB < V2 < V1 < V0 < 5VB < 5VA .

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	Easy to print	Rigidity	Impact resistance	Sensitive to moisture	Weather resistance	Temperature resistance	RoHS	REACH	EU 10/2011	FDA	UL94 - Vo	ESD protection	
PETG CARBON	5/5	5/5	1/5	1/5	3/5	3/5	Y	Y	N	N	N	N	High rigidity. Improved ratio between: Ease of printing.
PETG-S	5/5	3/5	1/5	1/5	3/5	2/5	Y	Y	Y	Natural only	N	N	Odorless; offers a perfect balance between flexibility and mechanical properties. Food contact certified under EU 10/2011 and FDA 21 CFR (natural color only).
PLA-HI	5/5	4/5	4/5	2/5	1/5	2/5	Y	Y	Y	N	N	N	Odorless. Biosourced material. Easy to print. Impact resistance.
PLA-R	5/5	4/5	1/5	2/5	1/5	2/5		Y	N	N	N	N	≥ 97 % Recycled material (PLA-R natural - 100% recycled material). Easy to print. Odorless. Glossy finish.
PPSU-S	1/5	4/5	1/5	4/5	5/5	4/5	Y	Y	Y	Y	Y	N	High temperature resistance. Hydrolysis resistance. Flame retardant – eligible to UL94 V0. Aerospace FAR 25.853 Standard.
TPC-91A	4/5	1/5	5/5	2/5	5/5	4/5	N	Y	N	N	N	N	Elongation at break > 500%. Easy to print. Flexible.
TPC-ESD	4/5	1/5	5/5	2/5	5/5	4/5	N	Y	N	N	N	Y	Elongation at break > 400%. Easy to print. Flexible. ESD (electro static discharge) protection.
TPU-92A	3/5	1/5	5/5	4/5	5/5	4/5	Y	Y	Y	Y (except black)	N	N	Flexible. Resistance to abrasion. Food contact certification EU 10/2011 and FDA 21 CFR (except black color).
TPU-R	3/5	1/5	5/5	4/5	5/5	4/5	N	Y	N	N	N	N	Resistant to solvent. Made from 100% recycled material.

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MATERIALS	PRINTING SETTINGS							GLASS TRANSITION TEMP. Tg	MELTING TEMP. Tf	MAX TEMP. USAGE	DENSITY ISO 1183	RESISTANCE TO IM-PACT ISO 179	ELONGATION AT BREAK ISO 527	MODULE TRACTION ISO 527	MODULE BENDING ISO 178	HARDNESS SHORE ISO 868
	Extrusion Temperature	Bed Temperature	Chamber Temperature	Printing speed	Recommended bed surface	Compulsory Drying	Drying recommendations									
	°C	°C	°C	mm/s		Yes/No										
ASA-S	240-260 (250)	90-100 (95)	Without or 70	20 - 60 (50)	Glass + adhesive product or PEI	NO	80°C / 2-4h	108	-	90	1.056	13	4.3	1,685	1,662	74D
ABS-S	250-270 (260)	85-100 (90)	Without or 70	20 - 60 (50)	Glass + adhesive product or PEI	NO	80°C / 2-4h	107	-	90	1.035	24.7	9.8	1,484	1,443	70D
ABS CARBON	250-270 (260)	90-110 (100)	Without 70-80	40-70 (50)	Glass + adhesive product or PEI	NO	80°C / 2-4h	108	N/A	90	1.045	6.2	2	2,665	1,809	72.2D
ABS-EC	"260-280 (260)"	100	Without 70-80	"20 - 60 (50)"	Glass + adhesive product or PEI	NO	80°C 2-4h	108	N/A	90	1,035	27,6	5,2	2398	1393	67,2D
ABS-ESD Natural	260	100	Without or 70	40	Glass + adhesive product or PEI	NO	80°C / 2-4h	107	-	90	1.03	10.9	6.4	1,121	856	66.7D
ABS KEVLAR	250-270 (260)	90-110 (100)	Without or 70	40-70 (50)	Glass + adhesive product or PEI	NO	80°C / 2-4h	100	N/A	90	1.036	5.1	3.5	2,188	1,662	70.2D
HIPS-R	250-290 (270)	60-110 (85)	-	20-70 (60)	Glass + adhesive product or PEI	No	80°C / 2-4h	97	N/A	85	1.03	7.3	11.5	1,273	1,533	76.6D
PC-S	280-320 (295)	100-120 (105)	Without or 70	40-70 (45)	Glass + adhesive product (dimafix)	NO	120°C / 4h	140	-	140	1.193	7.9	4.8	2,172	1,640	79.2D
PEBA-S	210 - 260 (240)	70-90 (85)	-	20 - 60 (44)	Glass + blue tape ou PEI + blue tape	YES	80°C / 2-4h	-	149	100	1.013	No break	>550	63	70	93A
PEKK-A <sup>a</sup>	350-400	110 - 170	Without or up to 120	20-40	Glass + PET tape	YES	120°C / 4h	159	308	150	1.261	2.5	>5	2,510	1,660	-
PEKK-SC <sup>*</sup>	350-400	110 - 170	Without or up to 120	20-40	Glass + PET tape	YES	120°C 4h	172	332	260	1,27	"1,9 (ZX) 5,35 (XZ)"	"3,8 (ZX) >5 (XZ)"	"2784 (ZX) 2448 (XZ)"	"1705 (ZX) 1918 (XZ)"	-
PEKK CARBON <sup>a</sup>	350-390	110-150	Without or up to 120	20-40	Glass + PET tape	YES	120°C / 4h	160	300	150	1.27	5.0	80	2,900	3,000	-

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MATERIALS	PRINTING SETTINGS							GLASS TRANSITION TEMP. Tg	MELTING TEMP. Tf	MAX TEMP. USAGE	DENSITY	RESISTANCE TO IMPACT	ELONGATION AT BREAK	MODULE TRACTION	MODULE BENDING	HARDNESS SHORE
	Extrusion Temperature	Bed Temperature	Chamber Temperature	Printing speed	Recommended bed surface	Compulsory Drying	Drying recommendations									
	°C	°C	°C	mm/s		Yes/No										
PEI-1010 <sup>a</sup>	360-400	140-170	100-120	10-40	Glass or PEI	YES	120°C / 4-6h	215	N/A	200	1.27	10	60	3,200	3,300	-
PEI-9085	350-380	120-160	100-120	20-35	Glass or PEI	YES	120°C / 4-6h	175	N/A	170	1.34	11	-	-	-	-
PETG CARBON	220-260	60-100	Without 70-80	40-70 (50)	Glass + blue tape 3M or PEI + blue tape	NO	65°C / 2-4h	78	N/A	80	1.28	4.1	2.6	4,541	2,648	75D
PETG-S	195-230 (225)	35-60 (60)	-	40-70 (50)	Glass + blue tape 3M or PEI + blue tape	NO	65°C / 2-4h	80	N/A	70	1.274	4	24.3	1,833	1,641	72.5D
PLA-HI	190-210 (200)	20-60 (60)	-	40-150 (50)	Glass + blue tape 3M or PEI or Buildtak	NO	65°C / 2-4h	60	156	55	1.210	16.5	4.2	2,491	2,097	76.8D
PLA-R	190-210 (200)	20-60 (60)	-	40 - 150 (50)	Glass + blue tape 3M or PEI or Buildtak	NO	65°C / 2-4h	61	150	55	1.24	3.22	4	2,963	2,675	79.1D
PLA-S	190-210 (200)	20-60 (60)	-	40-150 (50)	Glass + blue tape 3M or PEI or Buildtak	NO	65°C / 2-4h	60	155	55	1.246	3.5	3.2	2,862	2,285	77.3D
PPSU-S	360-400	140-170	100-120	15-30	Glass ou PEI	YES	120°C / 4h	220	N/A	180	1.29	-	-	-	-	-
PS	200-260 (250)	60-100 (95)	-	40-150 (50)	Glass + adhesive product or PEI	NO	80°C / 2-4h	96	N/A	85	1.009	7.5	18.3	1,679	1,526	74.7D
TPC-91A	230-270 (260)	60-85 (60)	-	20 - 60 (44)	Glass + blue tape 3M or PEI + blue tape	NO	80°C / 2-4h	N/A	159	125	1.22	No break	> 500	67	66	91A
TPC-ESD	230-270 (260)	60-85 (60)	-	20 - 60 (44)	Glass + blue tape ou PEI + blue tape	NO	80°C / 2-4h	-	160	125	1.2	No break	>400	57	54	91A
TPU-92A	210-250 (225)	60-90 (85)	-	20-70 (25)	Glass + blue tape 3M or PEI + blue tape	YES	80°C / 2-4h	N/A	N/A	-	1.159	No break	351.6	90	81	92A
TPU-R	210-250 (225)	60-90 (85)	-	20-70 (25)	Glass + blue tape 3M or PEI + blue tape	YES	80°C / 2-4h	N/A	N/A	-	1.140	No Break	>300	55.2	45.6	90A

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