

HAGE3D

MATERIAL DATA SHEET

	ENGINEERING PLASTICS								STANDARD PLASTICS				REINFORCED PLASTICS (SHORT FIBRES)			HIGH TEMPERATURE PLASTICS	
Material	Arnitel (TPC)	Python Flex (TPU)	Zytel (PA)	Centaur PP	Ultrafuse Z (PCTG)	C515 (PC)	HT-PETG	PC-ABS	ApolloX (ASA)	TitanX (ABS)	Facilan C8 (PLA)	HDGlass (PETG)	PA/CF	PA/GF	PP/GF	PEKK-A	PPSU
Diameter	1,75 mm 2,85 mm	1,75 mm 2,85 mm	1,75 mm 2,85 mm	1,75 mm 2,85 mm	1,75 mm 2,85 mm	1,75 mm 2,85 mm	1,75 mm 2,85 mm	1,75 mm 2,85 mm	1,75 mm 2,85 mm	1,75 mm 2,85 mm	1,75 mm 2,85 mm	1,75 mm 2,85 mm	1,75 mm	1,75 mm	1,75 mm	1,75 mm	1,75 mm
Applications	flexible parts	flexible parts	mechanical construction automotive prototypes functional prototypes	functional prototypes small series	mechanical construction automotive prototypes functional prototypes	mechanical construction automotive prototypes functional prototypes	mechanical construction automotive prototypes functional prototypes	mechanical construction automotive prototypes functional prototypes	design objects large objects (functional-) prototypes small series	design objects large objects (functional-) prototypes small series	design objects functional prototypes	functional prototypes small series large objects	mechanical construction prototypes functional prototypes	mechanical construction prototypes functional prototypes	mechanical construction prototypes functional prototypes	mechanical construction automotive (functional-) prototypes	mechanical construction automotive (functional-) prototypes
Notched impact strength (23 °C; max)	No Break	No Break	3 kJ/m ²	-	2 kJ/m ²	25 kJ/m ²	860 J/m	13 kJ/m ²	18 kJ/m ²	58 kJ/m ²	7 kJ/m ²	7 kJ/m ²	35 kJ/m ²	-	23 kJ/m ²	-	399 kJ/m ²
Tensile strength(max)	8 MPa	50 MPa	55 MPa	12 MPa	37 MPa	60 MPa	43 MPa	40 MPa	48 MPa	44 MPa	45 MPa	50 MPa	90 MPa	90 MPa	35 MPa	85 MPa	70 MPa
Youngs modulus(max)	29 MPa	150 MPa	1600 MPa	-	1763 MPa	2048 MPa	-	1832 MPa	2020 MPa	2030 MPa	3000 MPa	1940 MPa	11500 MPa	5560 MPa	3000 MPa	2850 MPa	2340 MPa
Elongation at break (max)	390 %	450 %	15 %	> 600 %	3 %	12 %	210 %	400 %	15 %	34 %	4 %	120 %	1 %	2 %	4 %	8 %	7 %
Flexural strength (max)	-	-	-	-	56 MPa	94 MPa	64 MPa	66 MPa	-	-	67 MPa	71 MPa	-	-	-	-	91 MPa
Flexural modulus (max)	-	-	-	402 MPa	1613 MPa	2044 MPa	1575 MPa	2081 MPa	-	-	3640 MPa	2148 MPa	4200 MPa	3080 MPa	4130 MPa	-	2410 MPa
Hardness	34D (Shore)	98A (Shore)	-	50D (Shore)	-	-	111 (Rockwell)	-	-	-	72D (Shore)	105 (Rockwell)	-	-	-	-	-
Operating temperature (long run)	90 °C	138 °C	105 °C	100 °C	75 °C	117 °C	100 °C	135 °C	95 °C	95 °C	55 °C	75 °C	120 °C	120 °C	100 °C	172 °C	207 °C
Specific traits	elastic	elastic	good mechanical behaviour	media resistant	ESD-safe	UL 94 VO	high perform. PETG	impact strength	UV resistant	good mechanical behaviour	good surface quality	allround material	high tensile	high tensile	lightweight high tensile	UL 94 VO	UL 94 VO
Base settings																	
Average extrusion temperature (1,75 mm)	230 °C	240 °C	270 °C	230 °C	260 °C	255 °C	260 °C	260 °C	245 °C	245 °C	210 °C	230 °C	270 °C	270 °C	240 °C (0,6-mm-Stahldüse)	380 °C	380 °C
Active build room heating	no	no	yes	yes	yes	yes	no	yes	dependent on part shape	dependent on shape	no	no	yes	yes	yes	yes	yes
Support system	PVA	PVA	PVA	-	PVA	PolyDissolve S2	PVA	PolyDissolve S2	PVA/BVOH, PLA	PVA/BVOH, PLA	PVA	PVA, PLA	PVA	PVA	PVA	-	-