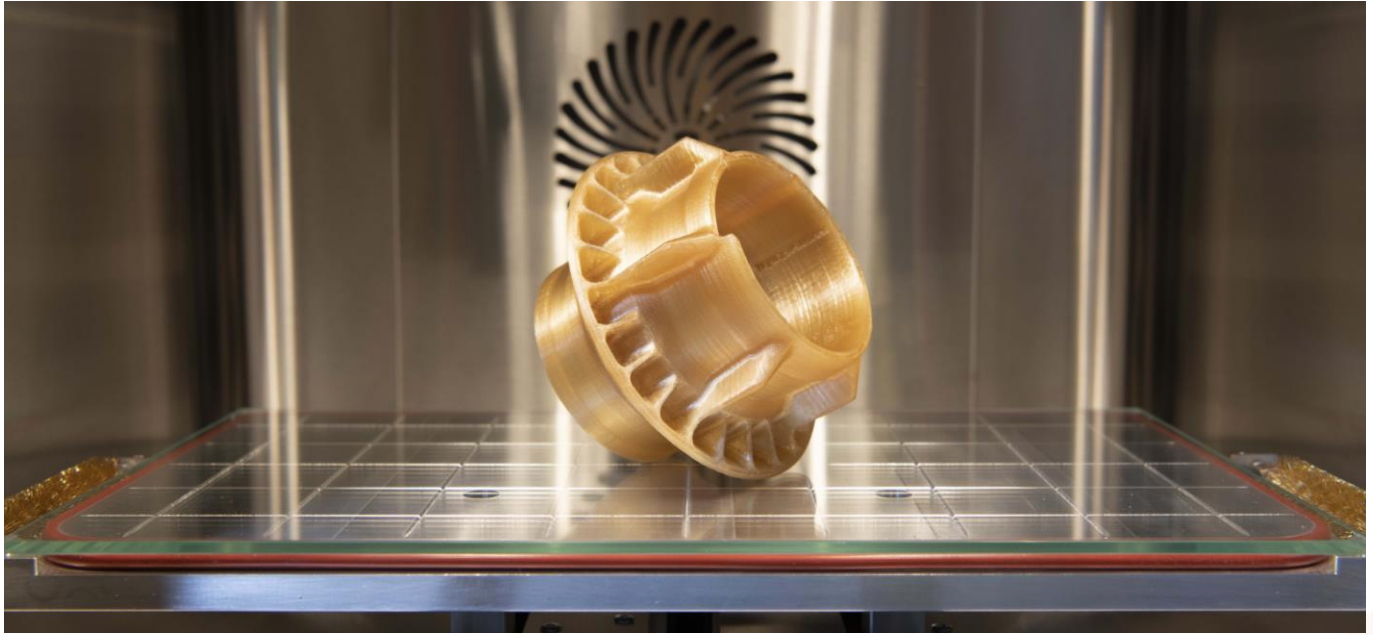


PEKK (Poly-Ether-Ketone-Ketone) offers low outgassing, high mechanical properties and exceptional resistance to extreme environments, like those in aerospace and oil exploration.

PEKK-A made by Kimya – 3D materials by Armor is based on Kepstan® by Arkema.



MECHANICAL	TEST METHOD	VALUE		
		XY	XZ	ZX
Tensile Strength, Ultimate (Type 1, 0.125", 0.2"/min)	ASTM D638	69 ± 5 MPa	86 ± 3 MPa	62 ± 5 MPa
Tensile Strength, Yield (Type 1, 0.125", 0.2"/min)	ASTM D638	88 ± 2 MPa	89 ± 3 MPa	-
Tensile Modulus (Type 1, 0.125", 0.2"/min)	ASTM D638	3,140 MPa	3,100 MPa	2,970 MPa
Tensile Elongation at Break (Type 1, 0.125", 0.2"/min)	ASTM D638	9 %	4,6 %	2,9 %

MECHANICAL	TEST METHOD	VALUE	
		XY Orientation	ZX Orientation
Flexural Strength (Method 1, 0.05"/min)	ASTM D790	129 MPa	64 MPa
Flexural Modulus (Method 1, 0.05"/min)	ASTM D790	3,250 MPa	2,180 MPa
Flexural Strain at Break (Method 1, 0.05"/min)	ASTM D790	no break	3 %
Flexure strain (Extension) at Tensile strength	ASTM D790	6 %	-
IZOD Impact, notched (Method A, 23 °C)	ASTM D256	71 J/m	n.a
IZOD Impact, un-notched (Method A, 23 °C)	ASTM D256	690 J/m	186 J/m
Compressive Strength, Yield (Method 1, 0.05"/min)	ASTM D695	93 MPa	80 MPa

PHYSICAL	TEST METHOD	VALUE
Specific Gravity	ASTM D792	1,27g/cm3
Water Absorption, 24 hours	ASTM D570	0,2%
THERMAL	TEST METHOD	VALUE
Glass Transition Temperature (Tg)	ASTM D7426-08	160°C
HDT, 1.82Mpa, 3,2mm	ASTM D648	139°C
Thermal Conductivity	ASTM E1530-11	0.21W/mK
Coefficient of Thermal Expansion	DMA	26.5µm/m/K
UL94 Flame Class Rating	UL94	V0 -
ELECTRICAL	TEST METHOD	VALUE
Volume Resistivity	ASTM D257	10 ¹⁶ Ohm-cm
Dielectric Constant – 50Hz, (23 °C)	ASTM D150	2.9
Dissipation Factor - 50Hz, (23 °C)	ASTM D150	0.002
OUTGASSING	TEST METHOD	VALUE
Total Mass Loss (TML)	ASTM E595	0.27%
Collected Volatile Condensable Material (CVCM)	ASTM E595	<0.01%
Water Vapor Recovered (WVR)	ASTM E595	0.29%
PRINTING PARAMETERS	VALUE	
Print Speed	25mm/s	
Infill % / Infill Angle	100% / 45°/-45°	
Layer Height	0.25mm	
Material Pre-Drying	120°C / 24h	

ORIENTATION:

- XY "FLAT"
- XZ "SIDE"
- ZX "UPRIGHT"

