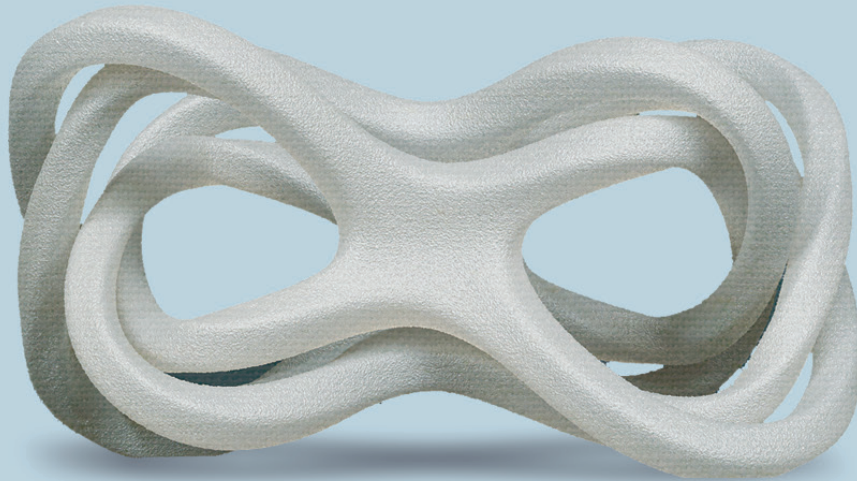




KIMYA ABS CARBON



ABS CARBON FILAMENT IMPROVES INTERLAYER ADHESION AND INCREASES COMPRESSION STRENGTH

| NO SHRINKAGE | BETTER TENSILE MODULUS THAN ABS
| BETTER INTERLAYER ADHESION | LIGHT WEIGHT OBJECTS

FILAMENT PROPERTIES

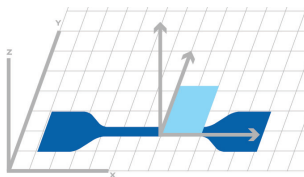
DESCRIPTION	TEST METHODS	UNITS	VALUES
Diameter	INS-6712	mm	1.75 ± 0.1 mm 2.85 ± 0.1 mm
Density	ISO 1183	g/cm ³	1.045
Moisture rate	INS-6711	%	< 1
Melt Flow Index (MFI)	ISO 1133 (@220°C – 10 kg)	g/10min	17.4
Glass transition temperature (T _g)	ISO 11357 DSC (10°C/min – 20 à 220°C)	°C	100
Melting temperature (T _m)	ISO 11357 DSC (10°C/min – 20 à 220°C)	°C	30

PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
PRINTING SPEED	50-60 mm/s
INFILL	100% - rectilinear
INFILL ANGLE	45°/-45°
EXTRUSION TEMPERATURE	245-270°C
BED TEMPERATURE	90-95°C

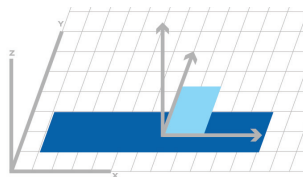
RESULTS

TENSILE TEST



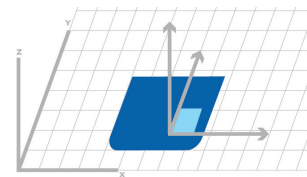
Dim.(mm): 75x12.5x2
Specimen type: ISO 527-5A

BENDING TEST - CHARPY IMPACT



Dim. (mm): 80x10x4

HARDNESS



Dim.(mm): 45x45x4

PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	UNITS	VALUES
MECHANICAL PROPERTIES	Tensile modulus	ISO 527-2/5A/50	MPa	2665
	Tensile strength	ISO 527-2/5A/50	MPa	35,7
	Tensile stress at break	ISO 527-2/5A/50	MPa	37,5
	Tensile strain at break	ISO 527-2/5A/50	%	2
	Flexural modulus	ISO 178	MPa	1809
	Flexural stress at conventionnal deflection (3,5% strain)**	ISO 178	MPa	51,4
	Flexural strain at flexural strength	ISO 178	%	>5*
	Charpy impact resistance	ISO 179-1/1eA	kJ/m ²	6,2
	Shore Hardness	ISO 868	Shore D	72,7

*According to ISO 178, end of the test at 5% deformation even if there is no specimen break

** The data should be considered as indicative values - Properties can be influenced by production conditions.