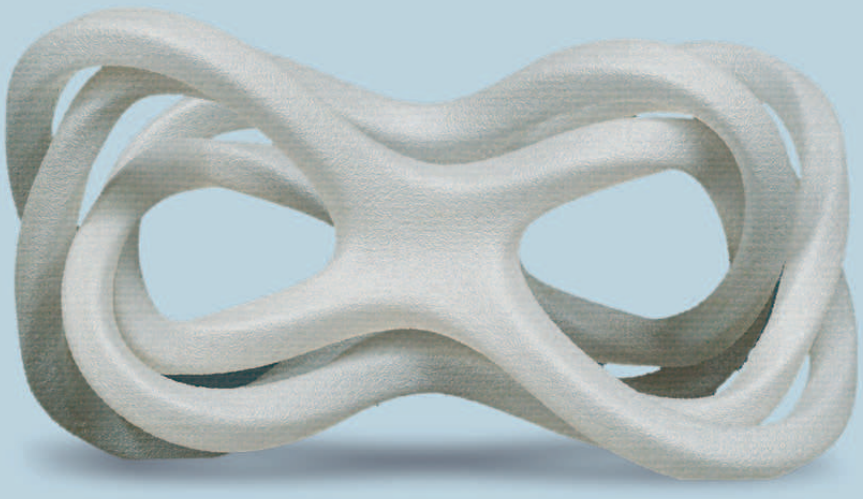
ABS CARBON KIMYA



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 2.85 ± 0.1
Density	ISO 1183	g/cm3	1.032
Humidity rate	INS-6711	ppm	< 6,000
MFI (@220°C – 10 kg)	ISO 1133	g/10min	35.7
Glass temperature tg	ISO 11357 DSC (10°C/min – 20 à 220°C)	°C	100
Melting temperature tf	ISO 11357 DSC (10°C/min – 20 à 220°C)	°C	n/a

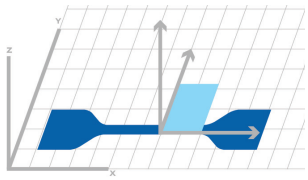
KIMYA

PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINT AXIS	XY
PRINT SPEED	50 mm/s
INFILL	100% - rectilinear
INFILL ANGLE	45°/-45°
EXTRUSION TEMPERATURE	260°C
PLATFORM TEMPERATURE	100°C

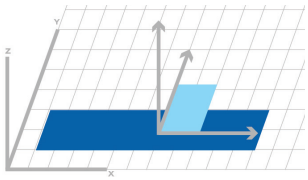
RESULTS

TENSILE TEST



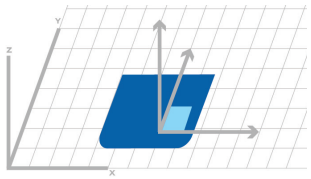
Dim.(mm): 75x12.5x2
Specimen type: ISO 527-5A

BENDING TEST - CHARPY IMPACT



Dim. (mm): 80x10x4

HARDNESS



Dim.(mm): 45x45x4

PRINTED SPECIMENS PROPERTIES

	PROPERTIES	TEST METHODS	UNITS	VALUES
TENSILE TEST	Tensile modulus	ISO 527	MPa	2,189
	Tensile strength	ISO 527	MPa	37.4
	Elongation @tensile strength	ISO 527	%	2.2
	Tensile stress @break	ISO 527	MPa	33.2
	Tensile elongation @break	ISO 527	%	3.1
BENDING TEST	Flexural modulus	ISO 178	MPa	1,822
	Flexural stress @3.5%	ISO 178	MPa	56.6
	Deformation @flexural strength	ISO 178	%	>5*
CHARPY IMPACT	Charpy impact strength (notched type A)	ISO 179	kJ/m2	7.3
HARDNESS	Hardness	ISO 868	Shore D	72.2

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

The results presented are the averaged values of the ABS CARBON 1.75mm range.
For each test, 5 specimens per reference, previously placed at least 24 hours in climatic chamber (23°C - hygrométrie : 50%) have been tested.

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La FRENCH FAB