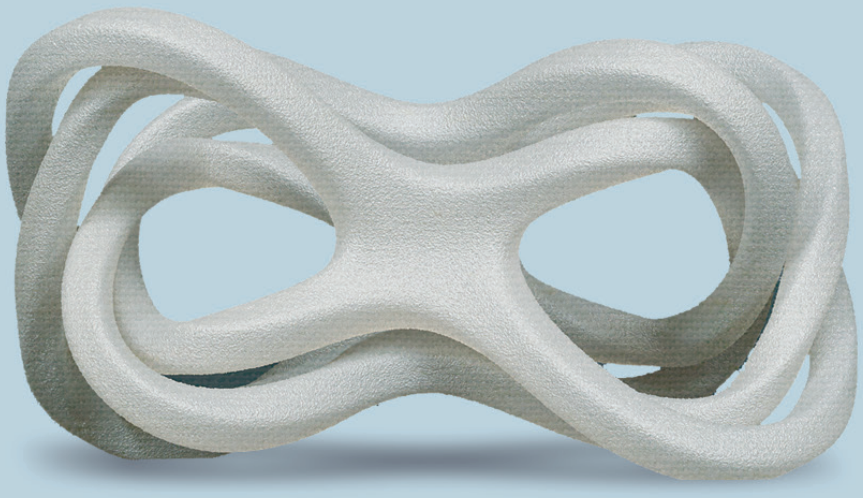
KIMYA PETG CARBON



PETG CARBON has an excellent tensile modulus. PETG is reinforced with carbon fibers.

| NO DELAMINATION | HIGH RIGIDITY

| REINFORCMENT | POST-PRINTING PROCESSES POSSIBLE

FILAMENT PROPERTIES

DESCRIPTION	TEST METHODS	UNITS	VALUES
Diameter	INS-6712	mm	1.75 ± 0.1 2.85 ± 0.1
Density	ISO 1183-1	g/cm^3	1,28
Moisture rate	INS-6711	%	< 10
Melt Flow Index (MFI) (@225°C – 2.16 kg)	ISO 1133-1	g/10min	9,7
Glass transition temperature Tg	ISO 11357-1 DSC (10°C/min – 20 à 280°C)	°C	76

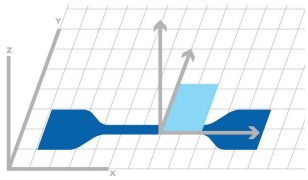
KIMYA
Additive Manufacturing by ARMOR

PRINT PARAMETERS AND SPECIMENS DIMENSIONS

PRINTING DIRECTION	XY
PRINTING SPEED	60 mm/s
INFILL	100% - rectilinear
INFILL ANGLE	45°/-45°
EXTRUSION TEMPERATURE	225°C
BED TEMPERATURE	60°C

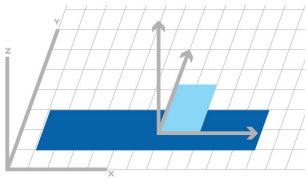
RESULTS

TENSILE TEST



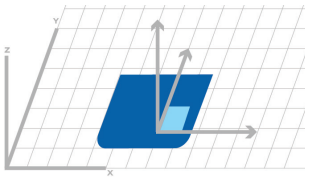
Dim.(mm): 75x12.5x2
Specimen type: ISO 527-5A

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	4,541
	Tensile strength	ISO 527-2/5A/50	MPa	52,9
	Tensile strain at strength	ISO 527-2/5A/50	%	2,4
	Tensile stress at break	ISO 527-2/5A/50	MPa	41,3
	Tensile strain at break	ISO 527-2/5A/50	%	2,6
	Flexural modulus	ISO 178	MPa	2,648
	Flexural stress at conventionnal deflection (3,5% strain)**	ISO 178	MPa	80,4
	Flexural stress at break	ISO 178	MPa	>80
	Charpy impact resistance	ISO 179-1/1eA	kJ/m^2	4,1
	Shore Hardness	ISO 868	Shore D	75

*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.

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