

ASA FC – Data sheet

It is a material based on Acrylonitrile Styrene Acrylate (ASA), reinforced with carbon fibers. It is specially formulated to be used in 3D printing equipment powered by polymer granules (FGF: Fused Granulated Fabrication), with excellent outdoor properties. Its usefulness for products made by injection molding has also been demonstrated.

ASSESSED PROPERTIES	VALUE	UNITS	NORMATIVE
Density	1.24	g/cm ³	
MECHANICAL			
Ultimate tensile strength			
Injection	70	MPa	ISO 527
X (taken from horizontal plates)	56	MPa	ISO 527 adapted
Z (taken from vertical plates)	10	MPa	ISO 527 adapted
Young's modulus			
Injection	5700	MPa	ISO 527
X (taken from horizontal plates)	5800	MPa	ISO 527 adapted
Z (taken from vertical plates)	1200	MPa	ISO 527 adapted
Elongation at fracture			
Injection	1.90	%	ISO 527
X (taken from horizontal plates)	1.70	%	ISO 527 adapted
Z (Taken from vertical plates)	1.20	%	ISO 527 adapted
Impact			
Charpy's resistance	19.20	kJ/m ²	ISO 179
THERMAL / ELECTRICAL			
Volumetric electrical conductivity	4.10	S·cm ⁻¹	ASTM D257
Thermal conductivity	0.18	W/m·K	ASTM E1530
Vicat softening temperature	99	°C	ISO 306
HDT softening temperature	92	°C	ISO 75
MELT FLOW INDEX			
Melt Flow Index	25.62	g/10 min	ISO 1133
INDICTED			
Dehumidified			
Dehumidification time	4	h	
Dehumidification temperature	80	°C	
Extrusion			
Zone 1 temperature	235	°C	
Zone 2 temperature	245	°C	
Zone 3 temperature (nozzle)	245	°C	
Bed Temperature	100-120	°C	

This material has been tested in an FGF equipment, considering the following guidelines to evaluate its mechanical properties:

