

## ABS-S21

## TECHNICAL DATA SHEET

### FILSHAPER ABS-S21

Standard filament in VSHAPER offer. It is sold in natural color, black and others. The filament is characterized by high structural stiffness, chemical resistance to detergents, naphta in room temperature and ethanol. Models made of ABS can be used in range of temperatures from -30 to 120°C ABS parts are mainly used in electronics, automotive, body protection industry and wide range of prototypes eg. electronic enclosures, helmets, car pillars, musical instruments and so on.

### DELIVERY OF FILSHAPER ABS-S21

ABS-S21 filament has the nominal diameter of 1,75mm and is fit for FDM/FFF printing. It's supplied in 1kg spool. The spools are packed in vacuumed plastic bags to prevent hygroscopicity.

### STORAGE

Store the filament in airtight packaging in dry place. The filament is usable up to 6 months after opening

### DRYING RECOMMENDATIONS

It is recommended to dry the filament before every usage to avoid stringing, bubbling or other defects: 4h in 80°C

Mechanical properties	Value	Unit	Test Standard
Tensile Modulus	-	MPa	-
Tensile Strenght	52	MPa	ASTM D638
Yield stress	-	MPa	-
Yield strain	-	%	-
Stress at break	-	MPa	-
Nominal strain at break,	30	%	ASTM D638
Flexural modulus	-	MPa	-
Flexural strength	80	MPa	ASTM D790
Charpy impact strength, +23°C	-	kJ/m <sup>2</sup>	-
Charpy impact strength, -30°C	-	kJ/m <sup>2</sup>	-
Izod notched impact strength, +23°C	20	kJ/m <sup>2</sup>	ASTM D256
Izod notched impact strength, -30°C	8	kJ/m <sup>2</sup>	ASTM D256
Hardness (R-Scale)	110	-	ASTM D785

Thermal properties	Value	Unit	Test Standard
Melting temperature	-	°C	-

Glass transition temperature	-	°C	-
Temp. of deflection under load A, 1 .80 MPa (HDT)	86	°C	ASTM D648
Temp. of deflection under load B, 0 .45 MPa (HDT)	90	°C	ASTM D648

Physical properties	Value	Unit	Test Standard
Density	1,04	g/cm <sup>3</sup>	ISO 1183
Filament Diameter	1.75	mm	-
Linear Shrinkage	0,4-0,7	%	ASTM D955

Burning behavior	Value	Unit	Test Standard
Flammability class	HB	class	UL94

Rheological properties	Value	Unit	Test Standard
Melt volume-flow rate, MVR	-	cm <sup>3</sup> /10 min	-
Temperature	-	°C	-
Load	-	kg	-

Characteristics	
Key Feature, Industrial Sector	Automotive, Electronic, body protection industry
Key Feature, Processing	3D printing
Key Feature, Resistance to	Impact
Key Feature, Electrical	Insulator
Example applications	Helmets, electronic enclosures, automotive components and all kind of prototyping
Processing	FFF/FDM
Special Characteristics	stiffness
Color	Black
Delivery form	Monofilament

Printing settings	VSHAPER 270			VSHAPER 500		
	STD	PRO	MED	STD	PRO	MED
Print temperature	240°C	240°C	240°C	265°C	265°C	265°C
Bed temperature	95°C	95°C	95°C	95°C	95°C	95°C
Chamber temperature	-	60°C	60°C	60°C	60°C	60°C
Adhesive plate material	V-SURFACE LT	V-SURFACE LT	V-SURFACE LT	V-SURFACE LT	V-SURFACE LT	V-SURFACE LT
Adhesive glue	Dimafix	Dimafix	Dimafix	Dimafix	Dimafix	Dimafix
Model shrinkage	~0,8%	~0,8%	~0,8%	~0,8%	~0,8%	~0,8%

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