TECHNICAL DATA SHEET VERSION 1.1

STANDARD BLACK

Photopolymer resins for general purpose 3D printing. Suitable to make pieces by LCD and DLP technology. Completely opaque black resin suitable for pieces that require high dimensional stability, low shrinkage, and low odour during printing.

Indicated for open-source printing equipment, in the range of 385 – 420nm.

Recommended applications

- Functional prototypes
- Miniatures
- High precision models

	TIPICAL VALUE	UNITS	TEST METHOD
PHYSYCAL PROPERTIES			
Aparience	Black opaque liquid		
Density	1.3	g/cm^3	ISO 1183
Viscosity (25 ˚C)	500	cps	
Glass transition temperature	51	˚C	D7028
MECHANICAL PROPERTIES (Values obtained after 30 minutes of UV curing)			
Tensile Strength	46	MPa	ASTM D638M
Tensile Modulus	1100	MPa	ASTM D638M
Flexural Strenght	68	MPa	ASTM D790M
Flexural Modulus	1900	MPa	ASTM D2240
Elongation at break	8	%	ASTM D638M
IZOD Impacta (notched, 23˚C)	17	J/m	ASTM D256A
Hardness	83	Shore D	ASTM D2240

PRINTING PROPERTIES [1]	LCD	LCD mono	UNITS
Layer height	0.05	0.05	mm
Base Layer	3	2	number
Exposure time base layer	150	30	seconds
Exposure time	10	1,6	seconds

[1] General printing parameters for a layer height of 25 µm, each printing equipment may require modifications in the settings, for more information about the configuration in a specific model, write to us at the following email: info@smartmaterials3d.com

SIZE	NET WEIGHT	BRUT WEIGHT	COLOR	PACKAGING
M	500 g	550g	Black	Caron box, de Cartón, Black PE bottle, zip lock bag.

USE RECOMENDATIONS

SHAKE PRODUCT BEFORE USING

The composition of the resin can contain suspended particles, over time these can end up precipitating at the bottom of the container, so it is advisable to shake the container before use so that the product mixes again and is completely homogeneous.

RECOMMENDED LAYER HEIGHT

This resin is suitable for working with a layer height according to the indicated range. Layer height is directly related to print resolution so a lower layer height is recommended to achieve a higher quality finish.

RECOMMENDED PRINTING EQUIPMENT

Smart Materials 3D Resin Standard Black has been validated for 3D printing technologies using LCD and DLP equipment.