

### FLEX

Thermoplastic elastomer it has a special additive to obtain a filament which allows printing flexible objects, elastic and with a high quality printing. Shore improved in order to make easier the printing process.



	TYPICAL VALUE	UNITS	TEST METHOD		
<b>PHYSICAL PROPERTIES</b>					
Chemical Name	Poliurethane				
Material Density	1.21	g/cm <sup>3</sup>	ISO 1183		
<b>MECHANICAL PROPERTIES</b>					
Abrasion Resistance	35	mm <sup>3</sup>	ISO 4649		
Hardness	93	Shore A	ISO 868		
Tear Strength	180	N/mm	ISO 34-1 B/b		
Tensile Strength	40	MPa	ISO 37		
Elongation at Break	500	%	ISO 37		
100% Modulus	9,5	MPa	ISO 37		
300% Modulus	19,5	MPa	ISO 37		
<b>PRINTING PROPERTIES</b>					
Print Temperature	210-230	°C			
Hot Pad	0-60	°C			
Fan Layer	ON (100%)	%			
<b>SIZE</b>	<b>NET W.</b>	<b>GROSS W.</b>	<b>DIAMETERS</b>	<b>COLOR</b>	<b>PACKAGING</b>
S	330 g	476 g	1.75 mm/2.85 mm	Various colors	SmartBag Security seal
M	750 g	975 g	1.75 mm/2.85 mm	Various colors	Desiccant bag

# USE RECOMENDATIONS

## MATERIAL FLOW CONTINUOUS

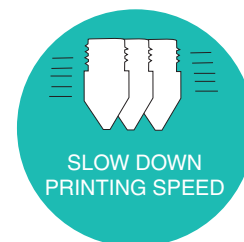
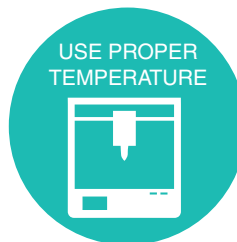
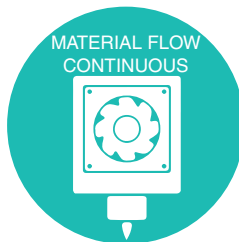
Printing with this kind of material can be hard at the beginning because of its flexibility. It is important to keep the material flow as continuous as possible and with little variations in the printing parameters. Besides, to improve adhesion we recommend using 3d printing spray for the heating bed.

## USE PROPER TEMPERATURE

Pay special attention to find an optimal temperature in your 3D printer. We recommend using 225°C. Setting higher values may help you to reduce blockage probability as it eases the material flow, but be careful it is not too high, so you could get printing defects.

## SLOW DOWN PRINTING SPEED

This filament does not work as PLA or ABS with high speeds, that is why we suggest slowing down your printing speed. Our filament works well at 35 mm/s. In addition, it is advisable to print your piece (perimeters, infill, etc) at the same speed. This way you can avoid the irregular material flow and you will get a better finish.



DISCLAIMER: The information provided in the data sheets is intended to be just a reference. It should not be used as design or quality control values. Actual values may differ significantly depending on the printing conditions. The final performance of the printed components does not only depend on the materials, also the design and printing conditions are important. Smart Materials assumes no responsibility for any damage, injury or loss produced by the use of its filaments in any particular application.