Thermoplastic Polyurethane (TPU) **Status 03/2015**

Additive Manufacturing – Selective Laser Sintering (SLS)

Properties

Parts are additively manufactured by laser sintering using a TPU powder as raw material. The material properties are characterized by the following:

- High elongation at break and flexibility
- Very high level of detail and acutance

TPU material offers a wide range of application since there are various possibilities of finishing (such as barrel finishing and dying).

Application

Typical application areas of TPU parts are functional parts in the field of prototypes, small batch series, and final products that cannot be manufactured by applying conventional mechanical manufacturing or casting methods (possible for any three-dimensional geometry).

Mechanical Properties

Material Characteristics	Unit	Value
Hardness	Shore A	81 ±5
Elongation at break (x-y-direction)	%	300 ±10
Elongation at break (z-direction)	%	140 ±10
E-Modulus (x-y-direction)	MPa	40
E-Modulus (z-direction)	MPa	35
Tear resistance	N/mm	7.6 ±0.5
Compression set	%	83
Density (when laser sintered)	g/cm³	1.08

Thermal Properties

Material Characteristics	Unit	Value
Melting temperature	°C	118
Application area	°C	-20 up to 80

This data sheet contains approximate values. These values are influenced by part´s geometry, additives, and environmental influences. They were developed based on current experiences and knowledge. Therefore, the above mentioned properties cannot be claimed legally binding nor can a definite purpose be derived.

Additive Manufacturing LLC
31877 Del Obispo St., #213
San Juan Capistrano, CA 92675

877-238-7907 P
512-524-3638 F