fasipol
POLYURETHANE MOULDING

ELASTIC 50A

Resin for Soft, Flexible Parts

SLA 3D PRINTING

WWW.FASIPOL.IT

Flexible resin designed to simulate soft rubber and silicone. Ideal for prototyping transparent parts that need to bend, compress, or stretch while retaining good mechanical strength.

Main Features

- High elongation at break (up to 160%)
- Shore Hardness 55A
- Excellent transparency and smooth surface finish
- Rubber-like behaviour
- Good resistance to selected oils, water, and chemicals

Applications

- Robotics components
- Medical models and devices
- Props and special-effects applications
- Prototypes of wearable devices and consumer products

Certified Company
UNI EN ISO
9001:2023

	As-Printed	Post-Cured	Method
Mechanical Properties			
Tensile Strength	1,7 MPa	3,4 MPa	ASTM D412-06 (A)
Stress at 50% Elongation	0,5 MPa	0,9 MPa	ASTM D412-06 (A)
Stress at 100% Elongation	0,9 MPa	1,7 MPa	ASTM D412-06 (A)
Elongation at Break	160%	160%	ASTM D412-06 (A)
Shore Hardness	44	55	ASTM 2240
Compression Set (23 ˚C for 22 hours)	Not tested	2,1%	ASTM D395-03 (B)
Compression Set (70 ˚C for 22 hours)	Not tested	3,1%	ASTM D395-03 (B)
Tear Strength	8,2 kN/m	12,3 kN/m	ASTM D624-00
Ross Flex Resistance at 23 ˚C	Not tested	800	ASTM D1052, (notched), 60˚ bend, 100 cycles per minute
Bayshore Resilience	Not tested	18%	ASTM D2632
Thermal Properties			
Glass Transition Temperature (Tg)	Not tested	-34,5 ˚C	DMA
General Properties			
Density	1,01		
Color	Transparent		
Viscosity (35 ˚C)	1400 cPs		

Solvent Resistance Characteristics

Percentage weight gain in 24 hours for a 1x1x1 cm printed specimen, post-cured and then immersed in the respective solvents:

Solvent	Weight increase (%) in 24 hours	Solvent	Weight increase (%) in 24 hours
Acetic acid 5%	1,5	Isooctane (gasoline)	15,6
Acetone	43,4	Mineral oil (light)	0,7
Isopropyl alcohol	39,2	Mineral oil (heavy)	0,4
Bleach (NaClO ~5%)	0,6	Saline water (NaCl 3.5%)	0,6
Isobutyl acetate	133,1	Sodium hydroxide solution (0,025%, pH 10)	0,7
Diesel fuel	7,9	Water	0,7
Diethylene glycol monomethyl ether	31,4	Xylene	163,9
Hydraulic oil	3,9	Strong acid (conc. HCl)	45,6
Skydrol 5	41,2	Tripropylene glycol monomethyl ether (TPM)	43,6
Hydrogen peroxide (3%)	0,9		