fasipol
POLYURETHANE MOULDING

TOUGH 1500

Rigid and Durable Technical Resin

SLA 3D PRINTING

WWW.FASIPOL.IT

Technical resin designed to resist impacts and mechanical stress. Ideal for producing durable, ductile parts, perfect for snap-fit assemblies, robust housings, and production jigs.

Main Features

- High toughness and impact resistance
- Elongation at break: 155%
- Compatible with production environments
- Excellent balance between rigidity and ductility

Applications

- Jigs and fixtures for long-term use
- Housings with self-tapping screws and snap-fits
- Functional prototypes with strength and accuracy
- Flexible mechanical parts, dampers, and closures

Certified Company
UNI EN ISO
9001:2023

	As-printed	Post-Cured	METHOD
Mechanical Properties			
Tensile Strength	30 MPa	34 MPa	ASTM D638-14
Tensile Elastic Modulus	1250 MPa	1460 MPa	ASTM D638-14
Break Load	30 MPa	34 MPa	ASTM D638-14
Elongation	5,6%	6,1%	ASTM D638-14
Elongation at Break	210%	155%	ASTM D638-14
Flexural Resistance Properties			**METHOD**
Flexural Strength	26 MPa	41 MPa	ASTM D790-17
Flexural Elastic Modulus	900 MPa	1370 MPa	ASTM D790-17
Tenacity Properties			**METHOD**
Notched Izod Impact Strength	45 J/m	42 J/m	ASTM D256-10
Izod Impact Strength Without Notch	1080 J/m	910 J/m	ASTM D4812-11
Impact resistance (Gardner test) at 0.97 mm (1/32") thickness	7 J	5,9 J	ASTM D5420-21
Impact resistance (Gardner test) at 1.9 mm (1/16") thickness	12,4 J	11,1 J	ASTM D5420-21
Ross Flex resistance at 23 °C	11 000 cycles	8000 cycles	Internal (23°C, 60 degree deviation at 1Hz)
Fracture Properties			**METHOD**
Maximum Stress Intensity Factor (Kmax)	1,7 MPa · m	1,7 MPa · m	ASTM D5045-14
Fracture Work (W)	1090 J/m	1011 J/m	ASTM D5045-14
Thermal Properties			**METHOD**
Heat Distortion Temperature at 1.8 MPa	42 °C	53 °C	ASTM D648-16
Heat Distortion Temperature at 0.45 MPa	54 °C	66 °C	ASTM D648-16
Other Properties			**METHOD**
Shore D Hardness	70D	76D	ASTM D2240
Bulk Density	1,12 g/mL		ASTM D792-20
Viscosity at 25 °C	1000 cP		
Liquid Density	1,02 g/mL		

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%	0,1	Mineral Oil (Heavy)	0,4
Acetone	0,1	Mineral Oil (Light)	0,4
Bleach (NaOCl 5%)	0,1	Saline Water (NaCl 3.5%)	0,1
Isobutyl Acetate	0,1	Skydrol 5	0,2
Diesel Fuel	0,2	Sodium Hydroxide Solution (0.025%, pH 10)	0,1
Diethylene Glycol Monomethyl Ether	0,4	Strong Acid (Hydrochloric Acid conc.)	1
Hydraulic Oil	0,5	TPM	0,3
Hydrogen Peroxide (3%)	< 0,1	Water	0,1
Isooctane	< 0,1	Xylene	3,1
Isopropyl Alcohol	0,1		