





Dynamism ASA is an alternative to ABS with an improved weather resistance. Its UV resistance and excellent mechanical properties make it the perfect choice for real life applications.

PHYSICAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Density	ISO1183, GB/T1033	1.13 g/cm³ at 23°C
Melt index	220°C, 10 kg	25 g/10min
Light transmission	N/A	N/A
Flame retardancy	N/A	N/A

CHEMICAL RESISTANCE DATA

PROPERTY	TESTING METHOD
Effect of weak acids	Resistant
Effect of strong acids	Slightly resistant
Effect of weak alkalis	Resistant
Effect of strong alkalis	Slightly resistant
Effect of organic solvent	Not resistant
Effect of oils and grease	Resistant

THERMAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE	
Glass transition temperature	DSC, 10°C/min	97.8 °C	
Melting temperature	DSC, 10°C/min	N/A	
Crystallization temperature	DSC, 10°C/min	N/A	
Decomposition temperature	TGA, 20°C/min	N/A	
Vicat softening temperature	ISO 306, GB/T 1633	105.3 °C	
Heat deflection temperature	ISO 75 1.8MPa	100.2 °C	
Heat deflection temperature	ISO 75 0.45MPa	102.6 °C	
Thermal conductivity	N/A	N/A	
Heat shrinkage rate	N/A	N/A	

MECHANICAL PROPERTIES

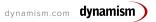
PROPERTY	TESTING METHOD	TYPICAL VALUE
Young's modulus (X-Y)		2379 ± 157 MPa
Young's modulus (Z)	ISO 527, GB/T 1040	1965 ± 136 MPa
Tensile strength (X-Y)	ICO F37 CD/T 10 10	$43.8 \pm 0.8 \text{ MPa}$
Tensile strength (Z)	ISO 527, GB/T 1040	32 ± 1.8 MPa
Elongation at break (X-Y)	ICO F37 CD/T 10 10	6.7 ± 0.6 %
Elongation at break (Z)	ISO 527, GB/T 1040	1.65 ± 0.2 %
Bending modulus (X-Y)	ICO 470 CD/T 0244	3206 ± 108 MPa
Bending modulus (Z)	ISO 178, GB/T 9341	N/A
Bending strength (X-Y)	ISO 170 CD/T 02.41	73.4 ± 2.1 MPa
Bending strength (Z)	ISO 178, GB/T 9341	N/A
Charpy impact strength (X-Y)	ISO 179, GB/T 1043	10.3 ± 0.4 kJ/m ²
Charpy impact strength (Z)	130 173, 30/1 1043	6.7 ± 1.4 kJ/m ²

RECOMMENDED PRINTING CONDITIONS

PARAMETER

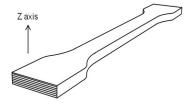
Nozzle temperature	240 – 260 (°C)
Build surface material	BuildTak®
Build surface treatment	Magigoo
Build plate temperature	75 - 95 (°C)
Cooling fan	OFF
Printing speed	30-50 (mm/s)
Raft separation distance	0.2 (mm)
Retraction distance	1 (mm)
Retraction speed	20 (mm/s)
Environmental temperature	Room temperature - 90 (°C)
Threshold overhang angle	50 (°)
Recommended support material	PolyDissolve [™] S2

 ${\tt Based\ on\ 0.4\ mm\ nozzle\ and\ Simplify\ 3D\ v.4.0.\ Printing\ conditions\ may\ vary\ with\ different\ nozzle\ diameters}$

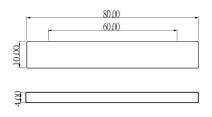


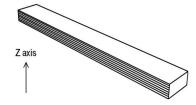
TENSILE TESTING SPECIMEN ISO 527, GB/T 1040



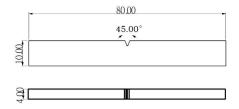


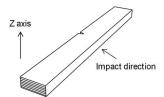
FLEXURAL TESTING SPECIMEN ISO 178, GB/T 9341





IMPACT TESTING SPECIMEN ISO 179, GB/T 1043





HOW TO MAKE SPECIMEN

*All specimens were conditioned at room temperature for 24h prior to testing

Printing temperature	260 °C
Bed temperature	80 °C
Shell	2
Top & bottom layer	4
Infill	100%
Environmental temperature	70 °C
Cooling fan	OFF

DISCLAMIER

The typical values presented in this data sheet are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary significantly with printing conditions. End- use performance of printed parts depends not only on materials, but also on part design, environmental conditions, printing conditions, etc.

Product specifications are subject to change without notice.

Each user is responsible for determining the safety, lawfulness, technical suitability, and disposal/recycling practices of Dynamism materials for the intended application. Dynamism makes no warranty of any kind, unless announced separately, to the fitness for any use or application. Dynamism shall not be made liable for any damage, injury or loss induced from the use of Dynamism materials in any application.

