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## PETG HS

### Basic info

KINGROON PETG HS — High-Speed PETG for Faster, Stronger, Smoother Prints

KINGROON PETG HS is a fully optimized PETG filament engineered specifically for high-speed 3D printing. With a default printing speed up to twice as fast as standard PETG, it dramatically boosts your printing efficiency while maintaining stable performance.

This upgraded formulation minimizes common PETG issues such as oozing, stringing, and clumping, ensuring smoother, cleaner, and more reliable prints even at accelerated speeds.

The new matte finish enhances the overall appearance by eliminating uneven gloss shifts during speed transitions, resulting in a consistently refined and uniform surface.

Stronger and tougher than PLA, KINGROON PETG HS is the ideal choice for creating durable, long-lasting functional parts—now with improved finish quality and faster production times.

### Specifications

Subjects	Data
Diameter	1.75mm
Net Filaments Weight	1kg
Spool Material	ABS (Temperature resistance 70 °C)
Spool Size	Diameter: 200 mm; Height: 67 mm

### Recommended Printing Settings

Subjects	Data
Drying Settings before Printing	Blast Drying Oven: 65 °C, 8 h
Printing and Storage Humidity	< 20% RH (Sealed, with desiccant)
Nozzle Size	0.2, 0.4, 0.6, 0.8 mm
Nozzle Temperature	230 - 260 °C
Bed Type	Smooth PEI Plate, Textured PEI Plate
Bed Surface Preparation	Glue
Bed Temperature	65 - 75 °C
Cooling Fan	0 - 60%
Printing Speed	< 300 mm/s
Retraction Length	0.8 - 1.4 mm
Retraction Speed	30 - 60 mm/s
Chamber Temperature	35 - 50 °C
Max Overhang Angle	70 °
Max Bridging Length	30 mm
Support Material	Support for PETG

### Properties



## KINGROON PETG HS Material Performance Testing

KINGROON has thoroughly evaluated the performance of PETG HS across multiple dimensions, including its physical, mechanical, and chemical properties.

Physical Properties		
Subjects	Testing Methods	Data
Density	ISO 1183	1.28 g/cm <sup>3</sup>
Melt Index	210 °C, 2.16 kg	28.2 ± 2.7 g/10 min
Melting Temperature	DSC, 10 °C/min	214 °C
Glass Transition Temperature	DSC, 10 °C/min	66 °C
Crystallization Temperature	DSC, 10 °C/min	N/A
Vicar Softening Temperature	ISO 306, GB/T 1633	70 °C
Heat Deflection Temperature	ISO 75 1.8 Mpa	62 °C
Heat Deflection Temperature	ISO 75 0.45 Mpa	69 °C
Saturated Water Absorption Rate	25 °C, 55% RH	0.004

Mechanical Properties		
Subjects	Testing Methods	Data
Young's Modulus(X-Y)	ISO 527, GB/T 1040	1810 ± 190 MPa
Young's Modulus (Z)	ISO 527, GB/T 1040	1540 ± 130 MPa
Tensile Strength (X-Y)	ISO 527, GB/T 1040	34 ± 4 MPa
Tensile Strength (Z)	ISO 527, GB/T 1040	23 ± 4 MPa
Breaking Elongation Rate (X-Y)	ISO 527, GB/T 1040	8.6 ± 1.2 %
Breaking Elongation Rate (Z)	ISO 527, GB/T 1040	5.1 ± 0.8 %
Bending Modulus (X-Y)	ISO 178, GB/T 9341	2050 ± 120 MPa
Bending Modulus (Z)	ISO 178, GB/T 9341	1810 ± 140 MPa
Bending Strength (X-Y)	ISO 178, GB/T 9341	64 ± 3 MPa
Bending Strength (Z)	ISO 178, GB/T 9341	48 ± 4 MPa
Impact Strength (X-Y)	ISO 179, GB/T 1043	31.5 ± 2.2 kJ/m <sup>2</sup> ; 6.2 ± 1.8 kJ/m <sup>2</sup> (notched)
Impact Strength (Z)	ISO 179, GB/T 1043	10.6 ± 1.2 kJ/m <sup>2</sup>

## Other Physical and Chemical Properties

Subjects	Data
Odor	Odorless
Composition	PETG
Skin Hazards	No hazard
Chemical Stability	Stable under normal storage and handling conditions
Solubility	Insoluble in water



Resistance to Acid	Not resistant
Resistance to Alkali	Not resistant
Resistance to Organic Solvent	Not resistant to some organic solvents
Resistance to Oil and Grease	Resistant to most kinds of oil and grease
Flammability	Flammable
Combustion Products	Water, carbon oxides
Odor of Combustion Products	Odorless

### Specimen Test

Specimen Printing Conditions	
Subjects	Data
Nozzle Temperature	255 °C
Bed Temperature	70 °C
Printing Speed	200 mm/s
Infill Density	100%

All the specimens were printed at the following settings: Nozzle Temperature = 255 °C, Printing Speed = 150 mm/s, Bed Temperature = 70 °C, Infill Density = 100%. All the specimens were annealed and dried at 65 °C for 8 h before testing. It's not recommended to anneal prints of PETG Translucent, because only very limited promotion of properties can obtain while prints with not very simple shape and structure may deform obviously. If you do want to anneal them, the suggested temperature is 60 to 70 °C, and the time is 6 to 12 hours. When drying the filament and annealing the prints, it's required to use an oven that has big enough inside volume and can provides even temperature distribution, such as a blast drying oven (forced-air drying oven), and the filament and prints need to be away from the heater, and a micro-wave oven or kitchen oven is not compatible, otherwise the filament and prints can get damaged.