

## Fiche Technique

**KIMYA ABS-R 3D FILAMENT**

Low-cost filament for FFF 3D Printers

**DESCRIPTION**

Kimya ABS-R is a 3D printing filament made from 100% post-consumer recycled ABS (Acrylonitrile Butadiene Styrene). As a thermoplastic polymer, ABS offers a combination of lightness, impact resistance, and good temperature performance. By using recycled material, ABS-R supports the circular economy and helps reduce CO<sub>2</sub> emissions, water and energy consumption, and reliance on fossil resources. It's well-suited for functional prototypes and enclosures in sectors such as appliances, automotive, hardware, and toys - offering both performance and sustainability.

**BENEFITS**

- Durable.
- Heat-Resistant.
- Ready to Versatile Industrial Use.

**TECHNICAL DATA****Properties**

Diameter	1.75 ± 0.1 mm 2.85 ± 0.1 mm
Density	1.049 g/cm <sup>3</sup>
Moisture rate	< 0.5 %
Melt flow index (MFI)	14.2 g/10min
Glass transition temperature (Tg)	110°C (230°F)

**Values**

1.75 ± 0.1 mm 2.85 ± 0.1 mm
1.049 g/cm <sup>3</sup>
< 0.5 %
14.2 g/10min
110°C (230°F)

**Test Methods**

INS-6712
ISO 1183-1
INS-6711
ISO 1133-1 (@220°C-10kg)
ISO 11357-1 DSC (10°C/min-20-220°C)

**Properties**

Tensile Modulus	1,722 MPa (250 ksi)
Tensile Strength	32.2 MPa (4.7 ksi)
Tensile Strain at Strength	2.1 %
Tensile Stress at Break	27.5 MPa (4.0 ksi)
Tensile Strain at Break (type A)	9.4 %
Flexural Modulus	1,577 MPa (255.8 ksi)
Flexural Stress at Conventional Deflection (3.5% Strain)*	48.4 MPa (7.0 ksi)
Charpy Impact Resistance	8.5 kJ/m <sup>2</sup> (4.04 ft-lbs/in <sup>2</sup> )
Shore Hardness	72.2 D

**Values**

1,722 MPa (250 ksi)
32.2 MPa (4.7 ksi)
2.1 %
27.5 MPa (4.0 ksi)
9.4 %
1,577 MPa (255.8 ksi)
48.4 MPa (7.0 ksi)
8.5 kJ/m <sup>2</sup> (4.04 ft-lbs/in <sup>2</sup> )
72.2 D

**Test Methods**

ISO 527-2/5A/50
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ISO 178
ISO 178
ISO 179-1/1eA
ISO 868

**PROCESSING****Printing Direction**

Printing Speed
Nozzle Temperature
Bed Temperature

**XY**

Initial layers: 10-15 mm/s, further layers 10-50 mm/s
255°C - 270°C (491°F - 518°F)
85°C - 95°C (185°F - 203°F)

**NOTES**

- \*According to ISO 178, end of the test at 5% deformation even if there is no specimen break.
- The data should be considered as indicative values - Properties can be influenced by production conditions.