



ABS HI

High Performance Filament

101°C

34,57 N/mm²

141 kg

32,98 kJ/m²

13 cm



Acrylonitrile-butadiene-styrene (ABS) is a thermoplastic polymer consisting of butadiene, acrylonitrile and styrene. It is extremely robust and is used worldwide in a wide variety of applications, such as for LEGO bricks. Our ABS has very good mechanical properties and high temperature resistance.

MATERIAL DATA		PRINTED
Resistance temperature		101°C
Tensile strength	ISO 527	34,57 N/mm²
Elongation at break	ISO 527	7,23 %
Impact strength	ISO 179/1eU	32,98 kJ/m²
MATERIAL DATA		INJECTION MOLDING
Resistance temperature		101°C
Tensile strength	ISO 527	43 N/mm²
Elongation at break	ISO 527	2,7 %
Impact strength	ISO 179/1eA	18 kJ/m²
Flexural Modulus	ISO 178	2100 MPa
HDT	ISO 75-2/A 1,8MPa	101°C
MFI	ISO1133 380°C 5kg	6,6 g 10min⁻¹
Density	ISO1183	1,05 g/cm³

Processing note: ABS is one of the standard printing materials. When printing ABS, make sure that the material cools down slowly to avoid distortion and cracks in the print. A closed printing chamber helps for perfect printing results. The printing temperature should be between 220 °C and 260 °C. A heated bed > 60 °C is necessary to avoid

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Test values (printed): The stated values are guideline values, no binding minimum values. Please note that the 3D printing process can significantly influence the properties. Furthermore, geometry and environmental influences have a major impact on end use performance. Printed on a Creatbot F160 with Simplify3D in the xy plane. If you need more information, help or support, please contact us at: support@w2polymer.com



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MADE IN AUSTRIA

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141 kg

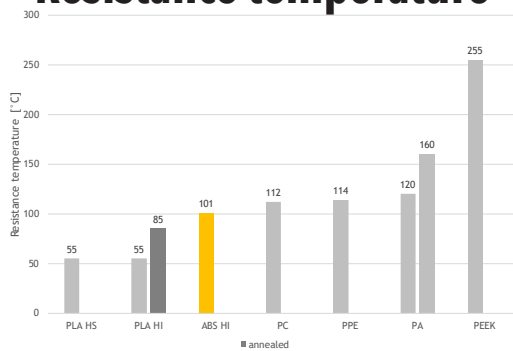
32,98 kJ/m²



13 cm

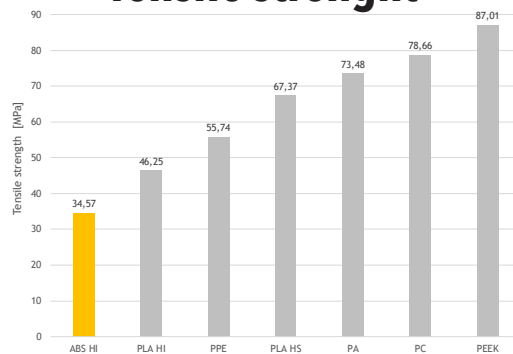
Material comparison

Resistance temperature



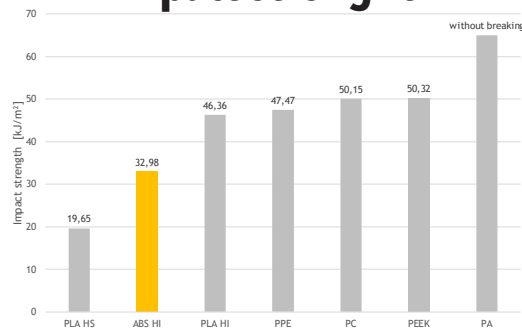
The resistance temperature is a value for the maximum operating temperature. Note, the closer you get to this value, the more the material properties change. When working at the limit we recommend checking exactly, if the material is suitable for the use case.

Tensile strenght



The tensile strength is a value how much I can pull on the material. 1 MPa corresponds to 1 N/mm² (Force per surface). 1 kg corresponds to 9,81N. The tensile strength specimen has an cross sectional area of 40mm². In other words, a tensile strength of 34,57 MPa means, that a tensile specimen with a cross-section of 40mm² will break at a tensile load of 141 kg.

Impact strenght



The impact resistance is a measure of how well the material can absorb shock and impact energy. kJ / m² (energy per cross-sectional area). An impact strength of 32,98 kJ / m² corresponds to the energy of a 1 kg heavy weight from a fall height of 13 cm, which is necessary to break a beat sample printed in ABS HI with a cross section of 40mm².

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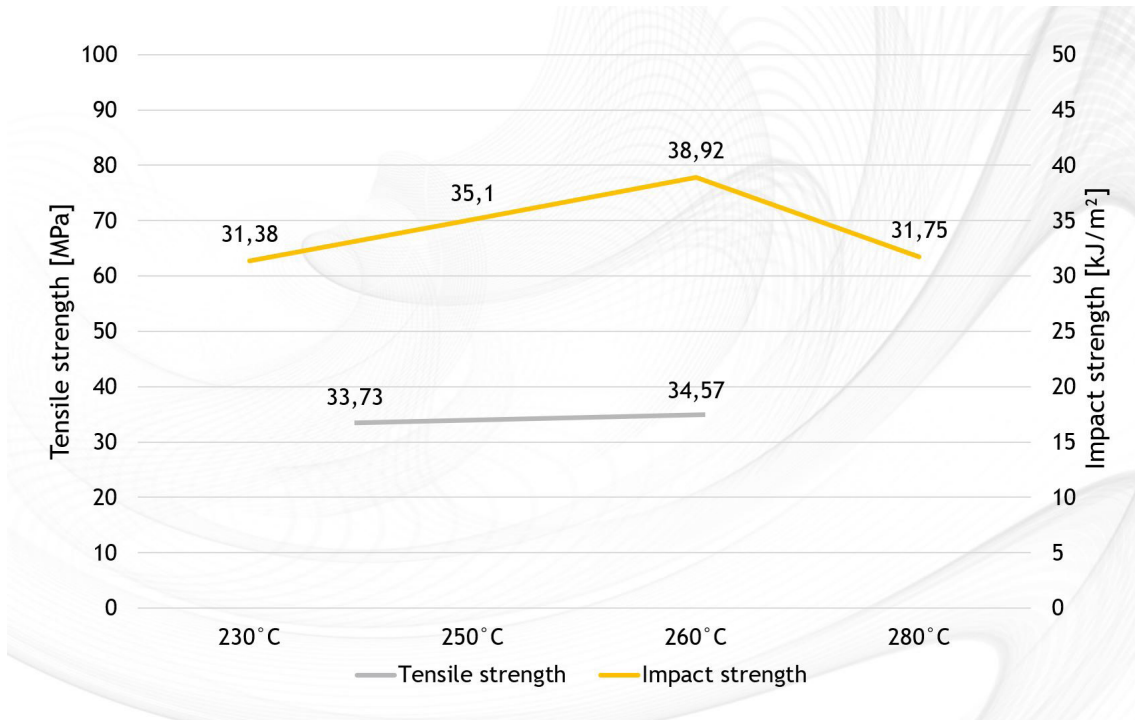
141 kg

32,98 kJ/m²



13 cm

Printing temperature analysis



ABS HI offers the best tensile strength and impact strength properties at a printing temperature around 250°C to 260°C.

Security note:

Never print in living rooms. Make sure that the resulting vapours are not inhaled. We recommend the use of a closed printing chamber and the filtration of the exhaust air according to the legal requirements. Read the safety data sheet carefully. W2 Polymer GmbH is not liable for any damage, injury or loss caused by the use of our materials. If you need more information, help or support, please contact: support@w2polymer.com

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