

MADE IN
AUSTRIA

PC

made of  **makrolon®**

High Performance Filament

112°C

78,66 N/mm²

321 kg

50,15 kJ/m²

20 cm



Polycarbonate (PC) is an amorphous thermoplastic polymer. High strength, impact resistance and temperature resistance characterize PC. PC is a good electrical insulator. For example, PC is used for CDs, DVDs and Blu-ray Discs.

MATERIAL DATA		PRINTED
Resistance temperature		112°C
Tensile strength	ISO 527	78,66 N/mm²
Elongation at break	ISO 527	8,33 %
Impact strength	ISO 179/1eU	50,15 kJ/m²
MATERIAL DATA		INJECTION MOLDING
Resistance temperature		112°C
Tensile strength	ISO 527	90 N/mm²
Elongation at break	ISO 527	5 %
Impact strength	ISO 179/1eA	220 kJ/m²
Flexural Modulus	ISO 178	2700 MPa
MFI	ISO 1133 300°C 1,2kg	34 g 10min⁻¹
Density	ISO 1183	1,21g/cm³



Processing note: PC is one of the materials difficult to print. The printing temperatures has to be over 280 ° C, a heated bed > 80 ° C and a special printing surfaces (for example Buildtak) are necessary. From 100° C heated bed, it can be printed on a pure glass surface depending on the geometry.

Disclaimer: The information provided in this document has been prepared to the best of our knowledge and belief, but conduces only as non-binding reference. Check if the selected material can be used for your application. For processing and 3D printing, pay attention to our safety data sheets. W2 Polymer GmbH is not liable for damages, injuries or losses caused by the use of our materials in your application.
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



PC made of **covestro makrolon®**

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321 kg

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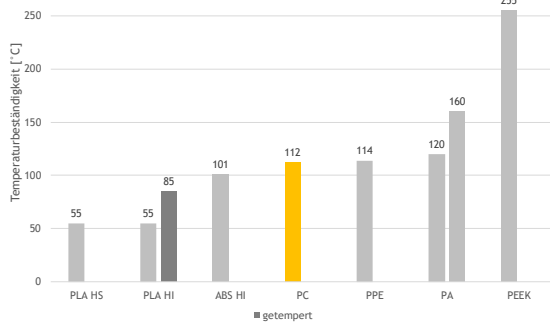


20 cm

High Performance Filament

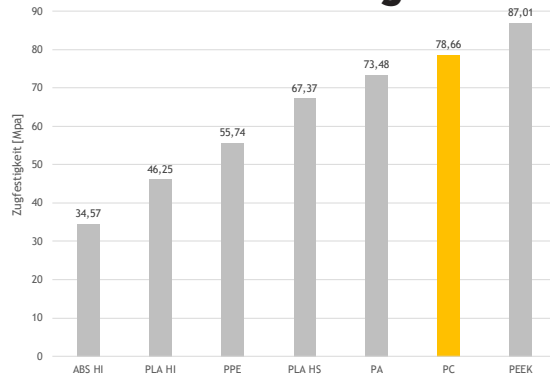
Material comparison

Resistance temperature



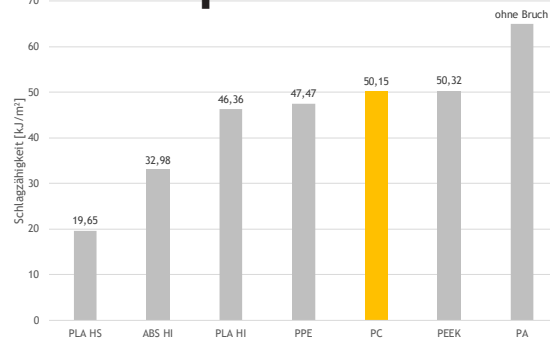
The resistance temperature is a value for the maximum operating temperature. Note, the closer you get to this value, the more the material properties change. When working at the limit we recommend checking exactly, if the material is suitable for the use case.

Tensile Strength



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 78,66 MPa means, that a tensile specimen with a cross-section of 40mm² will break at a tensile load of 321 kg.

Impact Strench



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 50.15 kJ / m² corresponds to the energy of a 1 kg heavy weight from a fall height of 20 cm, which is necessary to break a beat sample printed in PEEK with a cross section of 40mm².

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