

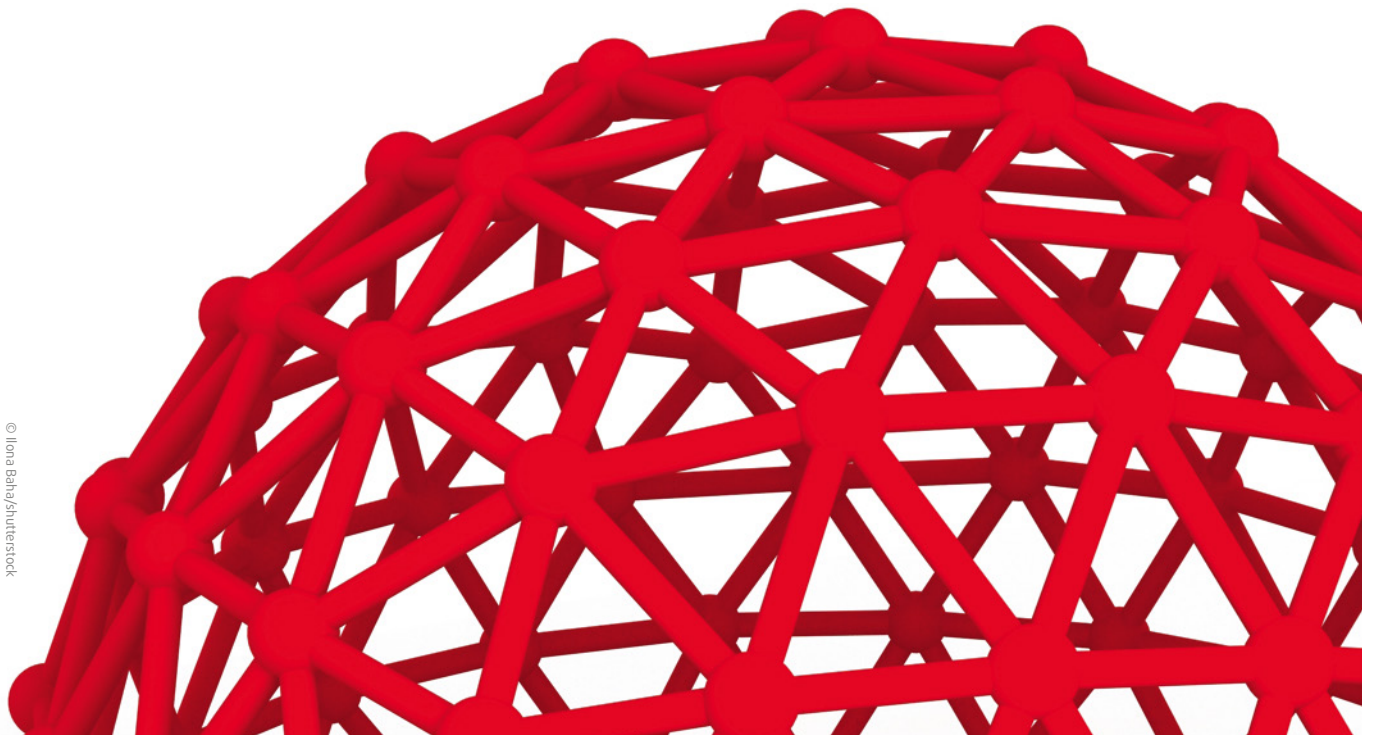
Perlon<sup>®</sup>  
**3D Printing**  
Filament

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Product Range

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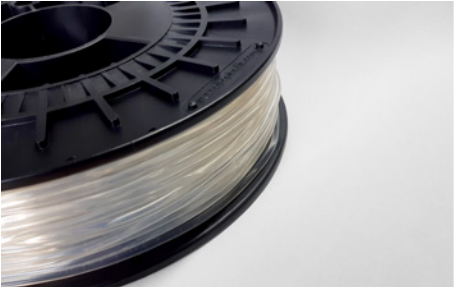


## Thermoplastic Filaments

	<p><b>PERLON® Performance Polylactide (PLA) *</b></p> <table border="0"> <tr> <td data-bbox="600 432 1023 551"> <p><b>Mechanical Properties</b> Tensile Strength ..... 50 MPa Tensile Modulus ..... 3500 MPa Elongation (break) ..... 3%</p> </td> <td data-bbox="1023 432 1481 551"> <p><b>Thermal Properties</b> Print Temperature ..... 210 °C Print Bed Temperature ..... 60 °C Recommended Operating Temperature (Maximum) ..... 45 °C</p> </td> </tr> <tr> <td colspan="2" data-bbox="600 600 1481 647"> <p>Available Diameter: 1.75 mm &amp; 2.85 mm      Spool Size: 750 g &amp; 2.1 kg</p> </td> </tr> </table>	<p><b>Mechanical Properties</b> Tensile Strength ..... 50 MPa Tensile Modulus ..... 3500 MPa Elongation (break) ..... 3%</p>	<p><b>Thermal Properties</b> Print Temperature ..... 210 °C Print Bed Temperature ..... 60 °C Recommended Operating Temperature (Maximum) ..... 45 °C</p>	<p>Available Diameter: 1.75 mm &amp; 2.85 mm      Spool Size: 750 g &amp; 2.1 kg</p>	
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	<p><b>Polyethylenterephthalate Glycol-modified (PET-G) *</b></p> <table border="0"> <tr> <td data-bbox="600 745 1023 904"> <p><b>Mechanical Properties</b> Tensile Strength ..... 53 MPa Tensile Modulus ..... 3000 MPa Elongation (break) ..... 31% Flexural Strength ..... 71 MPa Flexural Modulus ..... 2040 MPa</p> </td> <td data-bbox="1023 745 1481 904"> <p><b>Thermal Properties</b> Print Temperature ..... 255 °C Print Bed Temperature ..... 75 °C Recommended Operating Temperature (Maximum) ..... 69 °C</p> </td> </tr> <tr> <td colspan="2" data-bbox="600 927 1481 969"> <p>Available Diameter: 1.75 mm &amp; 2.85 mm      Spool Size: 750 g &amp; 2.1 kg</p> </td> </tr> </table>	<p><b>Mechanical Properties</b> Tensile Strength ..... 53 MPa Tensile Modulus ..... 3000 MPa Elongation (break) ..... 31% Flexural Strength ..... 71 MPa Flexural Modulus ..... 2040 MPa</p>	<p><b>Thermal Properties</b> Print Temperature ..... 255 °C Print Bed Temperature ..... 75 °C Recommended Operating Temperature (Maximum) ..... 69 °C</p>	<p>Available Diameter: 1.75 mm &amp; 2.85 mm      Spool Size: 750 g &amp; 2.1 kg</p>	
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	<p><b>Acrylonitrile Butadiene Styrene (ABS) *</b></p> <table border="0"> <tr> <td data-bbox="600 1077 1023 1223"> <p><b>Mechanical Properties</b> Tensile Strength ..... 38 MPa Tensile Modulus ..... 1900 MPa Elongation (break) ..... 2% Flexural Strength ..... 56 MPa</p> </td> <td data-bbox="1023 1077 1481 1223"> <p><b>Thermal Properties</b> Print Temperature ..... 235 °C Print Bed Temperature ..... 110 °C Recommended Operating Temperature (Maximum) ..... 93 °C</p> </td> </tr> <tr> <td colspan="2" data-bbox="600 1245 1481 1292"> <p>Available Diameter: 1.75 mm &amp; 2.85 mm      Spool Size: 750 g &amp; 2.1 kg</p> </td> </tr> </table>	<p><b>Mechanical Properties</b> Tensile Strength ..... 38 MPa Tensile Modulus ..... 1900 MPa Elongation (break) ..... 2% Flexural Strength ..... 56 MPa</p>	<p><b>Thermal Properties</b> Print Temperature ..... 235 °C Print Bed Temperature ..... 110 °C Recommended Operating Temperature (Maximum) ..... 93 °C</p>	<p>Available Diameter: 1.75 mm &amp; 2.85 mm      Spool Size: 750 g &amp; 2.1 kg</p>	
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	<p><b>Acrylonitrile styrene acrylate (ASA) *</b></p> <table border="0"> <tr> <td data-bbox="600 1391 1023 1550"> <p><b>Mechanical Properties</b> Tensile Strength ..... 40 MPa Tensile Modulus ..... 1700 MPa Elongation (break) ..... 35% Flexural Strength ..... 60 MPa Flexural Modulus ..... 1800 MPa</p> </td> <td data-bbox="1023 1391 1481 1550"> <p><b>Thermal Properties</b> Print Temperature ..... 235 °C Print Bed Temperature ..... 110 °C Recommended Operating Temperature (Maximum) ..... 84 °C</p> </td> </tr> <tr> <td colspan="2" data-bbox="600 1572 1481 1615"> <p>Available Diameter: 1.75 mm &amp; 2.85 mm      Spool Size: 750 g &amp; 2.1 kg</p> </td> </tr> </table>	<p><b>Mechanical Properties</b> Tensile Strength ..... 40 MPa Tensile Modulus ..... 1700 MPa Elongation (break) ..... 35% Flexural Strength ..... 60 MPa Flexural Modulus ..... 1800 MPa</p>	<p><b>Thermal Properties</b> Print Temperature ..... 235 °C Print Bed Temperature ..... 110 °C Recommended Operating Temperature (Maximum) ..... 84 °C</p>	<p>Available Diameter: 1.75 mm &amp; 2.85 mm      Spool Size: 750 g &amp; 2.1 kg</p>	
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	<p><b>Polyamide (PA12) *</b></p> <table border="0"> <tr> <td data-bbox="600 1722 1023 1841"> <p><b>Mechanical Properties</b> Tensile Strength ..... 37 MPa Tensile Modulus ..... 1100 MPa Elongation (break) ..... &gt; 50%</p> </td> <td data-bbox="1023 1722 1481 1841"> <p><b>Thermal Properties</b> Print Temperature ..... 270 °C Print Bed Temperature ..... 130 °C Recommended Operating Temperature (Maximum) ..... 120 °C</p> </td> </tr> <tr> <td colspan="2" data-bbox="600 1886 1481 1937"> <p>Available Diameter: 1.75 mm &amp; 2.85 mm      Spool Size: 750 g &amp; 2.1 kg</p> </td> </tr> </table>	<p><b>Mechanical Properties</b> Tensile Strength ..... 37 MPa Tensile Modulus ..... 1100 MPa Elongation (break) ..... &gt; 50%</p>	<p><b>Thermal Properties</b> Print Temperature ..... 270 °C Print Bed Temperature ..... 130 °C Recommended Operating Temperature (Maximum) ..... 120 °C</p>	<p>Available Diameter: 1.75 mm &amp; 2.85 mm      Spool Size: 750 g &amp; 2.1 kg</p>	
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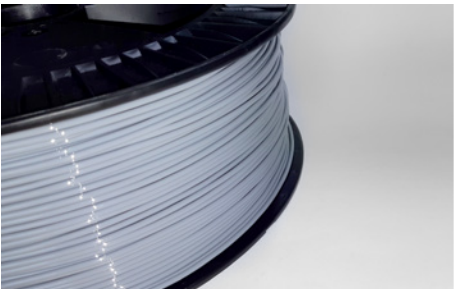
\* Polymer available with various fillers and filler contents (e.g. carbon fiber, carbon nanotubes, metal powders, special pigments)

## Elastomer Filaments



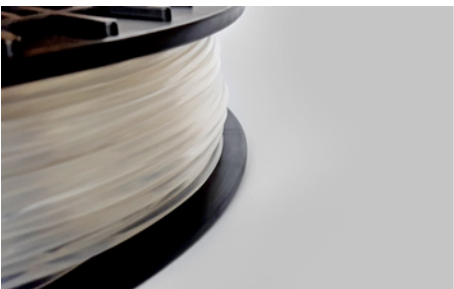
**Thermoplastic Polyurethane (TPU) – Shore Hardness 86A \***

<p><b>Mechanical Properties</b></p> <p>Tensile Strength ..... 35 MPa Elongation (break) ..... 650 % Abrasion (ISO 4649-A) .... 25 mm<sup>3</sup></p>	<p><b>Thermal Properties</b></p> <p>Print Temperature ..... 235 °C Print Bed Temperature ..... 70 °C Recommended Operating Temperature (Maximum) ..... 80 °C</p>
Available Diameter: 2.85 mm	Spool Size: 750 g & 2.1 kg




**Thermoplastic Polyurethane (TPU) – Shore Hardness 93A \***

<p><b>Mechanical Properties</b></p> <p>Tensile Strength ..... 42 MPa Elongation (break) ..... 560 % Abrasion (ISO 4649-A) .... 25 mm<sup>3</sup></p>	<p><b>Thermal Properties</b></p> <p>Print Temperature ..... 235 °C Print Bed Temperature ..... 70 °C Recommended Operating Temperature (Maximum) ..... 88 °C</p>
Available Diameter: 2.85 mm	Spool Size: 750 g & 2.1 kg



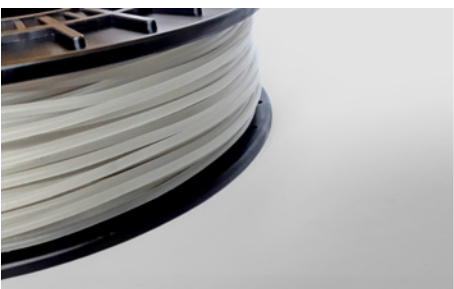
**Thermoplastic Polyurethane (TPU) – Shore Hardness 98A \***

<p><b>Mechanical Properties</b></p> <p>Tensile Strength ..... 40 MPa Elongation (break) ..... 470 % Abrasion (ISO 4649-A) .... 25 mm<sup>3</sup></p>	<p><b>Thermal Properties</b></p> <p>Print Temperature ..... 235 °C Print Bed Temperature ..... 70 °C Recommended Operating Temperature (Maximum) ..... 80 °C</p>
Available Diameter: 2.85 mm	Spool Size: 750 g & 2.1 kg



**Thermoplastic Polyurethane (TPU) – Shore Hardness 64D \***

<p><b>Mechanical Properties</b></p> <p>Tensile Strength ..... 50 MPa Elongation (break) ..... 355 % Abrasion (ISO 4649-A) .... 40 mm<sup>3</sup></p>	<p><b>Thermal Properties</b></p> <p>Print Temperature ..... 235 °C Print Bed Temperature ..... 70 °C Recommended Operating Temperature (Maximum) ..... 165 °C</p>
Available Diameter: 1.75 mm & 2.85 mm	Spool Size: 750 g & 2.1 kg

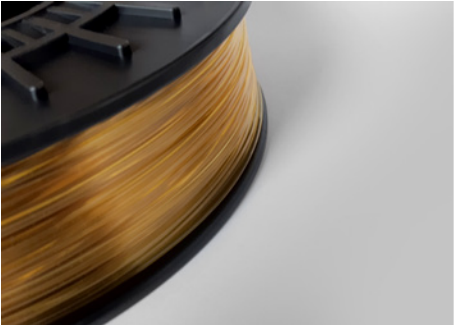


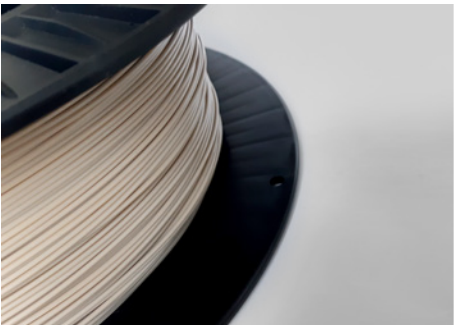
**Styrenic block copolymer (TPS) – Shore Hardness 79A \***

<p><b>Mechanical Properties</b></p> <p>Tensile Strength ..... 7 MPa Elongation (break) ..... 550 %</p>	<p><b>Thermal Properties</b></p> <p>Print Temperature ..... 250 °C Print Bed Temperature ..... 70 °C Recommended Operating Temperature (Maximum) ..... 88 °C</p>
Available Diameter: 1.75 mm & 2.85 mm	Spool Size: 750 g & 2.1 kg

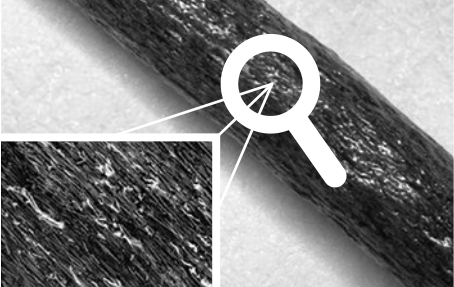
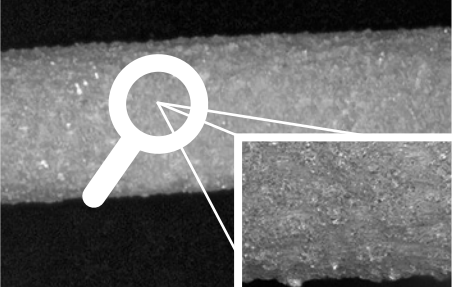
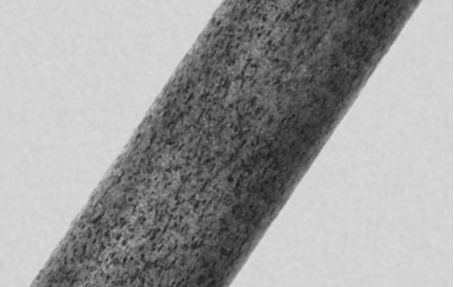
\* Polymer available with various fillers and filler contents (e.g. carbon fiber, carbon nanotubes, metal powders, special pigments)

## High Performance Filaments

	Polyetherimide (PEI) *	
	<p><b>Mechanical Properties</b></p> <p>Tensile Strength ..... 110 MPa  Tensile Modulus ..... 3200 MPa  Elongation (break) ..... 65 %  Flexural Strength ..... 160 MPa  Flexural Modulus ..... 3300 MPa</p>	<p><b>Thermal Properties</b></p> <p>Print Temperature ..... &gt; 350 °C  Print Bed Temperature ..... &gt; 120 °C  Recommended Operating  Temperature (Maximum) ..... 205 °C</p>
Available Diameter: 1.75 mm		Spool Size: 750 g & 2.1 kg

	Polyetheretherketone (PEEK) *	
	<p><b>Mechanical Properties</b></p> <p>Tensile Strength ..... 97 MPa  Tensile Modulus ..... 3800 MPa  Elongation (break) ..... 5 %  Flexural Strength ..... 145 MPa  Flexural Modulus ..... 3400 MPa</p>	<p><b>Thermal Properties</b></p> <p>Print Temperature ..... &gt; 350 °C  Print Bed Temperature ..... &gt; 120 °C  Recommended Operating  Temperature (Maximum) ..... 225 °C</p>
Available Diameter: 1.75 mm		Spool Size: 750 g & 2.1 kg

## Examples of filled 3D Printing Filaments

		
Carbon Fiber Filler-Content ≥ 10 %mass	Metal Powder Filler-Content ≥ 25 %mass	Ceramic and Fiber Reinforced Filler-Content ≥ 25 %mass

## Contact

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