

## eFil TPU 85A

eFil TPU 85A belongs to the eFil family of flexible filaments based on TPU plastic. Its hardness is Shore 85A, similar to that found in the heel of a shoe. This filament is recommended for advanced users, as it requires a greater learning curve than with harder materials, but we will be able to reach elongations of 520%. Its flexibility makes it ideal for applications where elastic materials with very good recovery are needed. In addition, we can obtain different degrees of hardness by varying the percentage of filling during 3D printing.

EFil TPU 85A has excellent chemical resistance properties to both acids and bases, as well as a wide variety of solvents. It also has excellent resistance to abrasion, impacts and perforations and can withstand temperatures up to 100°C. On the other hand, it has a great adhesion, so its printing does not present warping problems, even without a heated bed or other fixing methods. This great adhesion provides a perfect union between layers, producing pieces that are much more resistant to tearing.

Check that your printer is compatible with flexible filaments. Extruders with adjustable degree of traction are recommended. The ideal traction point is where the extruder makes a strong traction on the filament without strangling it. It is not advisable to use Bowden extruders. It is always advisable to slow down the printing speed until you have mastered the appropriate parameters for each printer. You can improve its performance with a previous drying of 30 to 60 minutes at 90°C.

It is a very versatile material that will allow you to print rubber parts with countless applications in prototyping, footwear, the sports world, protections or the creation of personalized tools.

Physical properties	Conditions	Test Method	Typical Values
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Density		ASM D792	1,19 g/cc
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Thermal properties	Conditions	Test Method	Typical Values
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Tg		ASM D3417	-35 °C
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Mechanical properties	Conditions	Test Method	Typical Values
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100% modulus		D412	6MPa
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300% modulus		D412	12 MPa
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Tensile strength		D412	33 MPa
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Elongation at break		D412	520 %
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Tear resistance		D624	100 N/mm
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Parámetros de impresión	Typical Values
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Printing Temperature	220- 230 °C
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Heated Bed temperature	Not necessary
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Printing speed	20-40 mm/s
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Retraction	4 mm
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Adhesion	Spray
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Parámetros de calidad	Typical Values
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Tolerance	max	0,05 mm
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Tolerance	media	+/- 0,05 mm
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Standard deviation	max	0,02 mm
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Ovality	max	2 %
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The test values provided in this technical data sheet are to be considered indicative and do not represent any contractual specification. Please note that under certain conditions, properties may be affected. The application, use and processing of our products are the responsibility of the user.