

Ultrafuse® ABS Fusion+

Efficient Engineering-filament Printing – for non-print Engineers

Ultrafuse® ABS Fusion+ is an easy-to-print engineering material and enables a much more efficient printing process. Meaning 3D printing operators will spend less time tinkering and more time exploiting the full potential of your 3D printing rig. To top it off, Ultrafuse® ABS Fusion+ adheres to water-soluble support – no more hassle with chemicals, just dissolve your support in water after printing! The 3D printing community has so far considered ABS an unforgiving material: Now, thanks to the unique properties of ABS Fusion+ you can look forward to a high success rate with greatly improved dimensional stability.

Benefits at a Glance

- Easy to print
- Direct printing on heated glass or print bed surfaces
- High heat resistance
- Adheres to water soluble support

Example Applications

- Jigs and fixtures
- Automotive parts

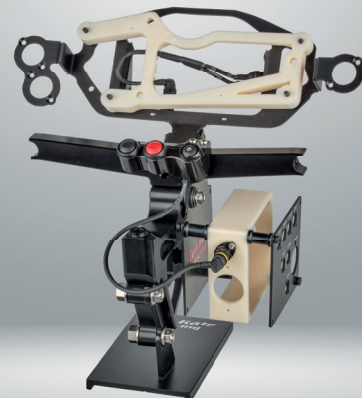
Material Properties

Tensile Strength (MPa)	17.9 (ZX), 29.5 (XY)
Flexural Modulus (MPa)	878(ZX), 1133 (XZ), 1406 (XY)
Elongation at Break)	2.1 % (ZX), 10.9 % (XY)
Impact Strength Izod notched (kJ/m ²)	2.2 (ZX), 38.4 (XZ), 26.4 (XY)
Impact Strength Izod unnotched (kJ/m ²)	6.6 (ZX), 131.1 (XZ), 73.1 (XY)
HDT @ 0.45 MPa	91 °C

Printing Guidelines

Nozzle Temperature	240-260 °C
Bed Temperature	100-120 °C
Fan Speed	0 % (max. 25 %)
Bed Adhesion	clean with ethanol
Print Speed	40-80 mm / sec
Top/Bottom Thickness	0.8-1.0 mm
Layer Height	0.1-0.2 mm

The product data is provided in good faith and represents typical properties based on our current knowledge and experience; these data are not to be construed as specification limits or minimum values. Product properties may be changed without notice. This document does not create any liability, warranty or guarantee of product performance. It is the buyer's responsibility to determine the suitability of Ultrafuse® products for the intended application.



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Project Reference Ten Kate Racing

■ **Description of the project & challenge:** Their pursuit for flexible and faster manufacturing of parts led to the collaboration with Forward AM. Our objective was to create a material that meets the requirements of high-speed motor racing and is easy to use in a desktop 3D printer. Ten Kate Racing: “Outstanding material performance is vital for us. 3D printed parts on our race bikes have to be absolutely reliable. We also need to take rapidly changing conditions in temperature, mechanical loads and vibrations into account. For us it is also important that a material is easy to process – we are a racing team and not full-time 3D-printing operators, so the material has to be easy to use.”

■ **Our solutions and added value for the customer:** With Ultrafuse® ABS Fusion+ we provided Ten Kate Racing with an advanced engineering filament that’s highly reliable and very easy to use.