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Technical Data Sheet:
Workday ABS

General & Technical Data

3D-Fuel® Workday ABS is a consistent, low warp and low odor ABS that has been designed from the ground up for 3D printing and is the easiest ABS filament to print with. Workday ABS has excellent durability and toughness. It can be post-processed with acetone to provide a glossy finish and is best suited for professionals and serious hobbyists who are looking for a reliable, easy-to-use ABS material.

Resin Typical Material Properties			
Properties	**Test Condition**	**Test Method[1]**	**Typical Value / Units**
Physical Properties			
Specific Gravity		D792	1.04
Mold Shrinkage (Flow), 3.2mm		D955	0.4~0.7%
Melt Flow Rate	220°C/10kg	D1238	23 g/10min
Mechanical Properties			
Tensile Strength, 3.2mm @ Yield	50mm/min	D638	520 kg/cm^2
Tensile Elongation, 3.2mm @ Break	50mm/min	D638	30%
Tensile Modulus, 3.2mm	1mm/min	D638	22,600 kg/cm^2
Flexural Strength, 3.2mm	15mm/min	D790	800 kg/cm^2
Flexural Modulus, 3.2mm	15mm/min	D790	28,000 kg/cm^2
Rockwell Hardness, R Scale	R-Scale	D785	110
Izod Impact Strength, 6.4mm Notched @ 23°C (73°F)		D256	20 kg·cm/cm
@ -30°C (-22°F)			8 kg·cm/cm
Izod Impact Strength, 3.2mm Notched @ 23°C (73°F)		D256	23 kg·cm/cm
@ -30°C (-22°F)			8 kg·cm/cm
Thermal Properties			
Heat Deflection Temperature, 6.4mm (Unannealed)	18.6 kg	D648	86°C (187°F)
	4.6 kg		90°C (194°F)
Vicat Softening Temperature	5kg, 50°C/h	D1525	94°C (201°F)
Flammability		UL94	HB
Relative Temperature Index Electrical		UL746B	60°C (140°F)
Mechanical with Impact			60°C (140°F)
Mechanical without Impact			60°C (140°F)
Typical Processing Conditions			
Drying Temperature			80°C (176°F)
Drying Time			2-4 hrs
Melt Temperature			210-240°C (410-464°F)
Minimum Moisture Content			.01%
Electrical			
Comparative Tracking Index(CTI)	Solution A	IEC 60112	0 Volts
Surface Resistivity		IEC 60093	? Ohm
Volume Resistivity	23°C (73°F)	D257	? Ohm·m
Arc Resistance		D495	6 Ohm·cm

(1) ASTM Test Method unless otherwise noted.
Typical values are only for material selection purpose, and variation within normal tolerances are for various colors.
Values given should not be interpreted as specification and not be used for part or tool design.
All properties, except melt flow rate are measured on injection molded specimens and after 48 hours storage at 23°C, 50% relative humidity.

Recommended Uses

Workday ABS (Acrylonitrile Butadiene Styrene) is a go-to material for projects that require durability and the ability to withstand high temperatures. Our unique formulation is low-warp and low odor.

ABS is used for high strength applications and is a petroleum-based material product, so it holds up well in a variety of environments. ABS requires a heated bed and works best with an enclosed print area. ABS can produce some off-gassing so it is highly recommended that you use it only in a well-ventilated area

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Form & Characteristics

3D-Fuel® Workday ABS monofilament that provides low warp and low odor plus it is also heat resistant, durable, mildly flexible and can be sanded or smoothed with additional processing.

3D Printer Settings

Check your printer for compatibility before ordering. 3D-Fuel® Workday ABS works with most printers that have the following temperature capacity.

General Printing Recommendations

Extruder: 240 - 260ºC
Bed: 100 - 110ºC
Fan Speed: 10% (may vary from printer to printer)
Bed Material: PEI, Buildtak, or bare glass + hair spray

A safety data sheet is available on our website or upon request.