

# Technical Data Sheet

## E-ins Ice9™ Flex

Thermally conductive, electrically insulating plastic  
Product code: TCEI-TPE3-240-000

Product type: filament or pellets  
Properties based on 3D printed samples



GENERAL PROPERTIES	VALUE			
Base Material	Thermoplastic elastomer (TPE)			
Color	White			
Density	1500 kg/m <sup>3</sup>			
THERMAL PROPERTIES	METRIC	ENGLISH		ASTM
Thermal conductivity, in-plane	4 W/m-K	27	BTU·in/hr·ft <sup>2</sup> ·°F	E1461
Thermal conductivity, through-plane	1.5 W/m-K	10	BTU·in/hr·ft <sup>2</sup> ·°F	E1461
Coefficient of thermal expansion	80 ppm/°C	44	ppm/°F	E831
Heat deflection temperature, 0.45 MPa	80 °C	176	°F	D648
Max. continuous temperature	120 °C	248	°F	*
MECHANICAL PROPERTIES	METRIC	ENGLISH		ASTM
Shore Hardness	95 A			D2240
Tensile modulus	210 MPa	34	ksi	D638
Tensile strength, Break	12 MPa	2	ksi	D638
Elongation at break	15 %	15	%	D638
Impact strength, Izod notched	No break	No break		D256
ELECTRICAL PROPERTIES	METRIC	ENGLISH		ASTM
Volume resistivity	>10 <sup>14</sup> Ω·cm			D257
FDM PRINTING GUIDELINES	METRIC	ENGLISH		
Extruder temperature	230-250 °C	445-480	°F	
Bed temperature	40-90 °C	105-195	°F	

\* Max. continuous temperature is the highest temperature recommended for operation of more than 1 hour and is based internal testing and not any recognized standard.

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# Recommended FDM Print Settings

## E-ins Ice9™ Flex

Thermally conductive, electrically insulating plastic  
Product code: TCEI-TPE3-240-000

Product type: FDM filament



### GENERAL PROPERTIES

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Base material	Thermoplastic elastomer (TPE)
Color	White
Filament diameter	1.75 or 2.85 +/- 0.05 mm

### TEMPERATURE SETTINGS

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	VALUE	UNITS
Extruder temperature	230-250	°C
Bed temperature	40-90	°C
Cooling fan	60%, Bridging Only	

### SLICING SETTINGS

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	VALUE	UNITS
Print speed	20-40	mm/s
Layer	0.15-0.7	mm
Retraction distance	4-8	mm
Retraction Speed	30-50	mm/s
Coasting distance	0.2-0.5	mm
Infill for best thermal performance	95-100	%

### ADDITIONAL GUIDELINES

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Nozzle diameter	0.4-1.0 mm
Extruder type (1.75 mm)	Direct only
Extruder type (2.85 mm)	Direct or Bowden
Print bed preparation	Painter's tape
Drying instructions	2 hr @ 70°C
Storage instructions	Sealed bag
Part removal from bed	Heat bed to 100°C then gently remove with spatula