

# Technical Data Sheet

## Ice9™ Flex

Thermally conductive, electrically non-conducting plastic  
Product code: TC-TPE1-145-000

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



GENERAL PROPERTIES	VALUE
Base Material	Thermoplastic elastomer (TPE)
Color	Dark gray
Density	1400 kg/m <sup>3</sup>

THERMAL PROPERTIES	METRIC	ENGLISH	ASTM
Thermal conductivity, in-plane	6 W/m-K	54 BTU·in/hr·ft <sup>2</sup> ·°F	E1461
Thermal conductivity, through-plane	2 W/m-K	17 BTU·in/hr·ft <sup>2</sup> ·°F	E1461
Specific heat	1300 J/kg-K	0.31 BTU/lb·°F	E1269
Coefficient of thermal expansion	80 ppm/°C	44 ppm/°F	E831
Heat deflection temperature, 0.45 MPa	65 °C	149 °F	D648
Max. continuous temperature	110 °C	230 °F	*

MECHANICAL PROPERTIES	METRIC	ENGLISH	ASTM
Shore Hardness	88 A		D2240
Flexural modulus	95 MPa	14 ksi	D638
Tensile strength, Break	15 MPa	2 ksi	D638
Elongation at break	15 %	15 %	D638
Impact strength, Izod notched	No break	No break	D256

ELECTRICAL PROPERTIES	METRIC	ASTM
Volume resistivity	>10 <sup>6</sup> Ω·cm	D257

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

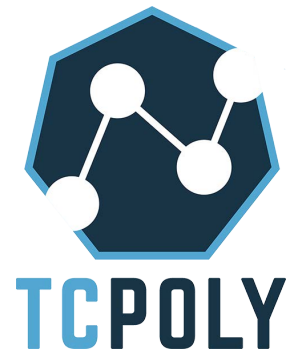
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# Recommended FDM Print Settings

## Ice9™ Flex

Thermally conductive, electrically non-conducting plastic  
Product code: TCP 01-1140-2210

Product type: FDM filament



### GENERAL PROPERTIES

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

### TEMPERATURE SETTINGS

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	VALUE	UNITS
Extruder temperature	235-260	°C
Bed temperature	30-60	°C
Cooling fan	60%, Bridging Only	

### SLICING SETTINGS

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	VALUE	UNITS
Print speed	15-30	mm/s
Layer	0.2-0.8	mm
Retraction distance	4-8	mm
Retraction Speed	20	mm/s
Coasting distance	0.2	mm
Infill for best thermal performance	95-100	%

### ADDITIONAL GUIDELINES

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Nozzle diameter	0.5-1.0 mm
Extruder type (1.75 mm)	Direct only
Extruder type (2.85 mm)	Direct or Bowden
Print bed preparation	Painter's tape
Storage instructions	Sealed Bag
Drying instructions	4 hours at 90°C
Part removal from bed	Heat bed to 110°C then gently remove with spatula