

# INEOS<sup>®</sup> Novodur Ultra 4140PG

Novodur<sup>®</sup> Ultra 4140PG is a PC modified plating grade combining high heat resistance and excellent impact strength with the unique surface properties of a Novodur<sup>®</sup> ABS material. Electroplating grade, Very high impact strength, High heat resistance.

Physical Properties	Metric	English	Comments
Density	1.07 g/cc	0.0387 lb/in <sup>3</sup>	ISO 1183
Linear Mold Shrinkage	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	ISO 294-4
Melt Flow	9.0 g/10 min @Load 10.0 kg, Temperature 220 °C	9.0 g/10 min @Load 22.0 lb, Temperature 428 °F	Volumetric; cm <sup>3</sup> /10 min; ISO 1133
	13 g/10 min @Load 5.00 kg, Temperature 260 °C	13 g/10 min @Load 11.0 lb, Temperature 500 °F	Volumetric; cm <sup>3</sup> /10 min; ISO 1133

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	85.0 MPa	12300 psi	ISO 2039-1
Tensile Strength, Yield	46.0 MPa	6670 psi	ISO 527
Elongation at Break	>= 15 %	>= 15 %	ISO 527
Elongation at Yield	3.5 %	3.5 %	ISO 527
Tensile Modulus	2.10 GPa	305 ksi	ISO 527
Flexural Strength	72.0 MPa	10400 psi	ISO 178
Flexural Modulus	2.10 GPa	305 ksi	ISO 178
Izod Impact, Notched (ISO)	31.0 kJ/m <sup>2</sup> @Temperature -30.0 °C	14.8 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 180/A
	40.0 kJ/m <sup>2</sup> @Temperature 23.0 °C	19.0 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 180/A
Charpy Impact, Notched	2.80 J/cm <sup>2</sup> @Temperature -30.0 °C	13.3 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179/1eA
	3.80 J/cm <sup>2</sup> @Temperature 23.0 °C	18.1 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 179/1eA

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	IEC 60093
Dielectric Constant	3.0 @Frequency 100 Hz	3.0 @Frequency 100 Hz	IEC 60250
	3.0 @Frequency 1e+6 Hz	3.0 @Frequency 1e+6 Hz	IEC 60250
Dielectric Strength	37.0 kV/mm	940 kV/in	Short time, 1.5 mm; IEC 60243-1
Dissipation Factor	0.0040 @Frequency 100 Hz	0.0040 @Frequency 100 Hz	IEC 60250
	0.0085 @Frequency 1e+6 Hz	0.0085 @Frequency 1e+6 Hz	IEC 60250
Comparative Tracking Index	600 V	600 V	IEC 60112