

Technical Data Sheet

Diamond ASA S130 9998 UV NPWHI

Acrylonitrile Styrene Acrylate

Product Description

Diamond ASA S130 9998 UV NPWHI is a Acrylonitrile Styrene Acrylate material and is typically used in Injection Molding applications. Features include: Good Stiffness, Good Weather Resistance, and Medium Impact Resistance.

Processing Method Injection Molding

Attribute Good Stiffness; Good Weather Resistance; Medium Impact Resistance

Forms Pellets

Typical Properties	Nominal Value	Units	Test Method
Physical			
Melt Flow Rate			
(230 °C/3.8 kg)	8.4	g/10 min	ISO 1133
(220 °C/10.0 kg)	28	g/10 min	ISO 1133
(230 °C/3.8 kg, Procedure A)	8.4	g/10 min	ASTM D1238
(220 °C/10.0 kg, Procedure A)	28	g/10 min	ASTM D1238
Density, (23 °C)	1.07	g/cm ³	ISO 1183
Density - Specific Gravity	1.07	g/cm ³	ASTM D792
Mechanical			
Tensile Strength at Yield			
(50 mm/min, 23 °C, Injection Molded, Flow)	51.0	MPa	ISO 527
(50 mm/min, 23 °C, Injection Molded, Flow)	52.3	MPa	ASTM D638
Flexural Modulus			
(23 °C, Injection Molded, Chord, Flow)	2790	MPa	ISO 178
(23 °C, Injection Molded, Chord, Flow)	2700	MPa	ASTM D790
Impact			
Charpy Impact Strength - Notched			
(-30 °C, Injection Molded)	4.1	kJ/m ²	ISO 179
(23 °C, Injection Molded)	8.4	kJ/m ²	ISO 179
Notched Izod Impact Strength			
(-30 °C, Injection Molded)	4.2	kJ/m ²	ISO 180
(23 °C, Injection Molded)	8.6	kJ/m ²	ISO 180
Notched Izod Impact			
(-30 °C, Injection Molded, Flow)	75	J/m	ASTM D256
(23 °C, Injection Molded, Flow)	110	J/m	ASTM D256
Hardness			

Rockwell Hardness		
(R-Scale, 23 °C, Injection Molded)	110	ASTM D785
(R-Scale, 23 °C)	111	ISO 2039-2
Thermal		
Vicat Softening Temperature	101 °C	ISO 306
Deflection Temperature Under Load Unannealed (0.45 MPa)	90.2 °C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa)	76.8 °C	ISO 75-2/A
Deflection Temperature Under Load Unannealed (264 psi), (3.18 mm)	78.0 °C	ASTM D648
Deflection Temperature Under Load Unannealed (66 psi)	89.9 °C	ASTM D648
Coefficient of Linear Thermal Expansion (CLTE), Flow, (-30 to 80 °C)	7.8E-5 cm/cm/°C	ISO 11359-2
Coefficient of Linear Thermal Expansion (CLTE), Perpendicular, (-30 to 80 °C)	8.6E-5 cm/cm/°C	ISO 11359-2

Injection Parameters	Nominal Value	Units
Drying Time	2.0 to 4.0	hr
Drying Temperature	80 to 85	°C
Suggested Max Moisture	0.1	%
Nozzle Temperature	220 to 272	°C
Processing (Melt) Temp	220 to 272	°C
Front Temperature	235 to 272	°C
Suggested Shot Size	40 to 70	%
Middle Temperature	232 to 265	°C
Rear Temperature	230 to 260	°C
Injection Rate	Fast	
Back Pressure	0.517 to 1.03	MPa
Mold Temperature	40 to 80	°C