

Technical Data Sheet

Diamond ABS TR7 50055GRY



Acrylonitrile Butadiene Styrene

Product Description

Diamond ABS TR7 50055GRY is a Acrylonitrile Butadiene Styrene material and is typically used in Extrusion, Injection Molding applications. Features include: Good Dimensional Stability, Good Flow, High Heat Resistance, High Stiffness, Paintable, and Platable.

Processing Method	Extrusion; Injection Molding
Attribute	Good Dimensional Stability; Good Flow; High Heat Resistance; High Stiffness; Paintable; Platable
Forms	Pellets
Appearance	Natural Color
Application	Appliances; Automotive Exterior Parts; Automotive Interior Trim

Typical Properties	Nominal Value	Units	Test Method
Physical			
Melt Flow Rate			
(220 °C/10.0 kg)	4.9	g/10 min	ASTM D1238
(230 °C/3.8 kg, Procedure A)	1.6	g/10 min	ASTM D1238
Density - Specific Gravity	1.08	g/cm ³	ASTM D792
Mechanical			
Tensile Strength at Yield, (50 mm/min)	43.0	MPa	ASTM D638
Tensile Stress at Yield	41	MPa	ISO 527-2
Flexural Modulus			
(Injection Molded, Chord)	2340	MPa	ISO 178
(1.3 mm/min, Procedure B, Method I (3 point load), 1% Secant)	2130	MPa	ASTM D790
Impact			
Charpy Impact Strength - Notched			
(23 °C)	17	kJ/m ²	ISO 179
(-30 °C)	9.5	kJ/m ²	ISO 179
Notched Izod Impact Strength			
(23 °C)	19	kJ/m ²	ISO 180
(-30 °C)	9.5	kJ/m ²	ISO 180
Notched Izod Impact			
(-30 °C)	110	J/m	ASTM D256
(23 °C, Method A)	200	J/m	ASTM D256
Hardness			

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Rockwell Hardness			
(R-Scale)	111		ASTM D785
(R-Scale)	111		ISO 2039-2
Thermal			
Vicat Softening Temperature	122	°C	ISO 306
(Loading 1 (10 N))	125	°C	ASTM D1525
Deflection Temperature Under Load Unannealed (0.45 MPa)	111	°C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa)	94.6	°C	ISO 75-2/A
Deflection Temperature Under Load Unannealed (264 psi)	94.3	°C	ASTM D648
Deflection Temperature Under Load Unannealed (66 psi)	110	°C	ASTM D648
Coefficient of Linear Thermal Expansion (CLTE), Flow (TMA)	7.8E-05	cm/cm/°C	ASTM E831
Coefficient of Linear Thermal Expansion (CLTE), Perpendicular (TMA)	9.1E-05	cm/cm/°C	ASTM E831

Injection Parameters	Nominal Value	Units
Drying Time	2.0 to 4.0	hr
Drying Temperature	82 to 90	°C
Suggested Max Moisture	0.1	%
Front Temperature	200 to 250	°C
Middle Temperature	200 to 250	°C
Rear Temperature	200 to 250	°C
Injection Rate	Moderate-Fast	
Mold Temperature	40 to 80	°C