

## 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.

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

Typical Properties	Nominal Value	Units	Test Method
<b>Physical</b>			
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 <sup>3</sup>	ASTM D792
<b>Mechanical</b>			
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
<b>Impact</b>			
Charpy Impact Strength - Notched			
(23 °C)	17	kJ/m <sup>2</sup>	ISO 179
(-30 °C)	9.5	kJ/m <sup>2</sup>	ISO 179
Notched Izod Impact Strength			
(23 °C)	19	kJ/m <sup>2</sup>	ISO 180
(-30 °C)	9.5	kJ/m <sup>2</sup>	ISO 180
Notched Izod Impact			
(-30 °C)	110	J/m	ASTM D256
(23 °C, Method A)	200	J/m	ASTM D256
<b>Hardness</b>			

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