

## Technical Data Sheet

### *Diamond* ABS TM40 1402BLK



Acrylonitrile Butadiene Styrene

#### Product Description

*Diamond* ABS TM40 1402BLK is a Acrylonitrile Butadiene Styrene material and is typically used in Extrusion, Injection Molding applications. Features include: High Heat Resistance.

<b>Processing Method</b>	Extrusion; Injection Molding
<b>Attribute</b>	High Heat Resistance
<b>Forms</b>	Pellets
<b>Appearance</b>	Black

Typical Properties	Nominal Value	Units	Test Method
<b>Physical</b>			
Melt Flow Rate, (200 °C/5.0 kg)	0.40	g/10 min	ASTM D1238
Density - Specific Gravity	1.07	g/cm <sup>3</sup>	ASTM D792
<b>Mechanical</b>			
Tensile Strength at Yield, (51 mm/min)	49.0	MPa	ASTM D638
Tensile Stress at Yield	41.9	MPa	ISO 527-2
Flexural Modulus			
(1.3 mm/min, Tangent)	2190	MPa	ASTM D790
(Chord)	2250	MPa	ISO 178
<b>Impact</b>			
Charpy Impact Strength - Notched			
(23 °C)	13	kJ/m <sup>2</sup>	ISO 179
(-30 °C)	8.2	kJ/m <sup>2</sup>	ISO 179
Notched Izod Impact Strength			
(23 °C)	14	kJ/m <sup>2</sup>	ISO 180
(-30 °C)	7.9	kJ/m <sup>2</sup>	ISO 180
Notched Izod Impact			
(23 °C)	160	J/m	ASTM D256
(-30 °C)	94	J/m	ASTM D256
<b>Hardness</b>			
Rockwell Hardness, (R-Scale)	104		ASTM D785
<b>Thermal</b>			
Vicat Softening Temperature	137	°C	ISO 306

Deflection Temperature Under Load Annealed (264 psi), (3.18 mm)	116 °C	ASTM D648
Deflection Temperature Under Load Unannealed (0.45 MPa)	124 °C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa)	103 °C	ISO 75-2/A
Deflection Temperature Under Load Unannealed (264 psi), (3.18 mm)	106 °C	ASTM D648
Deflection Temperature Under Load Unannealed (66 psi)	123 °C	ASTM D648
Coefficient of Linear Thermal Expansion (CLTE), Flow (TMA)	9.1E-05 cm/cm/°C	ASTM E831
Coefficient of Linear Thermal Expansion (CLTE), Perpendicular (TMA)	0.00011 cm/cm/°C	ASTM E831

<b>Extrusion Parameters</b>	<b>Nominal Value</b>	<b>Units</b>
Drying Time	3.0 to 4.0	hr
Suggested Max Moisture	<0.020	%
Suggested Max Re grind	40	%
Drying Temperature	82 to 93	°C