

## Technical Data Sheet

### *Diamond* ASA C1030H Natural



Acrylonitrile Styrene Acrylate

#### Product Description

*Diamond* ASA C1030H is a High-Heat Acrylonitrile Styrene Acrylate (ASA) product with excellent Heat-Aging and Weathering properties; Very High Gloss; High Distinctiveness of Image (DOI). ASA C1030H is readily processed by Extrusion and Injection Molding and is available in North America.

**Processing Method** Extrusion; Injection Molding

**Attribute** Good Colorability; Good Weather Resistance; High Gloss

Typical Properties	Nominal Value	Units	Test Method
<b>Physical</b>			
Melt Flow Rate			
(230 °C/3.8 kg)	1.4	g/10 min	ASTM D1238
(220 °C/10.0 kg, Procedure A)	6.0	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, Type I)	48.0	MPa	ASTM D638
Flexural Strength at Yield, (2.0 mm/min)	33.8	MPa	ASTM D790
Tensile Strength at Break, (50 mm/min)	38.0	MPa	ASTM D638
Flexural Modulus, (2.0 mm/min, 3.18 mm, 1% Secant)	2500	MPa	ASTM D790
Tensile Elongation at Break, (50 mm/min, Type I)	28	%	ASTM D638
<b>Impact</b>			
Instrumented Dart Impact			
(Total Energy, 6.70 m/sec)	42.0	J	ASTM D3763
(-20 °C, Total Energy, 6.70 m/sec)	6.00	J	ASTM D3763
Notched Izod Impact, (23 °C)	180	J/m	ASTM D256
<b>Hardness</b>			
Rockwell Hardness, (R-Scale)	101		ASTM D785
<b>Thermal</b>			
Vicat Softening Temperature, (Loading 1 (10 N))	112	°C	ASTM D1525
Deflection Temperature Under Load Unannealed (264 psi)	84	°C	ASTM D648
Deflection Temperature Under Load Unannealed (66 psi), (Injection Molded)	98.0	°C	ASTM D648

<b>Injection Parameters</b>	<b>Nominal Value</b>	<b>Units</b>
Drying Time	4.0 to 6.0	hr
Drying Temperature	80 to 85	°C
Suggested Max Moisture	0.02	%
Nozzle Temperature	220 to 260	°C
Processing (Melt) Temp	220 to 260	°C
Front Temperature	235 to 260	°C
Suggested Shot Size	40 to 70	%
Middle Temperature	232 to 260	°C
Rear Temperature	230 to 260	°C
Injection Rate	Fast	
Back Pressure	0.517 to 1.03	MPa
Mold Temperature	71 to 82	°C