

## Diamond Asa C1030H

Acrylonitrile Styrene Acrylate

LyondellBasell Industries

Engineering Plastics

### 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.

### General

|                   |                        |                           |              |
|-------------------|------------------------|---------------------------|--------------|
| Features          | • Good Colorability    | • Good Weather Resistance | • High Gloss |
| Agency Ratings    | • EC 1907/2006 (REACH) | • EU 2002/96/EC (WEEE)    |              |
| RoHS Compliance   | • RoHS Compliant       |                           |              |
| Processing Method | • Extrusion            | • Injection Molding       |              |

| Physical                                | Nominal Value (English) | Nominal Value (SI)     | Test Method |
|-----------------------------------------|-------------------------|------------------------|-------------|
| Density / Specific Gravity <sup>1</sup> | 1.08                    | 1.08 g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR)               |                         |                        | ASTM D1238  |
| 220°C/10.0 Kg <sup>2</sup>              | 6.0 g/10 min            | 6.0 g/10 min           |             |
| 230°C/3.8 Kg                            | 1.4 g/10 min            | 1.4 g/10 min           |             |

| Mechanical                                                        | Nominal Value (English) | Nominal Value (SI) | Test Method |
|-------------------------------------------------------------------|-------------------------|--------------------|-------------|
| Tensile Strength                                                  |                         |                    | ASTM D638   |
| Yield <sup>3</sup>                                                | 6960 psi                | 48.0 MPa           |             |
| Break <sup>4</sup>                                                | 5510 psi                | 38.0 MPa           |             |
| Tensile Elongation <sup>3</sup> (Break)                           | 28 %                    | 28 %               | ASTM D638   |
| Flexural Modulus - 1% Secant <sup>5</sup><br>(0.125 In (3.18 Mm)) | 362000 psi              | 2500 MPa           | ASTM D790   |
| Flexural Strength <sup>5</sup> (Yield)                            | 4900 psi                | 33.8 MPa           | ASTM D790   |

| Impact                                | Nominal Value (English) | Nominal Value (SI) | Test Method |
|---------------------------------------|-------------------------|--------------------|-------------|
| Notched Izod Impact (73°F (23°C))     | 3.3 ft-lb/in            | 180 J/m            | ASTM D256   |
| Instrumented Dart Impact <sup>6</sup> |                         |                    | ASTM D3763  |
| Total Energy                          | 372 in-lb               | 42.0 J             |             |
| -4°F (-20°C), Total Energy            | 53.1 in-lb              | 6.00 J             |             |

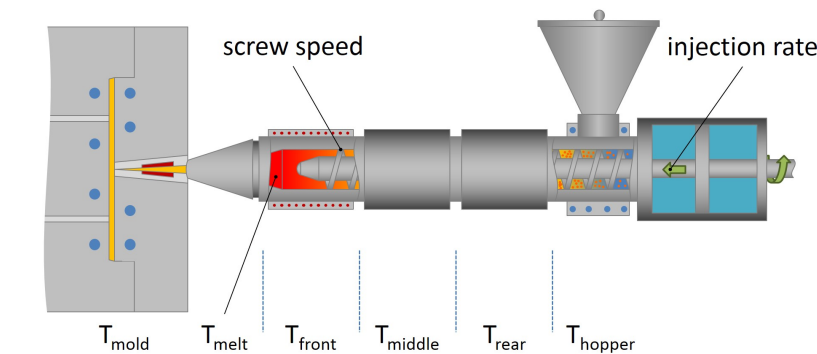
| Hardness                    | Nominal Value (English) | Nominal Value (SI) | Test Method |
|-----------------------------|-------------------------|--------------------|-------------|
| Rockwell Hardness (R-scale) | 101                     | 101                | ASTM D785   |

| Thermal                                         | Nominal Value (English) | Nominal Value (SI) | Test Method             |
|-------------------------------------------------|-------------------------|--------------------|-------------------------|
| Deflection Temperature Under Load               |                         |                    | ASTM D648               |
| 66 Psi (0.45 Mpa), Unannealed, Injection Molded | 208 °F                  | 98.0 °C            |                         |
| 264 Psi (1.8 Mpa), Unannealed                   | 183 °F                  | 84.0 °C            |                         |
| Vicat Softening Temperature                     |                         |                    |                         |
| --                                              | 234 °F                  | 112 °C             | ASTM D1525 <sup>7</sup> |
| --                                              | 210 °F                  | 99.0 °C            | ASTM D1525 <sup>8</sup> |



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| Injection              | Nominal Value (English) | Nominal Value (SI) |
|------------------------|-------------------------|--------------------|
| Drying Temperature     | 176 to 185 °F           | 80 to 85 °C        |
| Drying Time            | 4.0 to 6.0 hr           | 4.0 to 6.0 hr      |
| Suggested Max Moisture | 0.02 %                  | 0.02 %             |
| Suggested Shot Size    | 40 to 70 %              | 40 to 70 %         |
| Rear Temperature       | 446 to 500 °F           | 230 to 260 °C      |
| Middle Temperature     | 450 to 500 °F           | 232 to 260 °C      |
| Front Temperature      | 455 to 500 °F           | 235 to 260 °C      |
| Nozzle Temperature     | 428 to 500 °F           | 220 to 260 °C      |
| Processing (Melt) Temp | 428 to 500 °F           | 220 to 260 °C      |
| Mold Temperature       | 160 to 180 °F           | 71 to 82 °C        |
| Injection Rate         | Fast                    | Fast               |
| Back Pressure          | 75.0 to 150 psi         | 0.517 to 1.03 MPa  |

Notes

- <sup>1</sup> ASTM D792A
- <sup>2</sup> Procedure A
- <sup>3</sup> Type I, 2.0 in/min (50 mm/min)
- <sup>4</sup> 2.0 in/min (50 mm/min)
- <sup>5</sup> 0.079 in/min (2.0 mm/min)
- <sup>6</sup> 22.0 ft/sec (6.70 m/sec)
- <sup>7</sup> Loading 1 (10 N)
- <sup>8</sup> Rate B (120°C/h), Loading 2 (50 N)

Notes

These are typical property values not to be construed as specification limits.

