

Technical Data Sheet

## Diamond Asa S150

Acrylonitrile Styrene Acrylate  
LyondellBasell Industries  
Engineering Plastics

| General                                           |                           |                          |                        |
|---------------------------------------------------|---------------------------|--------------------------|------------------------|
| Features                                          | • Good Weather Resistance | • High Impact Resistance |                        |
| Agency Ratings                                    | • EC 1907/2006 (REACH)    | • EU 2002/96/EC (WEEE)   |                        |
| RoHS Compliance                                   | • RoHS Compliant          |                          |                        |
| Forms                                             | • Pellets                 |                          |                        |
| Processing Method                                 | • Injection Molding       |                          |                        |
| Physical                                          | Nominal Value (English)   | Nominal Value (SI)       | Test Method            |
| Density / Specific Gravity                        |                           |                          |                        |
| --                                                | 1.06                      | 1.06 g/cm <sup>3</sup>   | ASTM D792              |
| 73°F (23°C)                                       | 1.06 g/cm <sup>3</sup>    | 1.06 g/cm <sup>3</sup>   | ISO 1183/A             |
| Melt Mass-Flow Rate (MFR)                         |                           |                          | ASTM D1238<br>ISO 1133 |
| 220°C/10.0 Kg                                     | 15 g/10 min               | 15 g/10 min              |                        |
| 230°C/3.8 Kg                                      | 3.9 g/10 min              | 3.9 g/10 min             |                        |
| Mechanical                                        | Nominal Value (English)   | Nominal Value (SI)       | Test Method            |
| Tensile Strength - Flow                           |                           |                          |                        |
| Yield, 73°F (23°C), Injection Molded <sup>1</sup> | 6240 psi                  | 43.0 MPa                 | ASTM D638              |
| Yield, 73°F (23°C), Injection Molded              | 6350 psi                  | 43.8 MPa                 | ISO 527-2              |
| Flexural Modulus - Chord, Flow                    |                           |                          |                        |
| 73°F (23°C), Injection Molded                     | 316000 psi                | 2180 MPa                 | ASTM D790              |
| 73°F (23°C), Injection Molded                     | 315000 psi                | 2170 MPa                 | ISO 178                |
| Impact                                            | Nominal Value (English)   | Nominal Value (SI)       | Test Method            |
| Charpy Notched Impact Strength                    |                           |                          | ISO 179                |
| -22°F (-30°C), Injection Molded                   | 3.9 ft·lb/in <sup>2</sup> | 8.2 kJ/m <sup>2</sup>    |                        |
| 73°F (23°C), Injection Molded                     | 8.4 ft·lb/in <sup>2</sup> | 18 kJ/m <sup>2</sup>     |                        |
| Notched Izod Impact                               |                           |                          |                        |
| Flow : -22°F (-30°C), Injection Molded            | 2.0 ft·lb/in              | 110 J/m                  | ASTM D256              |
| Flow : 73°F (23°C), Injection Molded              | 4.8 ft·lb/in              | 260 J/m                  | ASTM D256              |
| -22°F (-30°C), Injection Molded                   | 3.7 ft·lb/in <sup>2</sup> | 7.8 kJ/m <sup>2</sup>    | ISO 180                |
| 73°F (23°C), Injection Molded                     | 9.8 ft·lb/in <sup>2</sup> | 21 kJ/m <sup>2</sup>     | ISO 180                |
| Hardness                                          | Nominal Value (English)   | Nominal Value (SI)       | Test Method            |
| Rockwell Hardness                                 |                           |                          | ASTM D785              |
| R-scale, 73°F (23°C), Injection Molded            | 100                       | 100                      |                        |

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| Thermal                                                             | Nominal Value (English) | Nominal Value (SI) | Test Method             |
|---------------------------------------------------------------------|-------------------------|--------------------|-------------------------|
| Deflection Temperature Under Load                                   |                         |                    |                         |
| 66 Psi (0.45 Mpa), Unannealed, Injection Molded                     | 193 °F                  | 89.2 °C            | ASTM D648               |
| 66 Psi (0.45 Mpa), Unannealed                                       | 193 °F                  | 89.3 °C            | ISO 75-2/B              |
| 264 Psi (1.8 Mpa), Unannealed, 0.125 In (3.18 Mm), Injection Molded | 170 °F                  | 76.7 °C            | ASTM D648               |
| 264 Psi (1.8 Mpa), Unannealed, 0.250 In (6.35 Mm)                   | 181 °F                  | 82.8 °C            | ASTM D648               |
| 264 Psi (1.8 Mpa), Unannealed                                       | 170 °F                  | 76.6 °C            | ISO 75-2/A              |
| Vicat Softening Temperature                                         |                         |                    |                         |
| --                                                                  | 216 °F                  | 102 °C             | ASTM D1525 <sup>2</sup> |
| --                                                                  | 215 °F                  | 102 °C             | ISO 306                 |
| CLTE                                                                |                         |                    | ISO 11359-2             |
| Flow : -22 To 176°F (-30 To 80°C)                                   | 5.2E-5 in/in/°F         | 9.3E-5 cm/cm/°C    |                         |
| Transverse : -22 To 176°F (-30 To 80°C)                             | 5.4E-5 in/in/°F         | 9.8E-5 cm/cm/°C    |                         |

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| Injection              | Nominal Value (English) | Nominal Value (SI) |
|------------------------|-------------------------|--------------------|
| Drying Temperature     | 176 to 185 °F           | 80 to 85 °C        |
| Drying Time            | 2.0 to 4.0 hr           | 2.0 to 4.0 hr      |
| Suggested Max Moisture | 0.10 %                  | 0.10 %             |
| Suggested Shot Size    | 40 to 70 %              | 40 to 70 %         |
| Rear Temperature       | 446 to 500 °F           | 230 to 260 °C      |
| Middle Temperature     | 450 to 509 °F           | 232 to 265 °C      |
| Front Temperature      | 455 to 522 °F           | 235 to 272 °C      |
| Nozzle Temperature     | 428 to 522 °F           | 220 to 272 °C      |
| Processing (Melt) Temp | 428 to 522 °F           | 220 to 272 °C      |
| Mold Temperature       | 104 to 176 °F           | 40 to 80 °C        |
| Injection Rate         | Fast                    | Fast               |
| Back Pressure          | 75.0 to 150 psi         | 0.517 to 1.03 MPa  |

### Notes

<sup>1</sup> 2.0 in/min (50 mm/min)

<sup>2</sup> Loading 1 (10 N)

### Notes

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