

## Technical Data Sheet

**Diamond Asa S510**

Acrylonitrile Styrene Acrylate  
LyondellBasell Industries  
Engineering Plastics

**General**

|                   |                                                      |
|-------------------|------------------------------------------------------|
| Material Status   | • Commercial: Active                                 |
| Availability      | • North America                                      |
| Features          | • Good Weather Resistance • Medium Impact Resistance |
| UL File Number    | • E150937                                            |
| 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               |
| Melt Mass-Flow Rate (MFR) <sup>1</sup> (230°C/3.8 kg)                                  | 6.5 g/10 min            | 6.5 g/10 min           | ASTM D1238              |
| Mechanical                                                                             | Nominal Value (English) | Nominal Value (SI)     | Test Method             |
| Tensile Strength <sup>2</sup> (Yield)                                                  | 6400 psi                | 44.1 MPa               | ASTM D638               |
| Flexural Modulus - Tangent <sup>3</sup>                                                | 330000 psi              | 2280 MPa               | ASTM D790               |
| Impact                                                                                 | Nominal Value (English) | Nominal Value (SI)     | Test Method             |
| Notched Izod Impact<br>73°F (23°C), 0.125 in (3.18 mm)                                 | 2.5 ft-lb/in            | 130 J/m                | ASTM D256               |
| Thermal                                                                                | Nominal Value (English) | Nominal Value (SI)     | Test Method             |
| Deflection Temperature Under Load<br>264 psi (1.8 MPa), Unannealed, 0.125 in (3.18 mm) | 181 °F                  | 82.8 °C                | ASTM D648               |
| Vicat Softening Temperature                                                            | 198 °F                  | 92.2 °C                | ASTM D1525 <sup>4</sup> |
| Flammability                                                                           | Nominal Value (English) | Nominal Value (SI)     | Test Method             |
| Flame Rating (0.06 in (1.5 mm))                                                        | HB                      | HB                     | UL 94                   |

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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  |

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### Notes

- <sup>1</sup> Procedure A
- <sup>2</sup> 2.0 in/min (51 mm/min)
- <sup>3</sup> 0.050 in/min (1.3 mm/min)
- <sup>4</sup> Loading 1 (10 N)

### Notes

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

### Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

### Product Storage and Handling

- Product should be stored in dry conditions at temperatures below 50°C and protected from UV-light
- Improper storage may bring damage to the packaging and can negatively affects on the quality of this product
- Keep material completely dry for good processing

### Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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