

# Starex SR-0320

Lotte Chemical Corporation - Acrylonitrile Butadiene Styrene

## General Information

### General

Uses • Automotive Applications • Electrical/Electronic Applications

## Properties <sup>1</sup>

| Physical   | Nominal Value    | Unit                  | Test Method  |
|--|------------------|-----------------------|--------------|
| Density / Specific Gravity (Natural)               | 1.06             |                       | ASTM D792    |
| Density (Natural)                                  | 1.06             | g/cm <sup>3</sup>     | ISO 1183     |
| Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)          | 7.2              | g/10 min              | ASTM D1238   |
| Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)          | 7.2              | g/10 min              | ISO 1133     |
| Molding Shrinkage - Flow (0.126 in)                | 4.0E-3 to 7.0E-3 | in/in                 | ASTM D955    |
| Molding Shrinkage - Across Flow (0.126 in)         | 4.0E-3 to 7.0E-3 | in/in                 | ASTM D955    |
| Molding Shrinkage                                  |                  |                       | ISO 294-4    |
| Across Flow : 0.0787 in                            | 0.40 to 0.70     | %                     |              |
| Flow : 0.0787 in                                   | 0.40 to 0.70     | %                     |              |
| Water Absorption (Saturation, 73°F)                | 0.050            | %                     | ASTM D570    |
| Mechanical   | Nominal Value    | Unit                  | Test Method  |
| Tensile Modulus                                    | 334000           | psi                   | ISO 527-1/50 |
| Tensile Strength <sup>2</sup> (Yield)              | 6540             | psi                   | ASTM D638    |
| Tensile Stress (Yield)                             | 6530             | psi                   | ISO 527-2/50 |
| Tensile Stress (Break)                             | 5370             | psi                   | ISO 527-2/50 |
| Tensile Elongation <sup>2</sup> (Break)            | 15               | %                     | ASTM D638    |
| Tensile Strain (Break)                             | 22               | %                     | ISO 527-2/50 |
| Flexural Modulus <sup>3</sup>                      | 305000           | psi                   | ASTM D790    |
| Flexural Modulus <sup>4</sup>                      | 355000           | psi                   | ISO 178      |
| Flexural Strength <sup>3</sup>                     | 9530             | psi                   | ASTM D790    |
| Flexural Stress <sup>4</sup>                       | 10900            | psi                   | ISO 178      |
| Impact   | Nominal Value    | Unit                  | Test Method  |
| Charpy Notched Impact Strength <sup>5</sup> (73°F) | 7.7              | ft·lb/in <sup>2</sup> | ISO 179/1eA  |
| Notched Izod Impact                                |                  |                       | ASTM D256    |
| 73°F, 0.125 in                                     | 3.4              | ft·lb/in              |              |
| 73°F, 0.250 in                                     | 3.4              | ft·lb/in              |              |
| Notched Izod Impact Strength <sup>5</sup> (73°F)   | 8.7              | ft·lb/in <sup>2</sup> | ISO 180/1A   |
| Hardness   | Nominal Value    | Unit                  | Test Method  |
| Rockwell Hardness (R-Scale)                        | 110              |                       | ASTM D785    |
| Rockwell Hardness (R-Scale)                        | 109              |                       | ISO 2039-2   |

## Starex SR-0320

### Lotte Chemical Corporation - Acrylonitrile Butadiene Styrene

| Thermal  | Nominal Value | Unit | Test Method  |
|--|---------------|------|--------------|
| Deflection Temperature Under Load<br>66 psi, Unannealed, 0.157 in  | 212           | °F   | ISO 75-2/B   |
| Deflection Temperature Under Load<br>66 psi, Annealed, 0.157 in    | 228           | °F   | ISO 75-2/B   |
| Deflection Temperature Under Load<br>264 psi, Unannealed, 0.252 in | 199           | °F   | ASTM D648    |
| Deflection Temperature Under Load<br>264 psi, Unannealed, 0.157 in | 189           | °F   | ISO 75-2/A   |
| Deflection Temperature Under Load<br>264 psi, Annealed, 0.157 in   | 221           | °F   | ISO 75-2/A   |
| Vicat Softening Temperature<br>--                                  | 228           | °F   | ISO 306/B120 |
|  | •<br>226      | °F   | ISO 306/B50  |
|  | •<br>225      | °F   |              |

### Processing Information

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature     |               |      |
| Desiccant Dryer        | 176           | °F   |
| Hot Air Dryer          | 176           | °F   |
| Drying Time            |               |      |
| Desiccant Dryer        | 2.0 to 3.0    | hr   |
| Hot Air Dryer          | 2.0 to 4.0    | hr   |
| Suggested Max Moisture | < 0.050       | %    |
| Rear Temperature       | 320 to 356    | °F   |
| Middle Temperature     | 374 to 392    | °F   |
| Front Temperature      | 410 to 464    | °F   |
| Nozzle Temperature     | 464           | °F   |
| Mold Temperature       | 104 to 176    | °F   |
| Injection Pressure     | 7110 to 21300 | psi  |
| Back Pressure          | 71.1 to 284   | psi  |
| Screw Speed            | 50 to 150     | rpm  |

### Injection Notes

Hot Runner Temperature: 230°C