

# Starex WR-9300HF

Acrylonitrile Styrene Acrylate  
SAMSUNG SDI CO., LTD.

Message:

Starex WR-9300HF is an Acrylonitrile Styrene Acrylate (ASA) product. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America. Typical application: Automotive. Primary characteristic: flame rated.

| General Information                                |               |                   |                       |
|----------------------------------------------------|---------------|-------------------|-----------------------|
| Physical                                           | Nominal Value | Unit              | Test Method           |
| Specific Gravity                                   | 1.07          | g/cm <sup>3</sup> | ASTM D792, ISO 1183   |
| Melt Mass-Flow Rate (MFR)                          |               |                   | ASTM D1238, ISO 1133  |
| 220°C/10.0 kg                                      | 12            | g/10 min          |                       |
| 250°C/2.16 kg                                      | 6.5           | g/10 min          |                       |
| Molding Shrinkage                                  |               |                   |                       |
| Flow : 3.20 mm                                     | 0.22          | %                 | ASTM D955             |
| Across Flow : 3.20 mm                              | 0.26          | %                 | ASTM D955             |
| Across Flow : 3.20 mm                              | 0.40 to 0.50  | %                 | ISO 2577              |
| Flow : 3.20 mm                                     | 0.39 to 0.47  | %                 | ISO 2577              |
| Hardness                                           | Nominal Value | Unit              | Test Method           |
| Rockwell Hardness (R-Scale)                        | 106           |                   | ASTM D785, ISO 2039-2 |
| Mechanical                                         | Nominal Value | Unit              | Test Method           |
| Tensile Strength                                   |               |                   |                       |
| Yield <sup>1</sup>                                 | 44.0          | MPa               | ASTM D638             |
| Yield                                              | 44.0          | MPa               | ISO 527-2/50          |
| Tensile Elongation <sup>2</sup> (Break)            | 15            | %                 | ASTM D638             |
| Flexural Modulus                                   |               |                   |                       |
| -- <sup>3</sup>                                    | 2200          | MPa               | ASTM D790             |
| -- <sup>4</sup>                                    | 2100          | MPa               | ISO 178               |
| Flexural Strength                                  |               |                   |                       |
| -- <sup>5</sup>                                    | 67.0          | MPa               | ASTM D790             |
| -- <sup>6</sup>                                    | 67.0          | MPa               | ISO 178               |
| Impact                                             | Nominal Value | Unit              | Test Method           |
| Charpy Notched Impact Strength <sup>7</sup> (23°C) | 14            | kJ/m <sup>2</sup> | ISO 179/1eA           |
| Notched Izod Impact                                |               |                   |                       |
| -30°C, 3.18 mm                                     | 34            | J/m               | ASTM D256             |
| -30°C, 6.35 mm                                     | 44            | J/m               | ASTM D256             |
| 23°C, 3.18 mm                                      | 120           | J/m               | ASTM D256             |
| 23°C, 6.35 mm                                      | 98            | J/m               | ASTM D256             |
| -30°C                                              | 5.4           | kJ/m <sup>2</sup> | ISO 180/1A            |
| 23°C <sup>8</sup>                                  | 12            | kJ/m <sup>2</sup> | ISO 180/1A            |

| Thermal                           | Nominal Value              | Unit | Test Method |
|-----------------------------------|----------------------------|------|-------------|
| Deflection Temperature Under Load |                            |      |             |
| 0.45 MPa, Unannealed, 3.20 mm     | 86.0                       | °C   | ASTM D648   |
| 0.45 MPa, Unannealed, 6.40 mm     | 92.0                       | °C   | ASTM D648   |
| 1.8 MPa, Unannealed, 3.20 mm      | 73.0                       | °C   | ASTM D648   |
| 1.8 MPa, Unannealed, 6.40 mm      | 97.0                       | °C   | ASTM D648   |
| 1.8 MPa, Unannealed, 4.00 mm      | 80.0                       | °C   | ISO 75-2/A  |
| Vicat Softening Temperature       | 100                        | °C   | ISO 306/B50 |
| Flammability                      | Nominal Value              |      | Test Method |
| Flame Rating (1.50 mm)            | HB                         |      | UL 94       |
| Optical                           | Nominal Value              | Unit | Test Method |
| Yellowness Index (3.20 mm)        | 25                         | YI   | ASTM D1925  |
| Injection                         | Nominal Value              | Unit |             |
| Drying Temperature                |                            |      |             |
| --                                | 80.0 to 90.0               | °C   |             |
| Desiccant Dryer                   | 80.0                       | °C   |             |
| Drying Time                       |                            |      |             |
| --                                | 2.0 to 4.0                 | hr   |             |
| Desiccant Dryer                   | 2.0 to 3.0                 | hr   |             |
| Suggested Max Moisture            | < 0.050                    | %    |             |
| Rear Temperature                  | 180 to 190                 | °C   |             |
| Middle Temperature                | 200 to 210                 | °C   |             |
| Front Temperature                 | 220 to 230                 | °C   |             |
| Nozzle Temperature                | 240                        | °C   |             |
| Mold Temperature                  | 40.0 to 80.0               | °C   |             |
| Injection Pressure                | 49.0 to 245                | MPa  |             |
| Back Pressure                     | 0.490 to 1.96              | MPa  |             |
| Screw Speed                       | 50 to 150                  | rpm  |             |
| NOTE                              |                            |      |             |
| 1.                                | 5.0 mm/min                 |      |             |
| 2.                                | 5.0 mm/min                 |      |             |
| 3.                                | 2.8 mm/min                 |      |             |
| 4.                                | 2.0 mm/min                 |      |             |
| 5.                                | 2.8 mm/min                 |      |             |
| 6.                                | 2.0 mm/min                 |      |             |
| 7.                                | Thickness: 4 mm, V-notched |      |             |
| 8.                                | Thickness: 4 mm            |      |             |

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