

# Starex VE-1805

High Impact Polystyrene

SAMSUNG SDI CO., LTD.

## Message:

Starex VE-1805 is a High Impact Polystyrene product. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America. Primary characteristic: flame rated.

| General Information                                              |               |                   |                      |
|------------------------------------------------------------------|---------------|-------------------|----------------------|
| Physical                                                         | Nominal Value | Unit              | Test Method          |
| Specific Gravity                                                 | 1.14          | g/cm <sup>3</sup> | ASTM D792, ISO 1183  |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)                         | 12            | g/10 min          | ASTM D1238, ISO 1133 |
| Molding Shrinkage                                                |               |                   |                      |
| Flow : 3.20 mm                                                   | 0.20 to 0.60  | %                 | ASTM D955, ISO 2577  |
| Across Flow : 3.20 mm                                            | 0.20 to 0.60  | %                 | ASTM D955            |
| Mechanical                                                       | Nominal Value | Unit              | Test Method          |
| Tensile Strength                                                 |               |                   |                      |
| Yield <sup>1</sup>                                               | 23.0          | MPa               | ASTM D638            |
| Yield                                                            | 22.0          | MPa               | ISO 527-2/50         |
| Flexural Modulus                                                 |               |                   |                      |
| -- <sup>2</sup>                                                  | 1800          | MPa               | ASTM D790            |
| -- <sup>3</sup>                                                  | 1800          | MPa               | ISO 178              |
| Flexural Strength                                                |               |                   |                      |
| -- <sup>4</sup>                                                  | 29.0          | MPa               | ASTM D790            |
| -- <sup>5</sup>                                                  | 32.0          | MPa               | ISO 178              |
| Impact                                                           | Nominal Value | Unit              | Test Method          |
| Charpy Notched Impact Strength <sup>6</sup> (23°C)               | 10            | kJ/m <sup>2</sup> | ISO 179/1eA          |
| Notched Izod Impact                                              |               |                   |                      |
| 23°C, 3.18 mm                                                    | 98            | J/m               | ASTM D256            |
| 23°C <sup>7</sup>                                                | 10            | kJ/m <sup>2</sup> | ISO 180/1A           |
| Thermal                                                          | Nominal Value | Unit              | Test Method          |
| Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.40 mm) | 71.0          | °C                | ASTM D648            |
| Vicat Softening Temperature                                      | 85.0          | °C                | ISO 306/B50          |
| Flammability                                                     | Nominal Value | Test Method       |                      |
| Flame Rating (1.50 mm)                                           | V-0           | UL 94             |                      |
| Injection                                                        | Nominal Value | Unit              |                      |
| Drying Temperature                                               |               |                   |                      |
| --                                                               | 80.0          | °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       | 190 to 200    | °C  |
| Middle Temperature     | 200 to 210    | °C  |
| Front Temperature      | 210 to 220    | °C  |
| Nozzle Temperature     | 220           | °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. | 20 mm/min       |
| 2. | 2.8 mm/min      |
| 3. | 2.0 mm/min      |
| 4. | 2.8 mm/min      |
| 5. | 2.0 mm/min      |
| 6. | Thickness: 4 mm |
| 7. | Thickness: 4 mm |

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