

# Infino XF-4150

Polyphthalamide

SAMSUNG SDI CO., LTD.

## Message:

PPA/GF material with high stiffness that is applied to the exterior material of slim slide phone

| General Information                                |                |                   |                      |
|----------------------------------------------------|----------------|-------------------|----------------------|
| UL YellowCard                                      | E115797-605060 |                   |                      |
| Filler / Reinforcement                             | Glass Fiber    |                   |                      |
| Features                                           | High Stiffness |                   |                      |
| Uses                                               | Cell Phones    |                   |                      |
| Physical                                           | Nominal Value  | Unit              | Test Method          |
| Specific Gravity                                   | 1.56           | g/cm <sup>3</sup> | ASTM D792, ISO 1183  |
| Melt Mass-Flow Rate (MFR) (315°C/2.16 kg)          | 13             | g/10 min          | ASTM D1238, ISO 1133 |
| Molding Shrinkage - Flow (3.20 mm)                 | 0.10 to 0.30   | %                 | ASTM D955, ISO 2577  |
| Water Absorption                                   |                |                   |                      |
| 23°C, 24 hr                                        | 0.30           | %                 | ASTM D570            |
| Equilibrium, 23°C, 50% RH                          | 0.30           | %                 | ISO 62               |
| Ash Content                                        | 50             | %                 | ISO 3451             |
| Hardness                                           | Nominal Value  | Unit              | Test Method          |
| Rockwell Hardness (R-Scale)                        | 116            |                   | ISO 2039-2           |
| Mechanical                                         | Nominal Value  | Unit              | Test Method          |
| Tensile Modulus                                    | 12000          | MPa               | ISO 527-2/50         |
| Tensile Strength                                   |                |                   |                      |
| Yield <sup>1</sup>                                 | 220            | MPa               | ASTM D638            |
| Yield                                              | 118            | MPa               | ISO 527-2/50         |
| Break                                              | 185            | MPa               | ISO 527-2/50         |
| Tensile Elongation                                 |                |                   |                      |
| Break <sup>2</sup>                                 | 2.7            | %                 | ASTM D638            |
| Break                                              | 3.0            | %                 | ISO 527-2/50         |
| Flexural Modulus                                   |                |                   |                      |
| -- <sup>3</sup>                                    | 13000          | MPa               | ASTM D790            |
| -- <sup>4</sup>                                    | 15500          | MPa               | ISO 178              |
| Flexural Strength                                  |                |                   |                      |
| -- <sup>5</sup>                                    | 270            | MPa               | ASTM D790            |
| -- <sup>6</sup>                                    | 270            | MPa               | ISO 178              |
| Impact                                             | Nominal Value  | Unit              | Test Method          |
| Charpy Notched Impact Strength <sup>7</sup> (23°C) | 16             | kJ/m <sup>2</sup> | ISO 179/1eA          |
| Notched Izod Impact                                |                |                   |                      |

| 23°C, 3.18 mm                                                    | 120             | J/m               | ASTM D256   |
|------------------------------------------------------------------|-----------------|-------------------|-------------|
| 23°C <sup>8</sup>                                                | 16              | 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) | 280             | °C                | ASTM D648   |
| Vicat Softening Temperature                                      | 191             | °C                | ISO 306/B50 |
| Flammability                                                     | Nominal Value   |                   | Test Method |
| Flame Rating                                                     |                 |                   | UL 94       |
| 0.800 mm                                                         | HB              |                   |             |
| 3.00 mm                                                          | HB              |                   |             |
| Injection                                                        | Nominal Value   | Unit              |             |
| Drying Temperature                                               |                 |                   |             |
| --                                                               | 100             | °C                |             |
| Desiccant Dryer                                                  | 100             | °C                |             |
| Drying Time                                                      |                 |                   |             |
| --                                                               | 4.0 to 6.0      | hr                |             |
| Desiccant Dryer                                                  | 2.0 to 4.0      | hr                |             |
| Suggested Max Moisture                                           | < 0.050         | %                 |             |
| Rear Temperature                                                 | 280 to 290      | °C                |             |
| Middle Temperature                                               | 300             | °C                |             |
| Front Temperature                                                | 310 to 320      | °C                |             |
| Nozzle Temperature                                               | 320             | °C                |             |
| Mold Temperature                                                 | 100 to 130      | °C                |             |
| Injection Pressure                                               | 98.1            | 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 |                   |             |
| 8.                                                               | Thickness: 4 mm |                   |             |

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