

# Staramide BG10

Polyamide 6  
Eurostar Engineering Plastics

Message:  
Staramide BG10 is a 50 % Glass Fiber Reinforced Polyamide 6 Injection Molding Resin

| General Information                           |                                  |                   |                 |
|-----------------------------------------------|----------------------------------|-------------------|-----------------|
| Filler / Reinforcement                        | Glass Fiber,50% Filler by Weight |                   |                 |
| RoHS Compliance                               | RoHS Compliant                   |                   |                 |
| Processing Method                             | Injection Molding                |                   |                 |
| Physical                                      | Nominal Value                    | Unit              | Test Method     |
| Density                                       | 1.55                             | g/cm <sup>3</sup> | ISO 1183        |
| Molding Shrinkage <sup>1</sup>                |                                  |                   | Internal Method |
| Across Flow                                   | 0.80 to 1.1                      | %                 |                 |
| Flow                                          | 0.10 to 0.20                     | %                 |                 |
| Water Absorption                              |                                  |                   | ISO 62          |
| Saturation, 23°C                              | 4.5                              | %                 |                 |
| Equilibrium, 23°C, 50% RH                     | 0.60                             | %                 |                 |
| Hardness                                      | Nominal Value                    | Unit              | Test Method     |
| Rockwell Hardness (R-Scale)                   | 122                              |                   | ISO 2039-2      |
| Mechanical                                    | Nominal Value                    | Unit              | Test Method     |
| Tensile Modulus                               | 14000                            | MPa               | ISO 527-2/1     |
| Tensile Stress (Break)                        | 224                              | MPa               | ISO 527-2/5     |
| Tensile Strain (Break)                        | 3.2                              | %                 | ISO 527-2/5     |
| Flexural Modulus <sup>2</sup>                 | 13300                            | MPa               | ISO 178         |
| Flexural Stress                               | 320                              | MPa               | ISO 178         |
| Impact                                        | Nominal Value                    | Unit              | Test Method     |
| Charpy Notched Impact Strength <sup>3</sup>   |                                  |                   | ISO 179/1eA     |
| -30°C                                         | 15                               | kJ/m <sup>2</sup> |                 |
| 23°C                                          | 18                               | kJ/m <sup>2</sup> |                 |
| Charpy Unnotched Impact Strength <sup>4</sup> |                                  |                   | ISO 179/1eU     |
| -30°C                                         | 100                              | kJ/m <sup>2</sup> |                 |
| 23°C                                          | 100                              | kJ/m <sup>2</sup> |                 |
| Notched Izod Impact Strength <sup>5</sup>     |                                  |                   | ISO 180/1A      |
| -40°C                                         | 14                               | kJ/m <sup>2</sup> |                 |
| -30°C                                         | 15                               | kJ/m <sup>2</sup> |                 |
| -20°C                                         | 16                               | kJ/m <sup>2</sup> |                 |
| 23°C                                          | 18                               | kJ/m <sup>2</sup> |                 |
| Unnotched Izod Impact Strength <sup>6</sup>   |                                  |                   | ISO 180/1U      |
| -30°C                                         | 90                               | kJ/m <sup>2</sup> |                 |

| 23°C                                     | 90            | kJ/m <sup>2</sup> |                |
|------------------------------------------|---------------|-------------------|----------------|
| Thermal                                  | Nominal Value | Unit              | Test Method    |
| Heat Deflection Temperature <sup>7</sup> |               |                   |                |
| 0.45 MPa, Unannealed, 100 mm Span        | 220           | °C                | ISO 75-2/Be    |
| 1.8 MPa, Unannealed, 100 mm Span         | 212           | °C                | ISO 75-2/Ae    |
| Vicat Softening Temperature              |               |                   |                |
| --                                       | 218           | °C                | ISO 306/B50    |
| --                                       | 215           | °C                | ISO 306/B120   |
| Ball Pressure Test <sup>8</sup> (125°C)  | Pass          |                   | IEC 60695-10-2 |
| CLTE                                     |               |                   | ISO 11359-2    |
| Flow : 23 to 60°C                        | 1.2E-5        | cm/cm/°C          |                |
| Transverse : 23 to 60°C                  | 8.3E-5        | cm/cm/°C          |                |
| Electrical                               | Nominal Value | Unit              | Test Method    |
| Surface Resistivity <sup>9</sup>         | > 1.0E+16     | ohms              | IEC 60093      |
| Volume Resistivity                       | > 1.0E+16     | ohms · cm         | IEC 60093      |
| Electric Strength (3.20 mm, in Oil)      | 20            | kV/mm             | IEC 60243-1    |
| Relative Permittivity                    |               |                   | IEC 60250      |
| 50 Hz                                    | 3.60          |                   |                |
| 60 Hz                                    | 3.60          |                   |                |
| 1 MHz                                    | 3.40          |                   |                |
| Dissipation Factor                       |               |                   | IEC 60250      |
| 50 Hz                                    | 6.1E-3        |                   |                |
| 60 Hz                                    | 6.1E-3        |                   |                |
| 1 MHz                                    | 0.016         |                   |                |
| Comparative Tracking Index               |               |                   | IEC 60112      |
| --                                       | 500           | V                 |                |
| Solution B                               | 350           | V                 |                |
| Flammability                             | Nominal Value | Unit              | Test Method    |
| Flame Rating (0.750 mm, Tested by E2P)   | HB            |                   | UL 94          |
| Glow Wire Flammability Index (2.00 mm)   | 650           | °C                | IEC 60695-2-12 |
| Oxygen Index                             | 25            | %                 | ISO 4589-2     |
| Injection                                | Nominal Value | Unit              |                |
| Drying Temperature                       | 75.0 to 85.0  | °C                |                |
| Drying Time                              | 4.0 to 6.0    | hr                |                |
| Suggested Max Moisture                   | 0.20          | %                 |                |
| Rear Temperature                         | 230 to 240    | °C                |                |
| Middle Temperature                       | 240 to 250    | °C                |                |
| Front Temperature                        | 240 to 270    | °C                |                |
| Processing (Melt) Temp                   | 240 to 270    | °C                |                |
| Mold Temperature                         | 60.0 to 80.0  | °C                |                |
| NOTE                                     |               |                   |                |
| 1.                                       | Tensile Bar   |                   |                |

|    |                 |
|----|-----------------|
| 2. | 2.0 mm/min      |
| 3. | 80*10*4 sp=62mm |
| 4. | 80*10*4 sp=62mm |
| 5. | 80*10*4         |
| 6. | 80*10*4         |
| 7. | 120*10*4        |
| 8. | 125°C ±2°C      |
| 9. | ROA             |

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