

# Generic Nylon 6 - Mineral

Polyamide 6

Generic

Message:

This data represents typical values that have been calculated from all products classified as: Generic Nylon 6 - Mineral  
This information is provided for comparative purposes only.

| General Information                        |                |                        |             |
|--------------------------------------------|----------------|------------------------|-------------|
| Filler / Reinforcement                     | Mineral filler |                        |             |
| Physical                                   | Nominal Value  | Unit                   | Test Method |
| Specific Gravity                           |                |                        |             |
| --                                         | 1.32 - 1.49    | g/cm <sup>3</sup>      | ASTM D792   |
| 23°C                                       | 1.21 - 1.50    | g/cm <sup>3</sup>      | ISO 1183    |
| Apparent Density                           | 0.70           | g/cm <sup>3</sup>      | ISO 60      |
| Melt Mass-Flow Rate (MFR) (235°C/2.16 kg)  | 3.0 - 33       | g/10 min               | ASTM D1238  |
| Melt Volume-Flow Rate (MVR) (275°C/5.0 kg) | 28.0 - 90.0    | cm <sup>3</sup> /10min | ISO 1133    |
| Molding Shrinkage                          |                |                        |             |
| Flow: 23°C                                 | 0.28 - 1.2     | %                      | ASTM D955   |
| Transverse flow: 23°C                      | 0.39 - 1.0     | %                      | ASTM D955   |
| 23°C                                       | 0.28 - 1.1     | %                      | ISO 294-4   |
| Water Absorption                           |                |                        |             |
| 23°C, 24 hr                                | 0.060 - 1.3    | %                      | ASTM D570   |
| 23°C, 24 hr                                | 0.89 - 1.2     | %                      | ISO 62      |
| Saturated, 23°C                            | 1.5 - 6.6      | %                      | ASTM D570   |
| Saturated, 23°C                            | 5.4 - 8.0      | %                      | ISO 62      |
| Equilibrium, 23°C                          | 0.85 - 2.1     | %                      | ASTM D570   |
| Equilibrium, 23°C, 50% RH                  | 0.040 - 2.4    | %                      | ISO 62      |
| Viscosity Number                           | 145            | cm <sup>3</sup> /g     | ISO 307     |
| Hardness                                   | Nominal Value  | Unit                   | Test Method |
| Rockwell Hardness                          |                |                        |             |
| 23°C                                       | 75 - 122       |                        | ASTM D785   |
| 23°C                                       | 115 - 119      |                        | ISO 2039-2  |
| Ball Indentation Hardness                  | 169 - 215      | MPa                    | ISO 2039-1  |
| Mechanical                                 | Nominal Value  | Unit                   | Test Method |
| Tensile Modulus                            |                |                        |             |
| 23°C                                       | 3500 - 13800   | MPa                    | ASTM D638   |
| 23°C                                       | 3300 - 9000    | MPa                    | ISO 527-2   |
| Tensile Strength                           |                |                        |             |
| Yield, 23°C                                | 68.6 - 131     | MPa                    | ASTM D638   |

|                                         |               |                   |             |
|-----------------------------------------|---------------|-------------------|-------------|
| Yield, 23°C                             | 63.8 - 92.5   | MPa               | ISO 527-2   |
| Fracture, 23°C                          | 51.0 - 91.0   | MPa               | ASTM D638   |
| Fracture, 23°C                          | 64.2 - 121    | MPa               | ISO 527-2   |
| 23°C                                    | 57.4 - 113    | MPa               | ASTM D638   |
| Tensile Elongation                      |               |                   |             |
| Yield, 23°C                             | 2.0 - 4.3     | %                 | ASTM D638   |
| Yield, 23°C                             | 2.9 - 3.5     | %                 | ISO 527-2   |
| Fracture, 23°C                          | 0.70 - 13     | %                 | ASTM D638   |
| Fracture, 23°C                          | 2.5 - 6.1     | %                 | ISO 527-2   |
| Flexural Modulus                        |               |                   |             |
| 23°C                                    | 3420 - 7490   | MPa               | ASTM D790   |
| 23°C                                    | 2750 - 7880   | MPa               | ISO 178     |
| Flexural Strength                       |               |                   |             |
| 23°C                                    | 95.9 - 193    | MPa               | ASTM D790   |
| 23°C                                    | 88.8 - 174    | MPa               | ISO 178     |
| Yield, 23°C                             | 70.0 - 196    | MPa               | ASTM D790   |
| Fracture, 23°C                          | 75.0 - 130    | MPa               | ASTM D790   |
| Impact                                  | Nominal Value | Unit              | Test Method |
| Charpy Notched Impact Strength          |               |                   |             |
| 23°C                                    | 43.9 - 49.0   | J/m               | ASTM D256   |
| 23°C                                    | 1.8 - 10      | kJ/m <sup>2</sup> | ISO 179     |
| Charpy Unnotched Impact Strength (23°C) | 30 - 51       | kJ/m <sup>2</sup> | ISO 179     |
| Notched Izod Impact                     |               |                   |             |
| 23°C                                    | 26 - 66       | J/m               | ASTM D256   |
| 23°C                                    | 3.0 - 11      | kJ/m <sup>2</sup> | ISO 180     |
| Unnotched Izod Impact                   |               |                   |             |
| 23°C                                    | 44 - 470      | J/m               | ASTM D256   |
| 23°C                                    | 18 - 100      | kJ/m <sup>2</sup> | ISO 180     |
| Thermal                                 | Nominal Value | Unit              | Test Method |
| Deflection Temperature Under Load       |               |                   |             |
| 0.45 MPa, not annealed                  | 189 - 210     | °C                | ASTM D648   |
| 0.45 MPa, not annealed                  | 178 - 217     | °C                | ISO 75-2/B  |
| 1.8 MPa, not annealed                   | 103 - 208     | °C                | ASTM D648   |
| 1.8 MPa, not annealed                   | 66.6 - 206    | °C                | ISO 75-2/A  |
| Continuous Use Temperature              | 67.6 - 162    | °C                | ASTM D794   |
| Vicat Softening Temperature             |               |                   |             |
| --                                      | 190 - 210     | °C                | ASTM D1525  |
| --                                      | 199 - 200     | °C                | ISO 306     |
| Melting Temperature                     |               |                   |             |
| --                                      | 213 - 222     | °C                |             |
| --                                      | 220           | °C                | DSC         |
| --                                      | 220 - 222     | °C                | ISO 11357-3 |

|                                      |                   |          |                |
|--------------------------------------|-------------------|----------|----------------|
| --                                   | 218 - 220         | °C       | ASTM D3418     |
| --                                   | 218 - 223         | °C       | ISO 3146       |
| Linear thermal expansion coefficient |                   |          |                |
| Flow                                 | 2.9E-5 - 5.7E-5   | cm/cm/°C | ASTM D696      |
| Flow                                 | 1.6E-5 - 5.0E-5   | cm/cm/°C | ASTM E831      |
| Flow                                 | 3.4E-5 - 6.6E-5   | cm/cm/°C | ISO 11359-2    |
| Lateral                              | 2.8E-5 - 8.7E-5   | cm/cm/°C | ASTM E831      |
| Lateral                              | 4.9E-5 - 7.1E-5   | cm/cm/°C | ISO 11359-2    |
| Thermal Conductivity                 |                   |          |                |
| 23°C                                 | 1.3 - 10          | W/m/K    | ASTM C177      |
| 23°C                                 | 0.27 - 8.6        | W/m/K    | ISO 8302       |
| RTI Elec                             | 65.0 - 121        | °C       | UL 746         |
| RTI Imp                              | 65.0 - 120        | °C       | UL 746         |
| RTI                                  | 65.0 - 121        | °C       | UL 746         |
| Electrical                           | Nominal Value     | Unit     | Test Method    |
| Surface Resistivity                  |                   |          |                |
| --                                   | 5.1E+4 - 2.5E+15  | ohms     | ASTM D257      |
| --                                   | 1.0E+10 - 1.0E+15 | ohms     | IEC 60093      |
| Volume Resistivity                   |                   |          |                |
| 23°C                                 | 1.0E+11 - 2.5E+15 | ohms·cm  | ASTM D257      |
| 23°C                                 | 1.0E+12 - 2.5E+15 | ohms·cm  | IEC 60093      |
| Dielectric Strength                  |                   |          |                |
| 23°C                                 | 13 - 25           | kV/mm    | ASTM D149      |
| 23°C                                 | 15 - 35           | kV/mm    | IEC 60243-1    |
| Dielectric Constant                  |                   |          |                |
| 23°C                                 | 3.43 - 7.27       |          | ASTM D150      |
| 23°C                                 | 3.50 - 5.00       |          | IEC 60250      |
| 23°C                                 | 3.64              |          | IEC 60250      |
| Dissipation Factor                   |                   |          |                |
| 23°C                                 | 0.042 - 0.083     |          | ASTM D150      |
| 23°C                                 | 5.0E-3 - 0.021    |          | IEC 60250      |
| Arc Resistance                       | 128 - 190         | sec      | ASTM D495      |
| Comparative Tracking Index           | 438 - 600         | V        | IEC 60112      |
| Flammability                         | Nominal Value     | Unit     | Test Method    |
| Burning Rate                         | 0.0 - 100         | mm/min   | ISO 3795       |
| Glow Wire Flammability Index         | 650 - 960         | °C       | IEC 60695-2-12 |
| Glow Wire Ignition Temperature       | 650 - 751         | °C       | IEC 60695-2-13 |
| Oxygen Index                         | 24 - 32           | %        | ISO 4589-2     |
| Injection                            | Nominal Value     | Unit     |                |
| Drying Temperature                   | 79.3 - 90.3       | °C       |                |
| Drying Time                          | 2.9 - 5.3         | hr       |                |
| Suggested Max Moisture               | 0.10 - 0.20       | %        |                |

|                        |              |     |
|------------------------|--------------|-----|
| Suggested Max Regrind  | 18           | %   |
| Hopper Temperature     | 70.0 - 240   | °C  |
| Rear Temperature       | 225 - 275    | °C  |
| Middle Temperature     | 239 - 289    | °C  |
| Front Temperature      | 239 - 286    | °C  |
| Nozzle Temperature     | 238 - 286    | °C  |
| Processing (Melt) Temp | 249 - 293    | °C  |
| Mold Temperature       | 59.6 - 101   | °C  |
| Injection Pressure     | 6.89 - 95.2  | MPa |
| Holding Pressure       | 41.4 - 75.0  | MPa |
| Back Pressure          | 0.172 - 6.03 | MPa |
| Screw Speed            | 40 - 91      | rpm |

#### Injection instructions

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