

# 4PET® 9L22120 HL

Polyethylene Terephthalate

4Plas

Message:

4PET 9L22120 HL is a Standard Flow 20% Glass Fibre Reinforced Heat Stabilised, Lubricated PET

| General Information                                       |                                                       |                   |             |
|-----------------------------------------------------------|-------------------------------------------------------|-------------------|-------------|
| Filler / Reinforcement                                    | Glass fiber reinforced material, 20% filler by weight |                   |             |
| Additive                                                  | heat stabilizer                                       |                   |             |
|                                                           | Lubricant                                             |                   |             |
| Features                                                  | Thermal Stability                                     |                   |             |
|                                                           | Lubrication                                           |                   |             |
| Processing Method                                         | Injection molding                                     |                   |             |
| Physical                                                  | Nominal Value                                         | Unit              | Test Method |
| Density                                                   | 1.48                                                  | g/cm <sup>3</sup> | ISO 1183    |
| Molding Shrinkage                                         |                                                       |                   |             |
| Vertical flow direction                                   | 1.0                                                   | %                 |             |
| Flow direction                                            | 0.30                                                  | %                 |             |
| Water Absorption <sup>1</sup> (Equilibrium, 23°C, 50% RH) | 0.20                                                  | %                 | ISO 62      |
| Moisture Content                                          | < 800                                                 | ppm               | ISO 960     |
| Mechanical                                                | Nominal Value                                         | Unit              | Test Method |
| Tensile Modulus (23°C)                                    | 8000                                                  | MPa               | ISO 527-2/5 |
| Tensile Stress (Break, 23°C)                              | 120                                                   | MPa               | ISO 527-2/5 |
| Tensile Strain (Break, 23°C)                              | 2.5                                                   | %                 | ISO 527-2/5 |
| Impact                                                    | Nominal Value                                         | Unit              | Test Method |
| Charpy Notched Impact Strength                            |                                                       |                   | ISO 179/1eA |
| -30°C                                                     | 7.0                                                   | kJ/m <sup>2</sup> | ISO 179/1eA |
| 23°C                                                      | 8.0                                                   | kJ/m <sup>2</sup> | ISO 179/1eA |
| Charpy Unnotched Impact Strength                          |                                                       |                   | ISO 179/1eU |
| -30°C                                                     | 25                                                    | kJ/m <sup>2</sup> | ISO 179/1eU |
| 23°C                                                      | 30                                                    | kJ/m <sup>2</sup> | ISO 179/1eU |
| Notched Izod Impact                                       |                                                       |                   | ISO 180/1A  |
| -30°C                                                     | 6.0                                                   | kJ/m <sup>2</sup> | ISO 180/1A  |
| 23°C                                                      | 7.0                                                   | kJ/m <sup>2</sup> | ISO 180/1A  |
| Thermal                                                   | Nominal Value                                         | Unit              | Test Method |
| Heat Deflection Temperature                               |                                                       |                   |             |
| 0.45 MPa, not annealed                                    | 230                                                   | °C                | ISO 75-2/B  |

| 1.8 MPa, not annealed                                  | 200           | °C      | ISO 75-2/A     |
|--------------------------------------------------------|---------------|---------|----------------|
| Vicat Softening Temperature                            | 220           | °C      | ISO 306/B      |
| Melting Temperature <sup>2</sup>                       | 250           | °C      | ISO 11357      |
| Electrical                                             | Nominal Value | Unit    | Test Method    |
| Surface Resistivity                                    | 1.0E+14       | ohms    | IEC 60093      |
| Volume Resistivity                                     | 1.0E+16       | ohms·cm | IEC 60093      |
| Comparative Tracking Index                             | 215           | V       | IEC 60112      |
| Flammability                                           | Nominal Value | Unit    | Test Method    |
| Flame Rating                                           |               |         | UL 94          |
| 1.60 mm                                                | HB            |         | UL 94          |
| 3.20 mm                                                | HB            |         | UL 94          |
| Glow Wire Ignition Temperature (2.00 mm)               | 750           | °C      | IEC 60695-2-13 |
| Injection                                              | Nominal Value | Unit    |                |
| Drying Temperature                                     | 120 - 140     | °C      |                |
| Drying Time                                            | 2.0 - 4.0     | hr      |                |
| Suggested Max Moisture                                 | 0.020         | %       |                |
| Processing (Melt) Temp                                 | 270 - 290     | °C      |                |
| Mold Temperature                                       | 90.0 - 140    | °C      |                |
| Injection Rate                                         | Fast          |         |                |
| Holding Pressure                                       | 60.0 - 100    | MPa     |                |
| Screw Speed                                            | 200           | rpm     |                |
| Injection instructions                                 |               |         |                |
| Feed Throat Temperature: 50 - 70 °C Back Pressure: Low |               |         |                |
| NOTE                                                   |               |         |                |
| 1.                                                     | 24 Hrs        |         |                |
| 2.                                                     | 10 K/min      |         |                |

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