

# 4MID® 9A22140 HR

Polyamide 66

4Plas

## Message:

4MID 9A22140 HR is a Standard Flow 40% Glass Fibre Reinforced Hydrolysis Resistant PA66

| General Information                                       |                                                       |                   |             |
|-----------------------------------------------------------|-------------------------------------------------------|-------------------|-------------|
| Filler / Reinforcement                                    | Glass fiber reinforced material, 40% filler by weight |                   |             |
| Features                                                  | Hydrolysis resistance                                 |                   |             |
| Processing Method                                         | Injection molding                                     |                   |             |
| Physical                                                  | Nominal Value                                         | Unit              | Test Method |
| Density                                                   | 1.45                                                  | g/cm <sup>3</sup> | ISO 1183    |
| Molding Shrinkage                                         |                                                       |                   |             |
| Vertical flow direction                                   | 1.0                                                   | %                 |             |
| Flow direction                                            | 0.20                                                  | %                 |             |
| Water Absorption <sup>1</sup> (Equilibrium, 23°C, 50% RH) | 1.6                                                   | %                 | ISO 62      |
| Moisture Content                                          | < 2000                                                | ppm               | ISO 960     |
| Mechanical                                                | Nominal Value                                         | Unit              | Test Method |
| Tensile Modulus (23°C)                                    | 12500                                                 | MPa               | ISO 527-2/5 |
| Tensile Stress (Break, 23°C)                              | 200                                                   | MPa               | ISO 527-2/5 |
| Tensile Strain (Break, 23°C)                              | 2.5                                                   | %                 | ISO 527-2/5 |
| Impact                                                    | Nominal Value                                         | Unit              | Test Method |
| Notched Izod Impact                                       |                                                       |                   | ISO 180/1A  |
| -30°C                                                     | 11                                                    | kJ/m <sup>2</sup> | ISO 180/1A  |
| 23°C                                                      | 15                                                    | kJ/m <sup>2</sup> | ISO 180/1A  |
| Thermal                                                   | Nominal Value                                         | Unit              | Test Method |
| Heat Deflection Temperature                               |                                                       |                   |             |
| 0.45 MPa, not annealed                                    | 260                                                   | °C                | ISO 75-2/B  |
| 1.8 MPa, not annealed                                     | 255                                                   | °C                | ISO 75-2/A  |
| Vicat Softening Temperature                               | 250                                                   | °C                | ISO 306/B   |
| Melting Temperature <sup>2</sup>                          | 262                                                   | °C                | ISO 11357   |
| Electrical                                                | Nominal Value                                         | Unit              | Test Method |
| Surface Resistivity                                       | 1.0E+13                                               | ohms              | IEC 60093   |
| Volume Resistivity                                        | 1.0E+15                                               | ohms · cm         | IEC 60093   |
| Comparative Tracking Index                                | 500                                                   | 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 Flammability Index (2.00 mm)                 | 650           | °C   | IEC 60695-2-12 |
|--------------------------------------------------------|---------------|------|----------------|
| Injection                                              | Nominal Value | Unit |                |
| Drying Temperature                                     | 80.0          | °C   |                |
| Drying Time                                            | 2.0           | hr   |                |
| Suggested Max Moisture                                 | 0.20          | %    |                |
| Processing (Melt) Temp                                 | 270 - 300     | °C   |                |
| Mold Temperature                                       | 70.0 - 110    | °C   |                |
| Injection Rate                                         | Fast          |      |                |
| Holding Pressure                                       | 50.0 - 100    | MPa  |                |
| Screw Speed                                            | 200           | rpm  |                |
| Injection instructions                                 |               |      |                |
| Feed Throat Temperature: 60 - 80 °C Back Pressure: Low |               |      |                |
| NOTE                                                   |               |      |                |
| 1.                                                     | 24 Hrs        |      |                |
| 2.                                                     | 10 K/min      |      |                |

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