

# Promyde® B30 P2 G10 MI

Polyamide 6

NUREL, S.A.

## Message:

PROMYDE® B30 P2 G10 MI is a Polyamide 6 injection moulding grade with 10% glass fibre, impact modified and heat stabilized.

### CHARACTERISTICS

This material is distinguished by high mechanical strength and impact resistance. Parts made from Promyde ® B30 P2 G10 MI have particularly high dimensional stability and creep strength.

### APPLICATIONS

Promyde B30 P2 G10 MI is used in a wide range of applications where a combination of mechanical properties, thermal resistance and impact resistance is needed.

| General Information                        |             |                                                                                                                                                 |                        |              |
|--------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------|
| Filler / Reinforcement                     |             | Glass fiber reinforced material, 10% filler by weight                                                                                           |                        |              |
| Additive                                   |             | Impact modifier<br>heat stabilizer                                                                                                              |                        |              |
| Features                                   |             | Good dimensional stability<br>High strength<br>Impact resistance, high<br>Good creep resistance<br>Thermal Stability<br>Thermal stability, good |                        |              |
| Processing Method                          |             | Injection molding                                                                                                                               |                        |              |
| Physical                                   | Dry         | Conditioned                                                                                                                                     | Unit                   | Test Method  |
| Density (23°C)                             | 1.19        | --                                                                                                                                              | g/cm <sup>3</sup>      | ISO 1183     |
| Melt Volume-Flow Rate (MVR) (275°C/5.0 kg) | 40.0        | --                                                                                                                                              | cm <sup>3</sup> /10min | ISO 1133     |
| Molding Shrinkage                          |             |                                                                                                                                                 |                        |              |
| Vertical flow direction                    | 0.60 - 0.90 | --                                                                                                                                              | %                      |              |
| Flow direction                             | 0.40 - 0.70 | --                                                                                                                                              | %                      |              |
| Water Absorption                           |             |                                                                                                                                                 |                        | ISO 62       |
| Saturated, 23°C                            | 8.0         | --                                                                                                                                              | %                      | ISO 62       |
| Equilibrium, 23°C, 50% RH                  | 2.5         | --                                                                                                                                              | %                      | ISO 62       |
| Viscosity Number                           | 145         | --                                                                                                                                              | cm <sup>3</sup> /g     | ISO 307      |
| Mechanical                                 | Dry         | Conditioned                                                                                                                                     | Unit                   | Test Method  |
| Tensile Modulus (23°C)                     | 4000        | 2500                                                                                                                                            | MPa                    | ISO 527-2/1  |
| Tensile Stress (23°C)                      | 100         | 60.0                                                                                                                                            | MPa                    | ISO 527-2/50 |
| Tensile Strain (Break, 23°C)               | 4.0         | 8.0                                                                                                                                             | %                      | ISO 527-2/50 |
| Flexural Modulus <sup>1</sup> (23°C)       | 4100        | 2300                                                                                                                                            | MPa                    | ISO 178      |
| Flexural Stress <sup>2</sup> (23°C)        | 150         | 90.0                                                                                                                                            | MPa                    | ISO 178      |

| Impact                               | Dry           | Conditioned | Unit              | Test Method |
|--------------------------------------|---------------|-------------|-------------------|-------------|
| Charpy Notched Impact Strength       |               |             |                   | ISO 179/1eA |
| -30°C                                | 8.0           | --          | kJ/m <sup>2</sup> | ISO 179/1eA |
| 23°C                                 | 10            | 19          | kJ/m <sup>2</sup> | ISO 179/1eA |
| Charpy Unnotched Impact Strength     |               |             |                   | ISO 179/1eU |
| -30°C                                | 50            | --          | kJ/m <sup>2</sup> | ISO 179/1eU |
| 23°C                                 | 60            | 80          | kJ/m <sup>2</sup> | ISO 179/1eU |
| Thermal                              | Dry           | Conditioned | Unit              | Test Method |
| Heat Deflection Temperature          |               |             |                   |             |
| 0.45 MPa, not annealed               | 200           | --          | °C                | ISO 75-2/B  |
| 1.8 MPa, not annealed                | 180           | --          | °C                | ISO 75-2/A  |
| Melting Temperature (DSC)<br>3       | 222           | --          | °C                | ISO 3146    |
| Linear thermal expansion coefficient |               |             |                   | ISO 11359-2 |
| Flow: 23 to 80°C                     | 3.5E-5        | --          | cm/cm/°C          | ISO 11359-2 |
| Lateral: 23 to 80°C                  | 7.5E-5        | --          | cm/cm/°C          | ISO 11359-2 |
| Electrical                           | Dry           | Conditioned | Unit              | Test Method |
| Surface Resistivity                  | 1.0E+13       | 1.0E+10     | ohms              | IEC 60093   |
| Volume Resistivity                   | 1.0E+15       | 1.0E+12     | ohms·cm           | IEC 60093   |
| Dielectric Constant (1 MHz)          | 3.80          | 7.00        |                   | IEC 60250   |
| Dissipation Factor (1 MHz)           | 0.025         | 0.24        |                   | IEC 60250   |
| Comparative Tracking Index           | 500           | --          | V                 | IEC 60112   |
| Flammability                         | Dry           | Conditioned | Unit              | Test Method |
| Flame Rating (1.50 mm)               | HB            | --          |                   | UL 94       |
| Injection                            | Dry           | Unit        |                   |             |
| Drying Temperature                   | < 80.0        |             | °C                |             |
| Drying Time                          | 4.0 - 6.0     |             | hr                |             |
| Processing (Melt) Temp               | 250 - 270     |             | °C                |             |
| Mold Temperature                     | 40.0 - 80.0   |             | °C                |             |
| Injection Rate                       | Moderate-Fast |             |                   |             |
| Injection instructions               |               |             |                   |             |
| Back Pressure: moderate              |               |             |                   |             |
| NOTE                                 |               |             |                   |             |
| 1.                                   | 2.0 mm/min    |             |                   |             |
| 2.                                   | 2.0 mm/min    |             |                   |             |
| 3.                                   | 10°C/min      |             |                   |             |

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