

# UBESTA 3020 GX9

Polyamide 12

UBE Engineering Plastics, S.A.

## Message:

UBESTA 3020 GX9 is a glass fibre reinforced Polyamide 12 for injection moulding application. Typical application is quick connectors in fuel line systems.

| General Information                       |                                                       |                   |             |
|-------------------------------------------|-------------------------------------------------------|-------------------|-------------|
| Filler / Reinforcement                    | Glass fiber reinforced material, 23% filler by weight |                   |             |
| Features                                  | Good formability                                      |                   |             |
|                                           | Good liquidity                                        |                   |             |
|                                           | Heat resistance, high                                 |                   |             |
|                                           | Excellent appearance                                  |                   |             |
| Uses                                      | Fuel line                                             |                   |             |
| Appearance                                | Natural color                                         |                   |             |
| Forms                                     | Particle                                              |                   |             |
| Processing Method                         | Injection molding                                     |                   |             |
| Physical                                  | Nominal Value                                         | Unit              | Test Method |
| Density                                   | 1.16                                                  | g/cm <sup>3</sup> | ISO 1183    |
| Melt Mass-Flow Rate (MFR) (235°C/2.16 kg) | 4.0                                                   | g/10 min          | ISO 1133    |
| Molding Shrinkage                         |                                                       |                   | ISO 294-4   |
| Vertical flow direction                   | 0.70                                                  | %                 | ISO 294-4   |
| Flow direction                            | 0.20                                                  | %                 | ISO 294-4   |
| Water Absorption (23°C, 24 hr)            | 0.40                                                  | %                 | ISO 62      |
| Hardness                                  | Nominal Value                                         | Unit              | Test Method |
| Rockwell Hardness (R-Scale)               | 110                                                   |                   | ISO 2039-2  |
| Mechanical                                | Nominal Value                                         | Unit              | Test Method |
| Tensile Stress (Yield)                    | 103                                                   | MPa               | ISO 527-2   |
| Tensile Strain (Break)                    | 6.0                                                   | %                 | ISO 527-2   |
| Flexural Modulus                          | 4900                                                  | MPa               | ISO 178     |
| Flexural Stress                           | 125                                                   | MPa               | ISO 178     |
| Impact                                    | Nominal Value                                         | Unit              | Test Method |
| Charpy Notched Impact Strength            |                                                       |                   | ISO 179/1eA |
| -40°C, complete fracture                  | 11                                                    | kJ/m <sup>2</sup> | ISO 179/1eA |
| 23°C, complete fracture                   | 19                                                    | kJ/m <sup>2</sup> | ISO 179/1eA |
| Thermal                                   | Nominal Value                                         | Unit              | Test Method |
| Heat Deflection Temperature               |                                                       |                   |             |
| 0.45 MPa, not annealed                    | 176                                                   | °C                | ISO 75-2/B  |
| 1.8 MPa, not annealed                     | 159                                                   | °C                | ISO 75-2/A  |

|                           |               |          |             |
|---------------------------|---------------|----------|-------------|
| Melting Temperature (DSC) | 178           | °C       | ISO 3146    |
| CLTE - Flow               | 3.0E-5        | cm/cm/°C | ISO 11359-2 |
| Electrical                | Nominal Value | Unit     | Test Method |
| Volume Resistivity        | 1.0E+14       | ohms·cm  | IEC 60093   |
| Additional Information    |               |          |             |

The value listed as Melting Temperature, ISO 3146, was tested in accordance with ISO 11357.Abrasion Loss, ISO 9352, CS-17, 1000 rev.: 12 mg

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