

# Reny® 1027

Polyarylamide

Mitsubishi Engineering-Plastics Corp

## Message:

Reny® 1027 is a Polyarylamide (PARA) material filled with 50% glass fiber. It is available in Asia Pacific, Europe, or North America for injection molding. Important attributes of Reny® 1027 are:

Flame Rated

Good Weather Resistance

| General Information                            |       |                                  |                        |             |
|------------------------------------------------|-------|----------------------------------|------------------------|-------------|
| Filler / Reinforcement                         |       | Glass Fiber,50% Filler by Weight |                        |             |
| Features                                       |       | Good Weather Resistance          |                        |             |
| Processing Method                              |       | Injection Molding                |                        |             |
| Physical                                       | Dry   | Conditioned                      | Unit                   | Test Method |
| Density                                        | 1.63  | --                               | g/cm <sup>3</sup>      | ISO 1183    |
| Melt Mass-Flow Rate (MFR)<br>(275°C/2.16 kg)   | 1.6   | --                               | g/10 min               | ISO 1133    |
| Melt Volume-Flow Rate<br>(MVR) (275°C/2.16 kg) | 1.10  | --                               | cm <sup>3</sup> /10min | ISO 1133    |
| Molding Shrinkage                              | 0.40  | --                               | %                      |             |
| Water Absorption                               |       |                                  |                        | ISO 62      |
| Saturation, 23°C                               | 0.14  | --                               | %                      |             |
| Equilibrium, 23°C, 50%<br>RH                   | 0.80  | --                               | %                      |             |
| Mechanical                                     | Dry   | Conditioned                      | Unit                   | Test Method |
| Tensile Modulus                                | 18700 | 17200                            | MPa                    | ISO 527-2   |
| Tensile Stress (Break)                         | 227   | 197                              | MPa                    | ISO 527-2   |
| Tensile Strain (Break)                         | 1.6   | 1.7                              | %                      | ISO 527-2   |
| Flexural Modulus                               | 18300 | 15900                            | MPa                    | ISO 178     |
| Flexural Stress                                | 329   | 292                              | MPa                    | ISO 178     |
| Impact                                         | Dry   | Conditioned                      | Unit                   | Test Method |
| Charpy Notched Impact<br>Strength (23°C)       | 9.0   | 9.2                              | kJ/m <sup>2</sup>      | ISO 179     |
| Charpy Unnotched Impact<br>Strength (23°C)     | 45    | 45                               | kJ/m <sup>2</sup>      | ISO 179     |
| Thermal                                        | Dry   | Conditioned                      | Unit                   | Test Method |
| Heat Deflection<br>Temperature                 |       |                                  |                        |             |
| 0.45 MPa, Unannealed                           | 233   | 231                              | °C                     | ISO 75-2/B  |
| 1.8 MPa, Unannealed                            | 221   | 215                              | °C                     | ISO 75-2/A  |
| Flammability                                   | Dry   | Conditioned                      | Test Method            |             |
| Flame Rating                                   | HB    | --                               | UL 94                  |             |
| Injection                                      | Dry   | Unit                             |                        |             |

|                    |               |     |
|--------------------|---------------|-----|
| Drying Temperature |               |     |
| A                  | 120           | °C  |
| B                  | 80.0          | °C  |
| Drying Time        |               |     |
| A                  | > 3.0         | hr  |
| B                  | > 12          | hr  |
| Rear Temperature   | 270           | °C  |
| Middle Temperature | 275           | °C  |
| Front Temperature  | 280           | °C  |
| Nozzle Temperature | 280           | °C  |
| Mold Temperature   | 120 to 140    | °C  |
| Injection Pressure | 20.0 to 150   | MPa |
| Injection Rate     | Moderate-Fast |     |
| Screw Speed        | 60 to 150     | rpm |

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