

# Estaloc® 59104 RETPU

Thermoplastic Polyurethane Elastomer (Polyester)

Lubrizol Advanced Materials, Inc.

## Message:

Type: Estaloc® 59104 RETPU is a Polyester-Type Reinforced Engineering Thermoplastic (RETPU).

Features: Fast cycling, dimensional stability, durability, aesthetics, low temperature impact

Uses: Injection Molding

| General Information                  |                                   |                   |             |
|--------------------------------------|-----------------------------------|-------------------|-------------|
| UL YellowCard                        | E106426-218376                    |                   |             |
| Filler / Reinforcement               | Filler                            |                   |             |
| Features                             | Good dimensional stability        |                   |             |
|                                      | Workability, good                 |                   |             |
|                                      | Fast molding cycle                |                   |             |
|                                      | Good adhesion                     |                   |             |
|                                      | Low temperature impact resistance |                   |             |
|                                      | Durability                        |                   |             |
|                                      | Excellent appearance              |                   |             |
| RoHS Compliance                      | RoHS compliance                   |                   |             |
| Forms                                | Particle                          |                   |             |
| Processing Method                    | Injection molding                 |                   |             |
| Physical                             | Nominal Value                     | Unit              | Test Method |
| Specific Gravity                     | 1.31                              | g/cm <sup>3</sup> | ASTM D792   |
| Hardness                             | Nominal Value                     | Unit              | Test Method |
| Durometer Hardness (Shore D, 5 sec)  | 65 - 71                           |                   | ASTM D2240  |
| Mechanical                           | Nominal Value                     | Unit              | Test Method |
| Tensile Strength (0.762 mm)          | 40.0                              | MPa               | ASTM D638   |
| Tensile Elongation (Break, 0.762 mm) | 40                                | %                 | ASTM D638   |
| Flexural Modulus (0.762 mm)          | 1210                              | MPa               | ASTM D790   |
| Flexural Strength (0.762 mm)         | 47.0                              | MPa               | ASTM D790   |
| Impact                               | Nominal Value                     | Unit              | Test Method |
| Notched Izod Impact                  |                                   |                   | ASTM D256   |
| -40°C, 0.762 mm                      | 290                               | J/m               | ASTM D256   |
| 23°C, 0.762 mm                       | 690                               | J/m               | ASTM D256   |
| Thermal                              | Nominal Value                     | Unit              | Test Method |
| Deflection Temperature Under Load    |                                   |                   | ASTM D648   |
| 0.45 MPa, not annealed               | 95.0                              | °C                | ASTM D648   |
| 1.8 MPa, not annealed                | 61.0                              | °C                | ASTM D648   |
| Injection                            | Nominal Value                     | Unit              |             |
| Drying Temperature                   | 104                               | °C                |             |

|                        |               |     |
|------------------------|---------------|-----|
| Drying Time            | 2.0 - 4.0     | hr  |
| Suggested Max Moisture | 0.020         | %   |
| Rear Temperature       | 210           | °C  |
| Middle Temperature     | 215           | °C  |
| Front Temperature      | 221           | °C  |
| Nozzle Temperature     | 227           | °C  |
| Processing (Melt) Temp | 227           | °C  |
| Injection Pressure     | 69.0 - 103    | MPa |
| Injection Rate         | Slow-Moderate |     |
| Holding Pressure       | 35.0 - 69.0   | MPa |
| Back Pressure          | 0.345         | MPa |
| Screw Speed            | 30 - 80       | rpm |

#### Injection instructions

Air Dew Point: -40°C

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