

# Estane® 2103-80AEF TPU

Thermoplastic Polyurethane Elastomer (Polyether)

Lubrizol Advanced Materials, Inc.

## Message:

2103-80AEF is a thermoplastic polyurethane elastomer.

Feature: Film resin for injection blow molding

| General Information |                           |  |  |
|---------------------|---------------------------|--|--|
| Uses                | Films                     |  |  |
| Forms               | Particle                  |  |  |
| Processing Method   | Injection blowing molding |  |  |
|                     | Injection molding         |  |  |

| Physical                                 | Nominal Value | Unit              | Test Method |
|------------------------------------------|---------------|-------------------|-------------|
| Specific Gravity                         | 1.13          | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (224°C/8.7 kg) | 13            | g/10 min          | ASTM D1238  |
| Molding Shrinkage                        |               |                   | ASTM D955   |
| Flow                                     | 0.20 - 0.60   | %                 | ASTM D955   |
| Transverse flow                          | 0.60 - 0.70   | %                 | ASTM D955   |

| Hardness                     | Nominal Value | Unit | Test Method |
|------------------------------|---------------|------|-------------|
| Durometer Hardness (Shore A) | 86            |      | ASTM D2240  |

| Elastomers                            | Nominal Value | Unit | Test Method |
|---------------------------------------|---------------|------|-------------|
| Tensile Stress                        |               |      | ASTM D412   |
| 50% strain, 3.20mm                    | 4.80          | MPa  | ASTM D412   |
| 100% strain, 3.20mm                   | 6.40          | MPa  | ASTM D412   |
| 300% strain, 3.20mm                   | 12.3          | MPa  | ASTM D412   |
| Tensile Strength (Break, 3.20 mm)     | 34.5          | MPa  | ASTM D412   |
| Tensile Elongation (Break, 3.20 mm)   | 580           | %    | ASTM D412   |
| Tensile Elongation at Break (3.20 mm) | 40            | %    | ASTM D412   |
| Tear Strength <sup>1</sup> (3.20 mm)  | 80.6          | kN/m | ASTM D624   |
| Compression Set                       |               |      | ASTM D395B  |
| 25°C, 22 hr                           | 30            | %    | ASTM D395B  |
| 70°C, 22 hr                           | 33            | %    | ASTM D395B  |

| Thermal                      | Nominal Value | Unit     | Test Method             |
|------------------------------|---------------|----------|-------------------------|
| Glass Transition Temperature | -42.0         | °C       | DSC                     |
| Vicat Softening Temperature  | 81.1          | °C       | ASTM D1525 <sup>2</sup> |
| CLTE - Flow                  | 1.7E-4        | cm/cm/°C | ASTM D696               |

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature     | 82.0 - 93.0   | °C   |
| Processing (Melt) Temp | 182 - 199     | °C   |

|                        |                            |      |
|------------------------|----------------------------|------|
| Mold Temperature       | 16.0 - 60.0                | °C   |
| Injection instructions |                            |      |
| Air Dew Point: <-40°C  |                            |      |
| Extrusion              | Nominal Value              | Unit |
| Drying Temperature     | 82.0 - 93.0                | °C   |
| Melt Temperature       | 182 - 199                  | °C   |
| Extrusion instructions |                            |      |
| Air Dew Point: <-40°C  |                            |      |
| NOTE                   |                            |      |
| 1.                     | C mould                    |      |
| 2.                     | 标准 B (120°C/h), 压力 1 (10N) |      |

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