

# Telcar® TL-1446G

Thermoplastic Elastomer

Teknor Apex Company

## Message:

Telcar TL-1446G is a flame retardant thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperture range. Telcar TL-1446G is a high durometer grade that is RoHS compliant. This grade is UL listed and is suitable for both injection molding and extrusion.

| General Information |                                    |
|---------------------|------------------------------------|
| UL YellowCard       | E54709-100913660                   |
| Features            | High specific gravity              |
|                     | High tensile strength              |
|                     | High density                       |
|                     | smoothness                         |
|                     | Insulation                         |
|                     | Good formability                   |
|                     | Good electrical performance        |
|                     | Good flexibility                   |
|                     | Good coloring                      |
|                     | High liquidity                     |
|                     | Halogenated                        |
|                     | General                            |
|                     | High hardness                      |
|                     | Flame retardancy                   |
| Uses                | Flame Retardant Insulation         |
|                     | Halogenated Insulation             |
|                     | Electrical/Electronic Applications |
|                     | Electrical components              |
|                     | Wire and cable applications        |
|                     | Industrial components              |
|                     | Industrial application             |
|                     | Insulating material                |
|                     | Connector                          |
|                     | General                            |
| Agency Ratings      | UL 94 . QMFZ2.E54709               |
| RoHS Compliance     | RoHS compliance                    |
| Appearance          | Opacity                            |
| Forms               | Particle                           |
| Processing Method   | Extrusion                          |

## Injection molding

| Physical   | Nominal Value | Unit              | Test Method |
|--|---------------|-------------------|-------------|
| Specific Gravity   | 1.17          | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR)                                    |               |                   | ASTM D1238  |
| 190°C/2.16 kg  | 3.5           | g/10 min          | ASTM D1238  |
| 200°C/5.0 kg   | 37            | g/10 min          | ASTM D1238  |
| Molding Shrinkage  |               |                   | ASTM D955   |
| Flow: 3.18mm   | 2.0           | %                 | ASTM D955   |
| Transverse flow: 3.18mm                                      | 2.0           | %                 | ASTM D955   |
| Hardness   | Nominal Value | Unit              | Test Method |
| Durometer Hardness   |               |                   | ASTM D2240  |
| Shaw A   | 95            |                   | ASTM D2240  |
| Shaw D   | 40            |                   | ASTM D2240  |
| Elastomers   | Nominal Value | Unit              | Test Method |
| Tensile Stress <sup>1</sup>                                  |               |                   | ASTM D412   |
| 100% strain, 3.05mm <sup>2</sup>                             | 7.93          | MPa               | ASTM D412   |
| 300% strain, 3.05mm <sup>3</sup>                             | 9.48          | MPa               | ASTM D412   |
| Tensile Strength (fracture, 3.05mm)                          | 14.5          | MPa               | ASTM D412   |
| Tensile Elongation (fracture, 3.05mm)                        | 550           | %                 | ASTM D412   |
| Aging  | Nominal Value | Unit              | Test Method |
| Change in Tensile Strength in Air (158°C, 168 hr)            | -20           | %                 | ASTM D573   |
| Change in Ultimate Elongation in Air (158°C, 168 hr)         | -42           | %                 | ASTM D573   |
| Change in Tensile Strength (60°C, 168 hr, in IRM 902 Oil)    | 2.0           | %                 | ASTM D471   |
| Change in Ultimate Elongation (60°C, 168 hr, in IRM 902 Oil) | 6.0           | %                 | ASTM D471   |
| Thermal  | Nominal Value | Unit              | Test Method |
| Brittleness Temperature                                      | -56.0         | °C                | ASTM D746   |
| RTI Elec   | 50.0          | °C                | UL 746      |
| RTI  | 50.0          | °C                | UL 746      |
| Electrical   | Nominal Value | Unit              | Test Method |
| Dielectric Constant (1 kHz)                                  | 2.30          |                   | ASTM D150   |
| Flammability   | Nominal Value | Unit              | Test Method |
| Flame Rating (3.60 mm, All Colors)                           | V-0           |                   | UL 94       |
| Oxygen Index   | 25            | %                 | ASTM D2863  |
| Injection  | Nominal Value | Unit              |             |
| Rear Temperature   | 171 - 193     | °C                |             |
| Middle Temperature   | 177 - 199     | °C                |             |
| Front Temperature  | 182 - 204     | °C                |             |
| Nozzle Temperature   | 188 - 210     | °C                |             |

|                        |               |      |
|------------------------|---------------|------|
| Processing (Melt) Temp | 188 - 210     | °C   |
| Mold Temperature       | 25.0 - 65.6   | °C   |
| Injection Pressure     | 1.38 - 6.89   | MPa  |
| Injection Rate         | Moderate-Fast |      |
| Back Pressure          | 0.172 - 0.345 | MPa  |
| Screw Speed            | 50 - 100      | rpm  |
| Cushion                | 3.81 - 25.4   | mm   |
| Extrusion              | Nominal Value | Unit |
| Cylinder Zone 1 Temp.  | 166 - 188     | °C   |
| Cylinder Zone 2 Temp.  | 171 - 193     | °C   |
| Cylinder Zone 3 Temp.  | 177 - 199     | °C   |
| Cylinder Zone 5 Temp.  | 182 - 204     | °C   |
| Die Temperature        | 190 - 210     | °C   |
| Extrusion instructions |               |      |
| 螺杆转速30 - 100 rpm       |               |      |
| NOTE                   |               |      |

- |    |                                      |
|----|--------------------------------------|
| 1. | die cut from injection molded plaque |
| 2. | Mouth die C, 510mm/min               |
| 3. | C mold, 510mm/min                    |

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

#### Recommended distributors for this material

### Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

