

# Telcar® TELC 3050

Thermoplastic Elastomer

Teknor Apex Company

## Message:

Telcar®TL-3050 is a thermoplastic elastomer (TPE) material. This product is available in North America, Africa and the Middle East, Latin America, Europe or Asia Pacific. The processing method is extrusion or injection molding. Telcar®The main characteristics of the TL-3050 are: high hardness.  
Typical application areas include:

Wire and cable  
industrial applications

| General Information |                                                                                                           |
|---------------------|-----------------------------------------------------------------------------------------------------------|
| Features            | Low Specific Gravity<br>Without Fillers<br>Low density<br>Low liquidity<br>High hardness                  |
| Uses                | Building wire insulation material<br>Wire and cable applications<br>Wire sheath<br>Industrial application |
| Appearance          | Translucent                                                                                               |
| Forms               | Particle                                                                                                  |
| Processing Method   | Extrusion<br>Injection molding                                                                            |

| Physical                                  | Nominal Value | Unit              | Test Method |
|-------------------------------------------|---------------|-------------------|-------------|
| Specific Gravity                          | 0.888         | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (230°C/2.16 kg) | 1.5           | g/10 min          | ASTM D1238  |
| Hardness                                  | Nominal Value | Unit              | Test Method |
| Durometer Hardness (Shore D, 5 sec)       | 48            |                   | ASTM D2240  |
| Mechanical                                | Nominal Value | Unit              | Test Method |
| Flexural Modulus                          | 276           | MPa               | ASTM D790   |
| Elastomers                                | Nominal Value | Unit              | Test Method |
| Tensile Stress                            |               |                   | ASTM D412   |
| Transverse flow: 100% strain              | 8.15          | MPa               | ASTM D412   |
| Flow: 100% strain                         | 10.1          | MPa               | ASTM D412   |
| Tensile Strength                          |               |                   | ASTM D412   |
| Transverse flow: Fracture                 | 12.1          | MPa               | ASTM D412   |
| Flow: Fracture                            | 11.7          | MPa               | ASTM D412   |

|                                                                                                               |               |        |             |
|---------------------------------------------------------------------------------------------------------------|---------------|--------|-------------|
| Tensile Elongation                                                                                            |               |        | ASTM D412   |
| Transverse flow: Fracture                                                                                     | 640           | %      | ASTM D412   |
| Flow: Fracture                                                                                                | 530           | %      | ASTM D412   |
| Tear Strength - Across Flow <sup>1</sup>                                                                      | 90.8          | kN/m   | ASTM D624   |
| Aging                                                                                                         | Nominal Value | Unit   | Test Method |
| Change in Tensile Strength in Air - Across Flow                                                               |               |        | ISO 188     |
| 110°C, 1008 hr                                                                                                | -1.3          | %      | ISO 188     |
| 125°C, 168 hr                                                                                                 | 0.60          | %      | ISO 188     |
| Changes in tensile stress upon fracture in air-Transverse flow                                                |               |        | ISO 188     |
| 110°C, 1008 hr                                                                                                | 7.6           | %      | ISO 188     |
| 125°C, 168 hr                                                                                                 | 9.4           | %      | ISO 188     |
| Change in Shore Hardness in Air (support d, 110°C, 1008 hr)                                                   |               |        | ISO 188     |
| 3.3                                                                                                           |               |        |             |
| Thermal                                                                                                       | Nominal Value | Unit   | Test Method |
| Brittleness Temperature                                                                                       | < -60.0       | °C     | ASTM D746   |
| Electrical                                                                                                    | Nominal Value |        | Test Method |
| Dielectric Constant (1 kHz)                                                                                   | 2.10          |        | ASTM D150   |
| Fill Analysis                                                                                                 | Nominal Value | Unit   | Test Method |
| Apparent Viscosity (200°C, 206 sec <sup>-1</sup> )                                                            | 501           | Pa · s | ASTM D3835  |
| 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     |             |
| Injection instructions                                                                                        |               |        |             |
| Drying is not necessary. However, if moisture is a problem, dry the pellets for 2 to 4 hours at 150°F (65°C). |               |        |             |
| Extrusion                                                                                                     | Nominal Value | Unit   |             |
| Drying Temperature                                                                                            | 80.0          | °C     |             |
| Drying Time                                                                                                   | 2.0           | hr     |             |
| 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. C mould

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#### Recommended distributors for this material

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