



# Telcar® TL-8730R

Teknor Apex Company - Thermoplastic Elastomer

## General Information

### Product Description

Telcar TL-8730R is a high performance, flame retardant thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperature range. Telcar TL-8730R is a high durometer grade that is UV stabilized. This grade is UL listed and is suitable for both injection molding and extrusion.

### General

|                   |                                                                                                                                   |                                                                                                                                  |                                                                                                                     |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Material Status   | • Commercial: Active                                                                                                              |                                                                                                                                  |                                                                                                                     |
| Availability      | • Africa & Middle East<br>• Asia Pacific                                                                                          | • Europe<br>• Latin America                                                                                                      | • North America                                                                                                     |
| Features          | • Flame Retardant<br>• General Purpose<br>• Good Colorability<br>• Good Flexibility<br>• Good Weather Resistance<br>• Halogenated | • Heat Aging Resistant<br>• High Density<br>• High Elasticity<br>• High Elongation<br>• High Hardness<br>• High Specific Gravity | • High Tensile Strength<br>• Medium Flow<br>• Ozone Resistant<br>• Sunlight Resistant (720 hours)<br>• UV Resistant |
| Uses              | • Cable Jacketing<br>• Electrical Parts<br>• Electrical/Electronic Applications                                                   | • General Purpose<br>• Insulation<br>• Rubber Replacement                                                                        | • Wire & Cable Applications<br>• Wire Jacketing                                                                     |
| Agency Ratings    | • UL 1581                                                                                                                         | • UL 94                                                                                                                          |                                                                                                                     |
| UL File Number    | • QMFZ2.E54709                                                                                                                    | • QMTT2.73402                                                                                                                    |                                                                                                                     |
| Appearance        | • Colors Available                                                                                                                | • Natural Color                                                                                                                  | • Opaque                                                                                                            |
| Forms             | • Pellets                                                                                                                         |                                                                                                                                  |                                                                                                                     |
| Processing Method | • Extrusion                                                                                                                       | • Injection Molding                                                                                                              |                                                                                                                     |

## ASTM & ISO Properties <sup>1</sup>

| Physical                                                       | Nominal Value | Unit     | Test Method |
|----------------------------------------------------------------|---------------|----------|-------------|
| Density / Specific Gravity                                     | 1.24          |          | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)                       | 16            | g/10 min | ASTM D1238  |
| Elastomers                                                     | Nominal Value | Unit     | Test Method |
| Tensile Stress <sup>2, 3</sup> (100% Strain, 0.0200 in)        | 650           | psi      | ASTM D412   |
| Tensile Stress <sup>2, 3</sup> (300% Strain, 0.0200 in)        | 900           | psi      | ASTM D412   |
| Tensile Strength <sup>2, 3</sup> (Break, 0.0200 in)            | 1800          | psi      | ASTM D412   |
| Tensile Elongation <sup>2, 3</sup> (Break, 0.0200 in)          | 550           | %        | ASTM D412   |
| Hardness                                                       | Nominal Value | Unit     | Test Method |
| Durometer Hardness (Shore A)                                   | 86            |          | ASTM D2240  |
| Thermal                                                        | Nominal Value | Unit     | Test Method |
| Continuous Use Temperature                                     | 221           | °F       | UL 1581     |
| Brittleness Temperature                                        | < -76.0       | °F       | ASTM D746   |
| Aging                                                          | Nominal Value | Unit     | Test Method |
| Change in Tensile Strength in Air (277°F, 168 hr)              | 10            | %        | ASTM D573   |
| Change in Ultimate Elongation in Air (277°F, 168 hr)           | -4.0          | %        | ASTM D573   |
| Change in Tensile Strength<br>140°F, 168 hr, in IRM 902 Oil    | -1.0          | %        | ASTM D471   |
| Change in Ultimate Elongation<br>140°F, 168 hr, in IRM 902 Oil | 3.0           | %        | ASTM D471   |

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| Electrical                  | Nominal Value | Unit    | Test Method |
|-----------------------------|---------------|---------|-------------|
| Volume Resistivity          | 1.0E+16       | ohms·cm | ASTM D257   |
| Dielectric Strength         | 980           | V/mil   | ASTM D149   |
| Dielectric Constant (1 kHz) | 2.40          |         | ASTM D150   |
| Flammability                | Nominal Value | Unit    | Test Method |
| Flame Rating                |               |         | UL 94       |
| 0.06 in, All Colors         | V-2           |         |             |
| 0.06 in, NT, WT, BK         | V-0           |         |             |
| Oxygen Index                | 26            | %       | ASTM D2863  |

| Processing Information     |               |      |  |
|----------------------------|---------------|------|--|
| Injection                  | Nominal Value | Unit |  |
| Rear Temperature           | 340 to 380    | °F   |  |
| Middle Temperature         | 350 to 390    | °F   |  |
| Front Temperature          | 360 to 400    | °F   |  |
| Nozzle Temperature         | 370 to 410    | °F   |  |
| Processing (Melt) Temp     | 370 to 410    | °F   |  |
| Mold Temperature           | 77 to 150     | °F   |  |
| Injection Pressure         | 200 to 1000   | psi  |  |
| Injection Rate             | Moderate-Fast |      |  |
| Back Pressure              | 25.0 to 50.0  | psi  |  |
| Screw Speed                | 50 to 100     | rpm  |  |
| Cushion                    | 0.150 to 1.00 | in   |  |
| Extrusion                  | Nominal Value | Unit |  |
| Cylinder Zone 1 Temp.      | 330 to 370    | °F   |  |
| Cylinder Zone 2 Temp.      | 340 to 380    | °F   |  |
| Cylinder Zone 3 Temp.      | 350 to 390    | °F   |  |
| Cylinder Zone 4 Temp.      | 350 to 390    | °F   |  |
| Cylinder Zone 5 Temp.      | 360 to 400    | °F   |  |
| Die Temperature            | 374 to 410    | °F   |  |
| Extrusion Notes            |               |      |  |
| Screw Speed: 30 to 100 rpm |               |      |  |

Notes

- <sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Die C, 20 in/min

<sup>3</sup> die cut from extruded tapes