



# Telcar® TELC 89-P834-B

Teknor Apex Company - Thermoplastic Elastomer

## General Information

### Product Description

Telcar TELC 89-P834-B is a general purpose thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperature range. Telcar TELC 89-P834-B is a medium durometer grade that is RoHS compliant. This grade 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          | • Foamable<br>• General Purpose<br>• Good Colorability<br>• Good Melt Strength  | • Halogen Free<br>• High Elasticity<br>• High Elongation<br>• Low Density | • Low Specific Gravity<br>• Medium Hardness<br>• Sunlight Resistant |
| Uses              | • Electrical Parts<br>• Electrical/Electronic Applications<br>• General Purpose | • Insulation<br>• Rubber Replacement<br>• Wet Rated Insulation            | • Wire & Cable Applications                                         |
| RoHS Compliance   | • RoHS Compliant                                                                |                                                                           |                                                                     |
| Appearance        | • Clear/Transparent                                                             |                                                                           |                                                                     |
| Forms             | • Pellets                                                                       |                                                                           |                                                                     |
| Processing Method | • Extrusion                                                                     | • Injection Molding                                                       |                                                                     |

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

| Physical                                                          | Nominal Value | Unit     | Test Method |
|-------------------------------------------------------------------|---------------|----------|-------------|
| Density / Specific Gravity                                        | 0.890         |          | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)                         | 2.5           | g/10 min | ASTM D1238  |
| Elastomers                                                        | Nominal Value | Unit     | Test Method |
| Tensile Stress <sup>2, 3</sup> (100% Strain, 0.0200 in)           | 425           | psi      | ASTM D412   |
| Tensile Stress <sup>2, 3</sup> (300% Strain, 0.0200 in)           | 570           | psi      | ASTM D412   |
| Tensile Strength <sup>2, 3</sup> (Break, 0.0200 in)               | 1250          | psi      | ASTM D412   |
| Tensile Elongation <sup>2, 3</sup> (Break, 0.0200 in)             | 700           | %        | ASTM D412   |
| Hardness                                                          | Nominal Value | Unit     | Test Method |
| Durometer Hardness (Shore A, 15 sec)                              | 80            |          | ASTM D2240  |
| Thermal                                                           | Nominal Value | Unit     | Test Method |
| Continuous Use Temperature                                        | 221           | °F       | ASTM D794   |
| Brittleness Temperature                                           | -76.0         | °F       | ASTM D746   |
| RTI Elec                                                          | 122           | °F       | UL 746B     |
| RTI Str                                                           | 122           | °F       | UL 746B     |
| Aging                                                             | Nominal Value | Unit     | Test Method |
| Change in Tensile Strength in Air <sup>4</sup> (277°F, 168 hr)    | 18            | %        | ASTM D573   |
| Change in Ultimate Elongation in Air <sup>4</sup> (277°F, 168 hr) | -16           | %        | ASTM D573   |
| Change in Tensile Strength<br>140°F, 168 hr, in IRM 902 Oil       | -87           | %        | ASTM D471   |
| Change in Ultimate Elongation<br>140°F, 168 hr, in IRM 902 Oil    | -94           | %        | ASTM D471   |

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| Electrical                         | Nominal Value | Unit    | Test Method |
|------------------------------------|---------------|---------|-------------|
| Volume Resistivity                 |               |         | ASTM D257   |
| 73°F                               | 2.4E+17       | ohms·cm |             |
| 122°F                              | 2.8E+16       | ohms·cm |             |
| Dielectric Strength                | 1100          | V/mil   | ASTM D149   |
| Dielectric Constant                | 2.20          |         | ASTM D150   |
| Flammability                       | Nominal Value | Unit    | Test Method |
| Flame Rating (0.06 in, All Colors) | HB            |         | UL 94       |
| Oxygen Index                       | 18            | %       | 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

<sup>4</sup> Updated to reflect more recent values 7.11.24: MO 2000038853 LJT063740-000