+135-3858-6433 (GuangDong)
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TEKNOR APEX

# Elexar® EL-3954-50

## Teknor Apex Company - Thermoplastic Elastomer

### General Information

**Product Description**

Elexar EL-3954-50 is a high performance thermoplastic elastomer designed for the electrical market. Elexar EL-3954-50 is a lubricated, medium hardness grade 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 | • Filled<br>• Halogen Free<br>• High Density | • High Specific Gravity<br>• Lubricated<br>• Medium Flow | • Medium Hardness<br>• Slip |
| Uses | • Appliance Wire Insulation<br>• Appliance Wire Jacketing<br>• Cable Jacketing<br>• Connectors | • Flexible Cord Jacketing<br>• Industrial Cable Insulation<br>• Terminal Cable Jacketing<br>• Underground Power Cable | • Wire & Cable Applications<br>• Wire Jacketing |
| RoHS Compliance | • RoHS Compliant | | |
| Appearance | • Colors Available | • Natural Color | • Opaque |
| Forms | • Pellets | | |
| Processing Method | • Extrusion | • Injection Molding | |

### ASTM & ISO Properties [1]

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Density / Specific Gravity | 1.16 | | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg) | 12 | g/10 min | ASTM D1238 |
| **Elastomers** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Stress [2] | | | ASTM D412 |
| Across Flow : 100% Strain | 147 | psi | |
| Flow : 100% Strain | 179 | psi | |
| Tensile Stress [2] | | | ASTM D412 |
| Across Flow : 300% Strain | 285 | psi | |
| Flow : 300% Strain | 305 | psi | |
| Tensile Strength [2] | | | ASTM D412 |
| Across Flow : Break | 921 | psi | |
| Flow : Break [3] | 1300 | psi | |
| Flow : Break | 712 | psi | |
| Tensile Elongation [2] | | | ASTM D412 |
| Across Flow : Break | 670 | % | |
| Flow : Break [3] | 750 | % | |
| Flow : Break | 680 | % | |
| Tear Strength [2] | | | ASTM D624 |
| Across Flow | 118 | lbf/in | |
| Flow | 99.0 | lbf/in | |
| Compression Set [4] | | | ASTM D395B |
| 73°F, 22 hr | 14 | % | |
| 158°F, 22 hr | 45 | % | |

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## Teknor Apex Company - Thermoplastic Elastomer

| Hardness | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Durometer Hardness | | | ASTM D2240 |
| Shore A, 1 sec, Injection Molded | 46 | | |
| Shore A, 5 sec, Injection Molded | 44 | | |

| Thermal | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Brittleness Temperature | < -76.0 | °F | ASTM D746 |

## Processing Information

| Injection | Nominal Value | Unit |
|---|---|---|
| Rear Temperature | 370 to 420 | °F |
| Middle Temperature | 370 to 420 | °F |
| Front Temperature | 370 to 420 | °F |
| Nozzle Temperature | 370 to 420 | °F |
| Processing (Melt) Temp | 370 to 420 | °F |
| Mold Temperature | 60 to 90 | °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 |

**Injection Notes**

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 |
|---|---|---|
| Cylinder Zone 1 Temp. | 350 to 400 | °F |
| Cylinder Zone 2 Temp. | 350 to 400 | °F |
| Cylinder Zone 3 Temp. | 350 to 400 | °F |
| Cylinder Zone 4 Temp. | 350 to 400 | °F |
| Cylinder Zone 5 Temp. | 350 to 400 | °F |
| Die Temperature | 350 to 400 | °F |

**Extrusion Notes**

Screw Speed: 30 to 100 rpm

### Notes

[1] Typical properties: these are not to be construed as specifications.

[2] Die C, 20 in/min

[3] Extruded tape

[4] Type 1