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TEKNOR APEX

# Elexar® EL-3954-80

## Teknor Apex Company - Thermoplastic Elastomer

### General Information

**Product Description**

Elexar EL-3954-80 is a high performance thermoplastic elastomer designed for the electrical/wire & cable market. Elexar EL-3954-80 is a lubricated, high density grade suitable for injection molding.

| General | | | |
|---|---|---|---|
| Material Status | • Commercial: Active | | |
| Availability | • Africa & Middle East<br>• Asia Pacific | • Europe<br>• Latin America | • North America |
| Features | • Filled<br>• Good Mold Release<br>• Good Moldability<br>• Halogen Free | • High Density<br>• High Hardness<br>• High Specific Gravity<br>• Lubricated | • Medium Flow<br>• Slip |
| Uses | • Connectors<br>• Grommets | • Strain Reliefs<br>• Wire & Cable Applications | |
| Agency Ratings | • UL 94 | | |
| RoHS Compliance | • RoHS Compliant | | |
| UL File Number | • QMFZ2.E54709 | | |
| Appearance | • Colors Available | • Opaque | |
| Forms | • Pellets | | |
| Processing Method | • Injection Molding | | |

### ASTM & ISO Properties [1]

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Density / Specific Gravity | 1.18 | | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg) | 13 | g/10 min | ASTM D1238 |
| **Elastomers** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Stress [2] | | | ASTM D412 |
| Across Flow : 100% Strain | 410 | psi | |
| Flow : 100% Strain | 517 | psi | |
| Tensile Stress [2] | | | ASTM D412 |
| Across Flow : 300% Strain | 568 | psi | |
| Flow : 300% Strain | 682 | psi | |
| Tensile Strength [2] | | | ASTM D412 |
| Across Flow : Break | 1690 | psi | |
| Flow : Break [3] | 1900 | psi | |
| Flow : Break | 1290 | psi | |
| Tensile Elongation [2] | | | ASTM D412 |
| Across Flow : Break | 740 | % | |
| Flow : Break [3] | 600 | % | |
| Flow : Break | 640 | % | |
| Tear Strength [2] | | | ASTM D624 |
| Across Flow | 230 | lbf/in | |
| Flow | 217 | lbf/in | |
| Compression Set [4] | | | ASTM D395B |
| 73°F, 22 hr | 29 | % | |
| 158°F, 22 hr | 63 | % | |

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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 | 78 | | |
| Shore A, 5 sec, Injection Molded | 76 | | |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Brittleness Temperature | < -76.0 | °F | ASTM D746 |
| RTI Elec | 194 | °F | UL 746B |
| RTI Str | 194 | °F | UL 746B |
| **Electrical** | **Nominal Value** | **Unit** | **Test Method** |
| Dielectric Strength | 1100 | V/mil | ASTM D149 |
| **Flammability** | **Nominal Value** | **Unit** | **Test Method** |
| Flame Rating (0.06 in, All Colors) | HB | | UL 94 |

## Processing Information

| Injection | Nominal Value | Unit |
|---|---|---|
| Rear Temperature | 360 to 400 | °F |
| Middle Temperature | 360 to 400 | °F |
| Front Temperature | 360 to 400 | °F |
| Nozzle Temperature | 360 to 400 | °F |
| Processing (Melt) Temp | 360 to 400 | °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).

### Notes

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

[2] Die C, 20 in/min

[3] Extruded tape

[4] Type 1