# Elexar® EL-8614A (PRELIMINARY DATA)

Thermoplastic Elastomer

Teknor Apex Company

## Message:

Elexar EL-8614A is a high performance thermoplastic elastomer designed for electrical applications requiring flexibility over a wide temperature range. Elexar EL-8614A is a RoHS compliant, flame retardant grade suitable for both injection molding and extrusion.

| General Information | |
|---|---|
| Features | High specific gravity |
| | High density |
| | Workability, good |
| | Good formability |
| | Good coloring |
| | Good adhesion |
| | Low liquidity |
| | Halogenated |
| | Good chemical resistance |
| | Good toughness |
| | Fill |
| | High hardness |
| | Flame retardancy |
| Uses | Underground cable |
| | Cable sheath |
| | Electrical wire sheath material |
| | Electrical conductor insulation material |
| | Wire and cable applications |
| | Wire sheath |
| | Industrial cable insulation material |
| | Connector |
| | cord sheath |
| | Terminal cable sheath material |
| RoHS Compliance | RoHS compliance |
| Appearance | Opacity |
| | Available colors |
| Forms | Particle |
| Processing Method | Extrusion |
| | Injection molding |

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Specific Gravity | 1.16 | g/cm³ | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (230°C/2.16 kg) | 4.0 | g/10 min | ASTM D1238 |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Durometer Hardness | | | ASTM D2240 |
| Shaw D, 1 sec | 60 | | ASTM D2240 |
| Shaw D, 5 seconds | 58 | | ASTM D2240 |
| **Elastomers** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Stress | | | ASTM D412 |
| 100% strain | 7.45 | MPa | ASTM D412 |
| 300% strain | 8.41 | MPa | ASTM D412 |
| Tensile Strength (Yield) | 21.0 | MPa | ASTM D412 |
| Tensile Elongation (Break) | 620 | % | ASTM D412 |
| **Aging** | **Nominal Value** | **Unit** | **Test Method** |
| Change in Tensile Strength in Air (136°C, 168 hr) | -26 | % | ASTM D573 |
| Change in Ultimate Elongation in Air (136°C, 168 hr) | -26 | % | ASTM D573 |
| Change in Tensile Strength (60°C, 168 hr, in IRM 902 Oil) | -36 | % | ASTM D471 |
| Change in Ultimate Elongation (60°C, 168 hr, in IRM 902 Oil) | -12 | % | ASTM D471 |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Brittleness Temperature | -33.0 | °C | ASTM D746 |
| **Electrical** | **Nominal Value** | **Unit** | **Test Method** |
| Volume Resistivity (23°C) | 8.5E+16 | ohms·cm | ASTM D257 |
| Dielectric Constant | | | ASTM D150 |
| 25°C, 1 kHz | 2.40 | | ASTM D150 |
| 25°C, 1 MHz | 2.40 | | ASTM D150 |
| Dissipation Factor | | | ASTM D150 |
| 25°C, 1 kHz | 9.4E-3 | | ASTM D150 |
| 25°C, 1 MHz | 3.8E-3 | | ASTM D150 |
| **Flammability** | **Nominal Value** | **Unit** | **Test Method** |
| Flame Rating (3.0 mm, Natural Color) | V-0 | | UL 94 |

**Legal statement**



| Injection | Nominal Value | Unit |
|---|---|---|

| | | |
|---|---|---|
| Rear Temperature | 199 - 216 | °C |
| Middle Temperature | 213 - 221 | °C |
| Front Temperature | 221 - 227 | °C |
| Nozzle Temperature | 221 - 229 | °C |
| Processing (Melt) Temp | 221 - 229 | °C |
| Mold Temperature | 25 - 66 | °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 |
|---|---|---|
| Cylinder Zone 1 Temp. | 193 - 210 | °C |
| Cylinder Zone 2 Temp. | 199 - 216 | °C |
| Cylinder Zone 3 Temp. | 213 - 221 | °C |
| Cylinder Zone 4 Temp. | 213 - 221 | °C |
| Cylinder Zone 5 Temp. | 221 - 227 | °C |
| Die Temperature | 221 - 229 | °C |

| Extrusion instructions |
|---|
| Screw Speed: 30 to 100 rpm |



## Recommended distributors for this material

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