

Arnitel® EL550
Envalior - Thermoplastic Copolyester Elastomer
General Information
Product Description

Injection Molding, Food Contact Quality, Film Extrusion

General

| | | | |
|-------------------|---------------------------|------------------|---------------------|
| Material Status | • Commercial: Active | | |
| Availability | • Africa & Middle East | • Europe | • North America |
| | • Asia Pacific | • Latin America | |
| Features | • Food Contact Acceptable | | |
| Processing Method | • Extrusion | • Film Extrusion | • Injection Molding |
| Resin ID | • TPC-ET | | |

Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|--|---------------|------------------------|-------------|
| Density | 1.20 | g/cm ³ | ISO 1183 |
| Melt Volume-Flow Rate (MVR) (230°C/2.16 kg) | 36 | cm ³ /10min | ISO 1133 |
| Molding Shrinkage | | | ISO 294-4 |
| Across Flow | 1.6 | % | |
| Flow | 1.6 | % | |
| Water Absorption (Saturation, 73°F) | 0.65 | % | ISO 62 |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 0.20 | % | ISO 62 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Modulus | 29000 | psi | ISO 527-1 |
| Tensile Stress | | | ISO 527-2 |
| Break | 5080 | psi | |
| Across Flow : Break | 4790 | psi | |
| Tensile Stress | | | ISO 527-2 |
| 5.0% Strain | 1070 | psi | |
| 10% Strain | 1610 | psi | |
| 50% Strain | 2000 | psi | |
| 100% Strain | 1990 | psi | |
| Tensile Strain | | | ISO 527-2 |
| Break | > 300 | % | |
| Across Flow : Break | 810 | % | |
| Nominal Tensile Strain at Break | 690 | % | ISO 527-2 |
| Flexural Modulus | 30500 | psi | ISO 178 |
| Elastomers | Nominal Value | Unit | Test Method |
| Tear Strength ² | | | ISO 34-1 |
| Across Flow | 782 | lbf/in | |
| Flow | 788 | lbf/in | |
| Compression Set (158°F) | 40 | % | ISO 815 |
| Impact | Nominal Value | Unit | Test Method |
| Charpy Notched Impact Strength | | | ISO 179/1eA |
| -22°F | 12 | ft·lb/in ² | |
| 73°F | No Break | | |
| Charpy Unnotched Impact Strength | | | ISO 179/1eU |
| -22°F | No Break | | |
| 73°F | No Break | | |
| Notched Izod Impact Strength | | | ISO 180/1A |



| | | |
|--|---------------------------|----------------------|
| -4°F | No Break | |
| 73°F | No Break | |
| Tensile Impact Strength ³ (73°F) | 103 ft·lb/in ² | ISO 8256/1 |
| Hardness | Nominal Value Unit | Test Method |
| Shore Hardness (Shore D, 3 sec) | 53 | ISO 868 |
| Thermal | Nominal Value Unit | Test Method |
| Deflection Temperature Under Load (66 psi, Unannealed) | 230 °F | ISO 75-2/B |
| Glass Transition Temperature ⁴ | -83.2 °F | ISO 11357-2 |
| Vicat Softening Temperature | 194 °F | ISO 306/B50 |
| Melting Temperature ⁴ | 405 °F | ISO 11357-3 |
| CLTE - Flow | 1.1E-4 in/in/°F | ISO 11359-2 |
| CLTE - Transverse | 1.1E-4 in/in/°F | ISO 11359-2 |
| RTI Elec (0.06 in) | 122 °F | UL 746B |
| RTI Imp (0.06 in) | 122 °F | UL 746B |
| RTI Str (0.06 in) | 122 °F | UL 746B |
| Electrical | Nominal Value Unit | Test Method |
| Volume Resistivity | 1.0E+11 ohms·m | IEC 62631-3-1 |
| Electric Strength | 530 V/mil | IEC 60243-1 |
| Relative Permittivity | | IEC 62631-2-1 |
| 100 Hz | 4.40 | |
| 1 MHz | 4.00 | |
| Dissipation Factor (1 MHz) | 0.040 | IEC 62631-2-1 |
| Comparative Tracking Index | 600 V | IEC 60112 |
| Flammability | Nominal Value Unit | Test Method |
| Flame Rating (0.06 in) | HB | UL 94 |
| Flammability Classification (0.06 in) | HB | IEC 60695-11-10, -20 |
| Glow Wire Flammability Index | | IEC 60695-2-12 |
| 0.04 in | 1380 °F | |
| 0.08 in | 1380 °F | |

Notes

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

² Method B, Angle

³ notched

⁴ 10°C/min

