# Medalist® MD-50278

## Teknor Apex Company - Thermoplastic Elastomer

Wednesday, April 1, 2026

### General Information

**Product Description**

The Medalist MD-50200 Series is a high performance thermoplastic elastomer series, designed to be a sustainable alternative to flexible PVC for medical tubing and film. Medalist MD-50278 is a low density, medium hardness, clear grade, available in Nat and color-matched, intended for use in medical and healthcare applications, with excellent processability and throughput in extruded tubing.

| General | | | |
|---|---|---|---|
| Material Status | • Commercial: Active | | |
| Availability | • Africa & Middle East<br>• Asia Pacific | • Europe<br>• Latin America | • North America |
| Features | • Chemical Resistant<br>• Ethylene Oxide Sterilizable<br>• Good Adhesion<br>• Good Colorability<br>• Good Processing Stability | • Halogen Free<br>• High Clarity<br>• High Purity<br>• Kink Resistant<br>• Low Density | • Low Specific Gravity<br>• Medium Hardness<br>• No Animal Derived Components<br>• Radiation (Gamma) Resistant |
| Uses | • Clear Sheet<br>• Film | • Hose<br>• Medical/Healthcare Applications | • Pharmaceuticals<br>• Tubing |
| Agency Ratings | • ISO 10993-5 | • ISO 13485 | |
| RoHS Compliance | • RoHS Compliant | | |
| Appearance | • Clear/Transparent | • Colors Available | |
| Forms | • Pellets | | |
| Processing Method | • Cast Film | • Extrusion | • Injection Molding |

### Properties [1]

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Density / Specific Gravity | 0.890 | | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg) | 7.0 | g/10 min | ASTM D1238 |
| **Films** | **Nominal Value** | **Unit** | **Test Method** |
| Oxygen Permeability | | | ASTM D3985 |
| 73°F, 40 mil, 35% RH | 1200 | cm³·mil/100in²/atm/24 hr | |
| 73°F, 40 mil, 90% RH | 1100 | cm³·mil/100in²/atm/24 hr | |
| Oxygen Transmission Rate (Wet) | | | ASTM F1927 |
| 73°F, 40 mil, 35% RH | 29.5 | cm³/100 in²/24 hr | |
| 73°F, 40 mil, 90% RH | 27.4 | cm³/100 in²/24 hr | |
| Water Vapor Transmission Rate | | | ASTM F1249 |
| 100°F, 100% RH, 1.0 mil | 2.5 | g/100 in²/24 hr | |
| **Elastomers** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Stress (50% Strain) | 645 | psi | ASTM D412 |
| Tensile Stress (100% Strain) | 695 | psi | ASTM D412 |
| Tensile Stress (300% Strain) | 980 | psi | ASTM D412 |
| Tensile Strength (Break) | 2170 | psi | ASTM D412 |
| Tensile Elongation (Break) | 620 | % | ASTM D412 |
| Tear Strength | 367 | lbf/in | ASTM D624 |
| Compression Set | | | ASTM D395 |
| 73°F, 22 hr | 23 | % | |
| 158°F, 22 hr | 83 | % | |

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| Hardness | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Durometer Hardness | | | ASTM D2240 |
| Shore A, 1 sec | 81 | | |
| Shore A, 5 sec | 79 | | |

**Legal Statement**

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## Processing Information

| Injection | Nominal Value | Unit |
|---|---|---|
| Rear Temperature | 300 to 340 | °F |
| Middle Temperature | 340 to 380 | °F |
| Front Temperature | 380 to 440 | °F |
| Nozzle Temperature | 380 to 440 | °F |
| Processing (Melt) Temp | 380 to 440 | °F |
| Mold Temperature | 70 to 125 | °F |
| Back Pressure | 50.0 to 150 | psi |
| Screw Speed | 50 to 100 | rpm |
| Cushion | 0.140 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. | 320 to 370 | °F |
| Cylinder Zone 2 Temp. | 360 to 385 | °F |
| Cylinder Zone 3 Temp. | 360 to 400 | °F |
| Cylinder Zone 5 Temp. | 360 to 400 | °F |
| Die Temperature | 350 to 420 | °F |

**Extrusion Notes**

Screw Speed: 30 to 100 rpm.

Screen Pack Recommendation:

60/200/200/60 to 60/200/400/400/200/60 mesh size.

### Notes

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

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