+135-3858-6433 (GuangDong)
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TEKNOR APEX

# Medalist® MD-50357

## Teknor Apex Company - Thermoplastic Elastomer

### General Information

**Product Description**

Medalist MD-50357 is intended for use in medical and healthcare applications, particularly for extruded medical tubing. Medalist MD-50357 is a low density, medium hardness, clear grade designed to be a sustainable alternative to flexible PVC for medical tubing. This grade is 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 | • Autoclave Sterilizable<br>• Bondability<br>• Ethylene Oxide Sterilizable<br>• Good Processing Stability | • 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 | • Medical Devices<br>• Medical/Healthcare Applications | • Pharmaceuticals<br>• Tubing | |
| Agency Ratings | • ISO 10993-5 | • ISO 13485 | |
| RoHS Compliance | • RoHS Compliant | | |
| Appearance | • Clear/Transparent | • Colors Available | • Light Blue |
| Forms | • Pellets | | |
| Processing Method | • Extrusion | • Injection Molding | |

### ASTM & ISO Properties [1]

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Density / Specific Gravity | 0.890 | | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 9.0 | g/10 min | ASTM D1238 |
| **Elastomers** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Stress (50% Strain) | 280 | psi | ASTM D412 |
| Tensile Stress (100% Strain) | 335 | psi | ASTM D412 |
| Tensile Stress (300% Strain) | 525 | psi | ASTM D412 |
| Tensile Strength (Break) | 1330 | psi | ASTM D412 |
| Tensile Elongation (Break) | 750 | % | ASTM D412 |
| Tear Strength | 210 | lbf/in | ASTM D624 |
| Compression Set | | | ASTM D395 |
| 73°F, 22 hr | 24 | % | |
| 158°F, 22 hr | 88 | % | |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Durometer Hardness | | | ASTM D2240 |
| Shore A, 1 sec | 60 | | |
| Shore A, 5 sec | 58 | | |

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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 420 | °F |
| Nozzle Temperature | 380 to 420 | °F |
| Processing (Melt) Temp | 380 to 420 | °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. | 280 to 320 | °F |
| Cylinder Zone 2 Temp. | 310 to 350 | °F |
| Cylinder Zone 3 Temp. | 320 to 360 | °F |
| Cylinder Zone 4 Temp. | 330 to 370 | °F |
| Cylinder Zone 5 Temp. | 370 to 410 | °F |
| Adapter Temperature | 340 to 360 | °F |
| Melt Temperature | 330 to 360 | °F |
| Die Temperature | 340 to 410 | °F |
| Screw L/D Ratio | 24.0:1.0 to 32.0:1.0 | |

**Extrusion Notes**

Minimum 24:1 L/D, preferably 30:1 L/D.
High shear screw preferred, barrier screw with Maddock mixing end is recommended.
Typical Screen Pack: 20/60/150/150/60/20, up to 250 mesh.
Extruder Head Pressure: 1000-1500 psi

### Notes

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