



# Medalist® MD-50360

Teknor Apex Company - Thermoplastic Elastomer

## General Information

### Product Description

Medalist MD-50360 is a high performance thermoplastic elastomer specifically designed for healthcare and medical applications. Medalist MD-50360 is a medium hardness, low density, RoHS compliant grade that can be sterilized and is suitable for 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>• Clean/High Purity<br>• Ethylene Oxide Sterilizable | • Good Processing Stability<br>• Kink Resistant<br>• Low Density<br>• Low Specific Gravity | • 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        | • Natural Color                                                                                   | • Translucent                                                                              |                                                                                      |
| Forms             | • Pellets                                                                                         |                                                                                            |                                                                                      |
| Processing Method | • Extrusion                                                                                       | • Injection Molding                                                                        |                                                                                      |

## ASTM & ISO Properties <sup>1</sup>

| Physical                                 | Nominal Value | Unit     | Test Method |
|------------------------------------------|---------------|----------|-------------|
| Density / Specific Gravity               | 0.902         |          | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg) | 3.0           | g/10 min | ASTM D1238  |
| Elastomers                               | Nominal Value | Unit     | Test Method |
| Tensile Stress (50% Strain)              | 300           | psi      | ASTM D412   |
| Tensile Stress (100% Strain)             | 375           | psi      | ASTM D412   |
| Tensile Stress (300% Strain)             | 620           | psi      | ASTM D412   |
| Tensile Strength (Break)                 | 1380          | psi      | ASTM D412   |
| Tensile Elongation (Break)               | 690           | %        | ASTM D412   |
| Tear Strength                            | 250           | lbf/in   | ASTM D624   |
| Compression Set                          |               |          | ASTM D395   |
| 73°F, 22 hr                              | 18            | %        |             |
| 158°F, 22 hr                             | 66            | %        |             |
| Hardness                                 | Nominal Value | Unit     | Test Method |
| Durometer Hardness                       |               |          | ASTM D2240  |
| Shore A, 1 sec                           | 66            |          |             |
| Shore A, 5 sec                           | 64            |          |             |

# Medalist® MD-50360

## Teknor Apex Company - Thermoplastic Elastomer

### 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

<sup>1</sup> Typical properties: these are not to be construed as specifications.