



# Medalist® MD-12360

Teknor Apex Company - Thermoplastic Elastomer

## General Information

### Product Description

Medalist MD-12360 is a clear high performance thermoplastic elastomer, available in NAT and colors, intended for use in medical and healthcare applications. Medalist MD-12360 is a medium hardness, low density grade 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          | • Chemical Resistant<br>• Excellent Processability<br>• Good Adhesion | • Good Flexibility<br>• Good Sterilizability<br>• Halogen Free | • Low Density<br>• Low Specific Gravity<br>• Medium Hardness |
| Uses              | • Medical/Healthcare Applications • Pharmaceuticals                   |                                                                |                                                              |
| Agency Ratings    | • ISO 13485                                                           |                                                                |                                                              |
| RoHS Compliance   | • RoHS Compliant                                                      |                                                                |                                                              |
| Appearance        | • Clear/Transparent                                                   |                                                                |                                                              |
| Forms             | • Pellets                                                             |                                                                |                                                              |
| Processing Method | • Extrusion                                                           | • Injection Molding                                            |                                                              |

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

| Physical                                 | Nominal Value | Unit     | Test Method |
|------------------------------------------|---------------|----------|-------------|
| Specific Gravity                         | 0.890         |          | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg) | 1.0           | g/10 min | ASTM D1238  |
| Elastomers                               | Nominal Value | Unit     | Test Method |
| Tensile Stress (100% Strain)             | 335           | psi      | ASTM D412   |
| Tensile Stress (200% Strain)             | 475           | psi      | ASTM D412   |
| Tensile Stress (300% Strain)             | 670           | psi      | ASTM D412   |
| Tensile Strength (Break)                 | 2200          | psi      | ASTM D412   |
| Tensile Elongation (Break)               | 780           | %        | ASTM D412   |
| Hardness                                 | Nominal Value | Unit     | Test Method |
| Durometer Hardness                       |               |          | ASTM D2240  |
| Shore A, 1 sec                           | 62            |          |             |
| Shore A, 5 sec                           | 60            |          |             |

## Processing Information

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Rear Temperature       | 260 to 300    | °F   |
| Middle Temperature     | 280 to 320    | °F   |
| Front Temperature      | 300 to 340    | °F   |
| Nozzle Temperature     | 340 to 380    | °F   |
| Processing (Melt) Temp | 340 to 380    | °F   |

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| Injection          | Nominal Value | Unit |
|--------------------|---------------|------|
| Mold Temperature   | 70 to 100     | °F   |
| Injection Pressure | 200 to 800    | psi  |
| Back Pressure      | 25.0 to 100   | psi  |
| Screw Speed        | 50 to 100     | rpm  |
| Cushion            | 0.150 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 300    | °F   |
| Cylinder Zone 2 Temp. | 300 to 320    | °F   |
| Cylinder Zone 3 Temp. | 320 to 360    | °F   |
| Cylinder Zone 4 Temp. | 320 to 360    | °F   |
| Cylinder Zone 5 Temp. | 340 to 380    | °F   |
| Die Temperature       | 360 to 400    | °F   |

#### Extrusion Notes

Screw Speed: 30 to 100 rpm

#### Notes

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