

# Medalist® MD-12368

Teknor Apex Company - Thermoplastic Elastomer

Friday, June 30, 2017

## General Information

### Product Description

Medalist(R)MD-12368 is a high performance thermoplastic elastomer intended for use in medical and healthcare applications. Medalist(R)MD-12368 is a low density, medium hardness, clear grade designed suitable for extrusion, extruded tubing, and injection molding.

### General

|                   |   |  |  |
|-------------------|---|--|--|
| Material Status   | • Commercial: Active  |  |  |
| Availability      | • Africa & Middle East<br>• Asia Pacific  | • Europe<br>• Latin America  | • North America  |
| Features          | • Abrasion Resistant<br>• Autoclave Sterilizable<br>• Chemical Resistant<br>• Ethylene Oxide Sterilizable<br>• Good Adhesion<br>• Good Colorability<br>• Good Flexibility | • Good Moldability<br>• Good Processability<br>• Good Sterilizability<br>• Good Strength<br>• Good Tear Strength<br>• Good Toughness<br>• Halogen Free | • Low Density<br>• Medium Hardness<br>• Radiation (Gamma) Resistant<br>• Radiation Sterilizable<br>• Resilient |
| Uses              | • Closures<br>• Diaphragms<br>• Disposable Hospital Goods   | • Flexible Grips<br>• Medical/Healthcare Applications<br>• Pharmaceuticals   | • Plugs<br>• Rubber Replacement<br>• Tubing  |
| Agency Ratings    | • ISO 10993 Part 5  | • ISO 13485  |  |
| RoHS Compliance   | • RoHS Compliant  |  |  |
| Appearance        | • Clear/Transparent   | • Colors Available   | • Natural Color  |
| 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 - Flow <sup>2</sup> (100% Strain) | 415           | psi      | ASTM D412   |
| Tensile Stress - Flow <sup>2</sup> (300% Strain) | 700           | psi      | ASTM D412   |
| Tensile Strength - Flow <sup>2</sup> (Break)     | 2080          | psi      | ASTM D412   |
| Tensile Elongation (Break)                       | 600           | %        | ASTM D412   |
| Tear Strength - Flow <sup>2</sup>                | 267           | lbf/in   | ASTM D624   |
| Compression Set <sup>3</sup> (73°F, 22 hr)       | 19            | %        | ASTM D395   |
| Hardness   | Nominal Value | Unit     | Test Method |
| Durometer Hardness                               |               |          | ASTM D2240  |
| Shore A, 1 sec                                   | 74            |          |             |
| Shore A, 5 sec                                   | 72            |          |             |
| Thermal  | Nominal Value | Unit     | Test Method |
| Brittleness Temperature                          | -76.0         | °F       | ASTM D746   |

### Legal Statement

The information and recommendations contained in this bulletin are, to the best of our knowledge, accurate and reliable but no guarantee of their accuracy is made. All products are sold upon condition that purchasers shall make their own tests to determine the suitability of such products for their particular purposes and uses and purchaser assumes all risks and liability for the results of use of the products, including use in accordance with seller's recommendations. Nothing in this bulletin constitutes permission or a recommendation to practice or use any invention covered by any patent owned by this company or others. There is no warranty of merchantability and there are no other warranties for the products described. For detailed Product Stewardship information, please contact us. Any product of Teknor Apex, including product names, shall not be used or tested in medical or food contact applications without the prior written acknowledgement of Teknor Apex as to the intended use. Please note that some products may not be available in one or more countries.

Revision Date: 6/1/2016

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### 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   |
| 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

| 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.

<sup>2</sup> Die C, 20 in/min

<sup>3</sup> Type 1

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