

# Medalist® MD-555

Teknor Apex Company - Thermoplastic Elastomer

Friday, June 30, 2017

## General Information

### Product Description

Medalist MD-555 is a high performance thermoplastic elastomer intended for use in medical and healthcare applications, especially medical tubing. Medalist MD-555 is a medium hardness, low density, clear grade designed to be a sustainable alternative to flexible PVC 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          | • Autoclave Sterilizable<br>• Chemical Resistant<br>• Ethylene Oxide Sterilizable<br>• Good Adhesion<br>• Good Processability | • Good Sterilizability<br>• Halogen Free<br>• High Clarity<br>• High Purity<br>• Low Density | • Low Specific Gravity<br>• Medium Hardness<br>• No Animal Derived Components<br>• Radiation (Gamma) Resistant |
| Uses              | • Film<br>• Medical/Healthcare Applications   | • Pharmaceuticals<br>• Rubber Replacement  | • Tubing   |
| RoHS Compliance   | • RoHS Compliant  |  |  |
| Appearance        | • Clear/Transparent   |  |  |
| Forms             | • Pellets   |  |  |
| Processing Method | • Cast Film   | • 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) (230°C/2.16 kg) | 15            | g/10 min | ASTM D1238  |
| Elastomers                                | Nominal Value | Unit     | Test Method |
| Tensile Stress (50% Strain)               | 220           | psi      | ASTM D412   |
| Tensile Stress (100% Strain)              | 270           | psi      | ASTM D412   |
| Tensile Stress (300% Strain)              | 415           | psi      | ASTM D412   |
| Tensile Strength (Break)                  | 1340          | psi      | ASTM D412   |
| Tensile Elongation (Break)                | 890           | %        | ASTM D412   |
| Tear Strength                             | 177           | lbf/in   | ASTM D624   |
| Compression Set (73°F, 22 hr)             | 9.1           | %        | ASTM D395   |
| Hardness                                  | Nominal Value | Unit     | Test Method |
| Durometer Hardness                        |               |          | ASTM D2240  |
| Shore A, 1 sec                            | 55            |          |             |
| Shore A, 5 sec                            | 53            |          |             |

### 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.

## Processing Information

| Injection        | Nominal Value | Unit |
|------------------|---------------|------|
| Rear Temperature | 260 to 300    | °F   |

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| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| 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             | Nominal Value | Unit |
|-----------------------|---------------|------|
| Cylinder Zone 1 Temp. | 340 to 370    | °F   |
| Cylinder Zone 2 Temp. | 360 to 385    | °F   |
| Cylinder Zone 3 Temp. | 365 to 400    | °F   |
| Cylinder Zone 4 Temp. | 365 to 400    | °F   |
| Cylinder Zone 5 Temp. | 400 to 440    | °F   |
| Die Temperature       | 400 to 440    | °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

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

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