



# Medalist® MD-23153

Teknor Apex Company - Thermoplastic Vulcanizate

## General Information

### Product Description

Medalist MD-23153 is a high performance thermoplastic elastomer specifically designed for healthcare and medical applications. Medalist MD-23153 is a medium hardness, medium density, RoHS compliant grade that can be sterilized and is suitable for injection molding.

### General

|                   |                                                                                                                               |                                                                                                             |                                                                                 |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Material Status   | • Commercial: Active                                                                                                          |                                                                                                             |                                                                                 |
| Availability      | • Africa & Middle East<br>• Asia Pacific                                                                                      | • Europe<br>• Latin America                                                                                 | • North America                                                                 |
| Features          | • Chemical Resistant<br>• Ethylene Oxide Sterilizable<br>• Excellent Processability<br>• Good Adhesion<br>• Good Colorability | • Good Moldability<br>• Good Sterilizability<br>• Halogen Free<br>• Low Compression Set<br>• Medium Density | • Medium Hardness<br>• Oil Resistant<br>• Radiation Sterilizable<br>• Resilient |
| Uses              | • Gaskets<br>• Hospital Goods<br>• Hypodermic Syringe Parts                                                                   | • Medical Devices<br>• Medical/Healthcare Applications<br>• Pharmaceuticals                                 | • Rubber Replacement<br>• Seals                                                 |
| Agency Ratings    | • ISO 10993-5                                                                                                                 | • ISO 13485                                                                                                 |                                                                                 |
| RoHS Compliance   | • RoHS Compliant                                                                                                              |                                                                                                             |                                                                                 |
| Appearance        | • Colors Available                                                                                                            | • Natural Color                                                                                             | • Opaque                                                                        |
| Forms             | • Pellets                                                                                                                     |                                                                                                             |                                                                                 |
| Processing Method | • Injection Molding                                                                                                           |                                                                                                             |                                                                                 |

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

| Physical                                  | Nominal Value | Unit     | Test Method |
|-------------------------------------------|---------------|----------|-------------|
| Density / Specific Gravity                | 0.934         |          | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (230°C/2.16 kg) | 5.0           | g/10 min | ASTM D1238  |
| Elastomers                                | Nominal Value | Unit     | Test Method |
| Tensile Stress <sup>2</sup> (100% Strain) | 282           | psi      | ASTM D412   |
| Tensile Stress <sup>2</sup> (200% Strain) | 400           | psi      | ASTM D412   |
| Tensile Strength <sup>2</sup> (Break)     | 523           | psi      | ASTM D412   |
| Tensile Elongation <sup>2</sup> (Break)   | 290           | %        | ASTM D412   |
| Tear Strength <sup>2</sup>                | 98.0          | lbf/in   | ASTM D624   |
| Compression Set <sup>3</sup>              |               |          | ASTM D395B  |
| 73°F, 22 hr                               | 19            | %        |             |
| 158°F, 22 hr                              | 29            | %        |             |
| 212°F, 22 hr                              | 40            | %        |             |
| Hardness                                  | Nominal Value | Unit     | Test Method |
| Durometer Hardness                        |               |          | ASTM D2240  |
| Shore A, 1 sec, Injection Molded          | 55            |          |             |
| Shore A, 5 sec, Injection Molded          | 53            |          |             |

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### Processing Information

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Rear Temperature       | 302 to 338    | °F   |
| Middle Temperature     | 320 to 365    | °F   |
| Front Temperature      | 365 to 410    | °F   |
| Nozzle Temperature     | 374 to 410    | °F   |
| Processing (Melt) Temp | 374 to 410    | °F   |
| Mold Temperature       | 60 to 100     | °F   |
| 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).

### 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