



# Medalist® MD-12341 AP NAT XRD2 (PRELIMINARY DATA)

Teknor Apex Company - Thermoplastic Elastomer

## General Information

### Product Description

Medalist MD-12341 AP NAT XRD2 is designed for medical and healthcare applications requiring high elasticity and tensile strength. Medalist MD-12341 AP NAT XRD2 is a medium hardness, low density, translucent thermoplastic elastomer that can be sterilized and is suitable for injection molding and extrusion, for dropper bulb applications.

### General

|                   |                                                                                                      |                                                                                          |                                                                                               |
|-------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Material Status   | • Preliminary Data                                                                                   |                                                                                          |                                                                                               |
| 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 | • Good Colorability<br>• Good Processability<br>• Good Sterilizability<br>• Halogen Free | • Low Density<br>• Low Specific Gravity<br>• Medium Hardness<br>• Radiation (Gamma) Resistant |
| Uses              | • Flexible Grips<br>• Handles                                                                        | • Medical/Healthcare Applications<br>• Pharmaceuticals                                   | • Rubber Replacement                                                                          |
| 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               | 0.892         |          | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg) | 0.50          | g/10 min | ASTM D1238  |
| Elastomers                               | Nominal Value | Unit     | Test Method |
| Tensile Stress (100% Strain)             | 205           | psi      | ASTM D412   |
| Tensile Stress (200% Strain)             | 300           | psi      | ASTM D412   |
| Tensile Stress (300% Strain)             | 400           | psi      | ASTM D412   |
| Tensile Strength (Break)                 | 980           | psi      | ASTM D412   |
| Tensile Elongation (Break)               | 610           | %        | ASTM D412   |
| Compression Set                          |               |          | ASTM D395B  |
| 73°F, 22 hr                              | 11            | %        |             |
| 158°F, 22 hr                             | 28            | %        |             |
| Hardness                                 | Nominal Value | Unit     | Test Method |
| Durometer Hardness                       |               |          | ASTM D2240  |
| Shore A                                  | 44            |          |             |
| Shore A, 5 sec                           | 42            |          |             |

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### Processing Information

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Rear Temperature       | 300 to 340    | °F   |
| Middle Temperature     | 340 to 380    | °F   |
| Front Temperature      | 380 to 440    | °F   |
| Nozzle Temperature     | 380 to 440    | °F   |
| Processing (Melt) Temp | 380 to 440    | °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. | 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.