

Medalist® MD-50293

Thermoplastic Elastomer

Teknor Apex Company

Message:

The Medalist MD-50200 Series is a high performance thermoplastic elastomer series, designed to be a sustainable alternative to flexible PVC for medical tubing and film. Medalist MD-50293 is a low density, high hardness, clear grade, available in Nat and color-matched, intended for use in medical and healthcare applications, with excellent processability and throughput in extruded tubing.

| General Information | |
|---------------------|----------------------------------|
| Features | Low Specific Gravity |
| | High purity |
| | Low density |
| | Ethylene oxide disinfection |
| | Anti-gamma radiation |
| | Workability, good |
| | Good coloring |
| | Good adhesion |
| | High pressure heating resistance |
| | Good chemical resistance |
| | Kink resistance |
| | Definition, high |
| | No kinetic components |
| | Halogen-free |
| | High hardness |
| Uses | Clear Sheet |
| | Films |
| | Pipe |
| | Pipe fittings |
| | Drug |
| | Medical/nursing supplies |
| Agency Ratings | ISO 10993 Part 5 |
| | ISO 13485 |
| RoHS Compliance | RoHS compliance |
| Appearance | Available colors |
| | Clear/transparent |
| Forms | Particle |
| Processing Method | Extrusion |

cast film
Injection molding

| Physical | Nominal Value | Unit | Test Method |
|--|---------------|-------------------|-------------|
| Specific Gravity | 0.888 | g/cm ³ | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg) | 5.0 | g/10 min | ASTM D1238 |
| Hardness | Nominal Value | Unit | Test Method |
| Durometer Hardness | | | ASTM D2240 |
| Shaw A, 1 sec | 95 | | ASTM D2240 |
| Shaw A, 5 seconds | 93 | | ASTM D2240 |
| Shaw D | 36 | | ASTM D2240 |
| Elastomers | Nominal Value | Unit | Test Method |
| Tensile Stress - Flow | | | ASTM D412 |
| 100% strain | 10.2 | MPa | ASTM D412 |
| 300% strain | 10.5 | MPa | ASTM D412 |
| Tensile Strength - Flow (Break) | 15.2 | MPa | ASTM D412 |
| Tensile Elongation - Flow (Break) | 600 | % | ASTM D412 |
| Tear Strength | 70.1 | kN/m | ASTM D624 |
| Compression Set (23°C, 22 hr) | 12 | % | ASTM D395 |

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.

| Injection | Nominal Value | Unit |
|------------------------|---------------|------|
| Rear Temperature | 127 - 149 | °C |
| Middle Temperature | 138 - 160 | °C |
| Front Temperature | 149 - 171 | °C |
| Nozzle Temperature | 171 - 193 | °C |
| Processing (Melt) Temp | 171 - 193 | °C |
| Mold Temperature | 21 - 38 | °C |
| Injection Pressure | 1.38 - 5.52 | MPa |
| Back Pressure | 0.172 - 0.689 | MPa |
| Screw Speed | 50 - 100 | rpm |
| Cushion | 3.81 - 25.4 | mm |

Injection instructions

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. | 138 - 149 | °C |
| Cylinder Zone 2 Temp. | 149 - 160 | °C |

| | | |
|-----------------------|-----------|----|
| Cylinder Zone 3 Temp. | 160 - 182 | °C |
| Cylinder Zone 4 Temp. | 171 - 193 | °C |
| Cylinder Zone 5 Temp. | 171 - 193 | °C |
| Die Temperature | 182 - 204 | °C |

Extrusion instructions

Screw Speed: 30 to 100 rpm;Screen Pack Recommendation:60/200/200/60 to 60/200/400/400/200/60 mesh size.

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