

# Medalist® MD-12140H (PRELIMINARY DATA)

Thermoplastic Elastomer

Teknor Apex Company

Message:

Medalist MD-12338 XRD1 is a high performance thermoplastic elastomer designed for use in medical and healthcare applications requiring good flow and elastic properties. Medalist MD-MD-12338 XRD1 is a low density, low hardness, resilient grade, available in NAT and colors, which can be sterilized and exhibits excellent adhesion to polypropylene.

| General Information |                              |
|---------------------|------------------------------|
| Features            | Low Specific Gravity         |
|                     | Without Fillers              |
|                     | Low density                  |
|                     | Pressure cooker disinfection |
|                     | smoothness                   |
|                     | Good disinfection            |
|                     | Ethylene oxide disinfection  |
|                     | Anti-gamma radiation         |
|                     | Good formability             |
|                     | Good flexibility             |
|                     | Good coloring                |
|                     | High liquidity               |
|                     | Good chemical resistance     |
|                     | Good toughness               |
|                     | Halogen-free                 |
|                     | Hardness, low                |
|                     | Elastic                      |
| Uses                | Disposable Hospital Goods    |
|                     | Handle                       |
|                     | Plug                         |
|                     | Bushing                      |
|                     | Washer                       |
|                     | Connector                    |
|                     | Seals                        |
|                     | Airbag                       |
|                     | Soft handle                  |
|                     | Rubber substitution          |
|                     | Knob                         |
|                     | Drug                         |
|                     | Medical/nursing supplies     |

| Agency Ratings  | ISO 10993 Part 5<br>ISO 13485                    |                   |             |
|---|--|-------------------|-------------|
| RoHS Compliance   | RoHS compliance                                  |                   |             |
| Appearance  | Translucent<br>Available colors<br>Natural color |                   |             |
| Forms   | Particle   |                   |             |
| Processing Method   | Injection molding                                |                   |             |
| Physical  | Nominal Value                                    | Unit              | Test Method |
| Specific Gravity  | 0.883  | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)   | 12   | g/10 min          | ASTM D1238  |
| Hardness  | Nominal Value                                    | Unit              | Test Method |
| Durometer Hardness  |  |                   | ASTM D2240  |
| Shore A, 1 second, injection molding  | 42   |                   | ASTM D2240  |
| Shore A, 5 seconds, injection molding   | 40   |                   | ASTM D2240  |
| Elastomers  | Nominal Value                                    | Unit              | Test Method |
| Tensile Stress <sup>1</sup>   |  |                   | ASTM D412   |
| 50% strain  | 0.931  | MPa               | ASTM D412   |
| 100% strain   | 1.21   | MPa               | ASTM D412   |
| 300% strain   | 2.00   | MPa               | ASTM D412   |
| Tensile Strength <sup>2</sup> (Break)   | 4.76   | MPa               | ASTM D412   |
| Tensile Elongation <sup>3</sup> (Break)   | 710  | %                 | ASTM D412   |
| Tear Strength <sup>4</sup>  | 18.9   | kN/m              | ASTM D624   |
| Compression Set <sup>5</sup>  |  |                   | ASTM D395   |
| 23°C, 22 hr   | 19   | %                 | ASTM D395   |
| 70°C, 22 hr   | 78   | %                 | ASTM D395   |
| Legal statement   |  |                   |             |
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| Injection   | Nominal Value                                    | Unit              |             |
| Rear Temperature  | 160 - 177  | °C                |             |
| Middle Temperature  | 182 - 204  | °C                |             |
| Front Temperature   | 193 - 216  | °C                |             |
| Nozzle Temperature  | 182 - 227  | °C                |             |
| Processing (Melt) Temp  | 182 - 227  | °C                |             |
| Mold Temperature  | 27 - 49  | °C                |             |

|                |               |     |
|----------------|---------------|-----|
| Injection Rate | Moderate-Fast |     |
| Back Pressure  | 0.172 - 0.689 | MPa |
| Screw Speed    | 50 - 100      | rpm |
| Cushion        | 3.81 - 12.7   | 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).

#### NOTE

- |    |                   |
|----|-------------------|
| 1. | C mold, 510mm/min |
| 2. | C mold, 510mm/min |
| 3. | C mold, 510mm/min |
| 4. | C mold, 510mm/min |
| 5. | Type 1            |

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