

# Monprene® CP-19078

Thermoplastic Elastomer

Teknor Apex Company

## Message:

Monprene CP-19078 is a general purpose thermoplastic elastomer designed for a variety of consumer product applications requiring a soft, rubber-like feel. Monprene CP-19078 is a high hardness, low density grade that exhibits medium flow characteristics, suitable for injection molding and extrusion.

| General Information |                                  |
|---------------------|----------------------------------|
| Features            | Low Specific Gravity             |
|                     | Low density                      |
|                     | Medium liquidity                 |
|                     | Fill                             |
|                     | High hardness                    |
| Uses                | Handle                           |
|                     | Kitchen utensils                 |
|                     | Washer                           |
|                     | Sporting goods                   |
|                     | Stationery                       |
|                     | Consumer goods application field |
|                     | Toothbrush handle                |
| Appearance          | Natural color                    |
| Forms               | Particle                         |
| Processing Method   | Extrusion                        |
|                     | Injection molding                |

| Physical                                  | Nominal Value | Unit              | Test Method |
|-------------------------------------------|---------------|-------------------|-------------|
| Specific Gravity                          | 0.938         | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 6.0           | g/10 min          | ASTM D1238  |
| Hardness                                  | Nominal Value | Unit              | Test Method |
| Durometer Hardness                        |               |                   | ASTM D2240  |
| Shore A, 1 second, injection molding      | 80            |                   | ASTM D2240  |
| Shore A, 5 seconds, injection molding     | 78            |                   | ASTM D2240  |
| Elastomers                                | Nominal Value | Unit              | Test Method |
| Tensile Stress                            |               |                   | ASTM D412   |
| Transverse flow: 100% strain <sup>1</sup> | 3.79          | MPa               | ASTM D412   |
| Flow: 100% strain <sup>2</sup>            | 6.48          | MPa               | ASTM D412   |
| Transverse flow: 300% strain <sup>3</sup> | 4.14          | MPa               | ASTM D412   |
| Flow: 300% strain <sup>4</sup>            | 7.47          | MPa               | ASTM D412   |

|                                            |                        |      |            |
|--------------------------------------------|------------------------|------|------------|
| Tensile Strength                           |                        |      | ASTM D412  |
| Transverse flow: Fracture <sup>5</sup>     | 9.22                   | MPa  | ASTM D412  |
| Flow: Fracture <sup>6</sup>                | 7.65                   | MPa  | ASTM D412  |
| Tensile Elongation                         |                        |      | ASTM D412  |
| Transverse flow: Fracture <sup>7</sup>     | 2200                   | %    | ASTM D412  |
| Flow: Fracture <sup>8</sup>                | 390                    | %    | ASTM D412  |
| Tear Strength <sup>9</sup>                 |                        |      | ASTM D624  |
| Transverse flow                            | 50.3                   | kN/m | ASTM D624  |
| Flow                                       | 52.5                   | kN/m | ASTM D624  |
| Compression Set <sup>10</sup>              |                        |      | ASTM D395B |
| 23°C, 22 hr                                | 26                     | %    | ASTM D395B |
| 70°C, 22 hr                                | 62                     | %    | ASTM D395B |
| Injection                                  | Nominal Value          | Unit |            |
| Rear Temperature                           | 182 - 232              | °C   |            |
| Middle Temperature                         | 188 - 238              | °C   |            |
| Front Temperature                          | 193 - 243              | °C   |            |
| Nozzle Temperature                         | 199 - 249              | °C   |            |
| Processing (Melt) Temp                     | 199 - 249              | °C   |            |
| Mold Temperature                           | 35.0 - 48.9            | °C   |            |
| Injection Pressure                         | 1.38 - 5.52            | MPa  |            |
| Injection Rate                             | Fast                   |      |            |
| Back Pressure                              | 0.172 - 0.689          | MPa  |            |
| Screw Speed                                | 50 - 100               | rpm  |            |
| Cushion                                    | 3.81 - 25.4            | mm   |            |
| Injection instructions                     |                        |      |            |
| 无需干燥.但如果湿度过大,则将粒料在150°F (65°C)的温度下干燥2-4小时. |                        |      |            |
| Extrusion                                  | Nominal Value          | Unit |            |
| Cylinder Zone 1 Temp.                      | 182 - 232              | °C   |            |
| Cylinder Zone 2 Temp.                      | 188 - 238              | °C   |            |
| Cylinder Zone 3 Temp.                      | 193 - 243              | °C   |            |
| Cylinder Zone 5 Temp.                      | 199 - 249              | °C   |            |
| Die Temperature                            | 199 - 249              | °C   |            |
| Extrusion instructions                     |                        |      |            |
| 螺杆转速30 - 100 rpm                           |                        |      |            |
| NOTE                                       |                        |      |            |
| 1.                                         | 510 mm/min             |      |            |
| 2.                                         | Mouth die C, 510mm/min |      |            |
| 3.                                         | 510 mm/min             |      |            |
| 4.                                         | C mold, 510mm/min      |      |            |
| 5.                                         | 510 mm/min             |      |            |
| 6.                                         | C mold, 510mm/min      |      |            |
| 7.                                         | 510 mm/min             |      |            |

|     |                        |
|-----|------------------------|
| 8.  | Mouth die C, 510mm/min |
| 9.  | C mold, 510mm/min      |
| 10. | Type 1                 |

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