# Monprene® CP-37168

### Thermoplastic Elastomer

Teknor Apex Company

#### Message:

Monprene CP-37168 is a high performance thermoplastic elastomer designed for a variety of consumer product applications requiring a soft, rubber-like feel. Monprene CP-37168 is a medium hardness grade suitable for injection molding and extrusion.

| General Information                   |                                  |                   |             |  |  |
|---------------------------------------|----------------------------------|-------------------|-------------|--|--|
| Features                              | High specific gravity            |                   |             |  |  |
|                                       | High density                     |                   |             |  |  |
|                                       | smoothness                       |                   |             |  |  |
|                                       | Medium liquidity                 |                   |             |  |  |
|                                       | Lubrication                      |                   |             |  |  |
|                                       | Fill                             |                   |             |  |  |
|                                       | Medium hardness                  |                   |             |  |  |
|                                       |                                  |                   |             |  |  |
| Uses                                  | Safety equipment                 |                   |             |  |  |
|                                       | Handle                           |                   |             |  |  |
|                                       | Kitchen utensils                 |                   |             |  |  |
|                                       | Washer                           |                   |             |  |  |
|                                       | Pipe fittings                    |                   |             |  |  |
|                                       | Sporting goods                   |                   |             |  |  |
|                                       | Stationery                       |                   |             |  |  |
|                                       | Consumer goods application field |                   |             |  |  |
|                                       | Toothbrush handle                |                   |             |  |  |
|                                       |                                  |                   |             |  |  |
| Appearance                            | Opacity                          |                   |             |  |  |
| Forms                                 | Particle                         |                   |             |  |  |
| Processing Method                     | Extrusion                        |                   |             |  |  |
|                                       | Injection molding                |                   |             |  |  |
| Physical                              | Nominal Value                    | Unit              | Test Method |  |  |
| Specific Gravity                      | 1.16                             | g/cm <sup>3</sup> | ASTM D792   |  |  |
| Melt Mass-Flow Rate (MFR) (230°C/2.16 |                                  |                   |             |  |  |
| kg)                                   | 5.0                              | g/10 min          | ASTM D1238  |  |  |
| Hardness                              | Nominal Value                    | Unit              | Test Method |  |  |
| Durometer Hardness                    |                                  |                   | ASTM D2240  |  |  |
| Shore A, 1 second, injection molding  | 70                               |                   | ASTM D2240  |  |  |
| Shore A, 5 seconds, injection molding | 68                               |                   | ASTM D2240  |  |  |
| Elastomers                            | Nominal Value                    | Unit              | Test Method |  |  |
| Tensile Stress                        |                                  |                   | ASTM D412   |  |  |

| Transverse flow: 100% strain <sup>1</sup> | 2.43 | MPa  | ASTM D412  |
|---|------|------|------------|
| Flow: 100% strain <sup>2</sup>            | 4.30 | MPa  | ASTM D412  |
| Transverse flow: 300% strain <sup>3</sup> | 3.30 | MPa  | ASTM D412  |
| Flow: 300% strain <sup>4</sup>            | 5.01 | MPa  | ASTM D412  |
| Tensile Strength <sup>5</sup>             |      |      | ASTM D412  |
| Transverse flow: Fracture                 | 8.82 | MPa  | ASTM D412  |
| Flow: Fracture                            | 5.48 | MPa  | ASTM D412  |
| Tensile Elongation <sup>6</sup>           |      |      | ASTM D412  |
| Transverse flow: Fracture                 | 700  | %    | ASTM D412  |
| Flow: Fracture                            | 410  | %    | ASTM D412  |
| Tear Strength <sup>7</sup>                |      |      | ASTM D624  |
| Transverse flow                           | 33.3 | kN/m | ASTM D624  |
| Flow                                      | 28.7 | kN/m | ASTM D624  |
| Compression Set <sup>8</sup>              |      |      | ASTM D395B |
| 23°C, 22 hr                               | 24   | %    | ASTM D395B |
| 70°C, 22 hr                               | 43   | %    | ASTM D395B |

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| 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   |  |

193 - 243

199 - 249

Cylinder Zone 3 Temp.

Cylinder Zone 5 Temp.

°C °C

| Die Temperature        | 199 - 249              | °C |
|------------------------|------------------------|----|
| Extrusion instructions |                        |    |
| 螺杆转速30 - 100 rpm       |                        |    |
| NOTE                   |                        |    |
| 1.                     | Mouth die C, 510mm/min |    |
| 2.                     | Mouth die C, 510mm/min |    |
| 3.                     | C mold, 510mm/min      |    |
| 4.                     | C mold, 510mm/min      |    |
| 5.                     | C mold, 510mm/min      |    |
| 6.                     | Mouth die C, 510mm/min |    |
| 7.                     | C mold, 510mm/min      |    |
| 8.                     | Туре 1                 |    |

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