

# Telcar® TL-1947A-55NT YEL 651

Thermoplastic Elastomer

Teknor Apex Company

## Message:

Telcar TL-1949A-55NT YEL 651 is designed for medical and healthcare applications requiring high elasticity and tensile strength. Telcar TL-1949A-55NT YEL 651 can be sterilized and is suitable for injection molding and extrusion. This grade also exhibits excellent adhesion to polypropylene. Every ingredient used to formulate this product is either "generally recognized as safe" (GRAS), prior sanctioned, subject to an effective Food Contact Notification (FCN), subject to a Threshold of Regulation (TOR) or identified in one or more sections of Title 21 of the code of Federal Regulations published by the US FDA.

| General Information                       |                      |                   |             |
|-------------------------------------------|----------------------|-------------------|-------------|
| Features                                  | Low Specific Gravity |                   |             |
|                                           | Sunlight Resistant   |                   |             |
|                                           | Without Fillers      |                   |             |
|                                           | Low density          |                   |             |
|                                           | Light stabilization  |                   |             |
|                                           | Medium liquidity     |                   |             |
|                                           | Medium hardness      |                   |             |
| Uses                                      | Packaging            |                   |             |
|                                           | Washer               |                   |             |
|                                           | Shell                |                   |             |
| Appearance                                | Yellow               |                   |             |
| Forms                                     | Particle             |                   |             |
| Processing Method                         | Extrusion            |                   |             |
|                                           | Injection molding    |                   |             |
| Physical                                  | Nominal Value        | Unit              | Test Method |
| Specific Gravity                          | 0.928                | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 4.5                  | g/10 min          | ASTM D1238  |
| Hardness                                  | Nominal Value        | Unit              | Test Method |
| Durometer Hardness                        |                      |                   | ASTM D2240  |
| Shore A, 1 second, injection molding      | 53                   |                   | ASTM D2240  |
| Shore A, 5 seconds, injection molding     | 50                   |                   | ASTM D2240  |
| Elastomers                                | Nominal Value        | Unit              | Test Method |
| Tensile Stress                            |                      |                   | ASTM D412   |
| Transverse flow: 100% strain <sup>1</sup> | 1.46                 | MPa               | ASTM D412   |
| Flow: 100% strain <sup>2</sup>            | 1.94                 | MPa               | ASTM D412   |
| Transverse flow: 300% strain <sup>3</sup> | 2.37                 | MPa               | ASTM D412   |
| Flow: 300% strain <sup>4</sup>            | 2.93                 | MPa               | ASTM D412   |

|                                                                                                               |                        |      |            |
|---------------------------------------------------------------------------------------------------------------|------------------------|------|------------|
| Tensile Strength <sup>5</sup>                                                                                 |                        |      | ASTM D412  |
| Transverse flow: Fracture                                                                                     | 5.01                   | MPa  | ASTM D412  |
| Flow: Fracture                                                                                                | 3.44                   | MPa  | ASTM D412  |
| Tensile Elongation <sup>6</sup>                                                                               |                        |      | ASTM D412  |
| Transverse flow: Fracture                                                                                     | 720                    | %    | ASTM D412  |
| Flow: Fracture                                                                                                | 490                    | %    | ASTM D412  |
| Tear Strength <sup>7</sup>                                                                                    |                        |      | ASTM D624  |
| Transverse flow                                                                                               | 30.5                   | kN/m | ASTM D624  |
| Flow                                                                                                          | 22.4                   | kN/m | ASTM D624  |
| Compression Set <sup>8</sup>                                                                                  |                        |      | ASTM D395B |
| 23°C, 22 hr                                                                                                   | 14                     | %    | ASTM D395B |
| 70°C, 22 hr                                                                                                   | 96                     | %    | ASTM D395B |
| Injection                                                                                                     | Nominal Value          | Unit |            |
| Rear Temperature                                                                                              | 171 - 193              | °C   |            |
| Middle Temperature                                                                                            | 177 - 199              | °C   |            |
| Front Temperature                                                                                             | 182 - 204              | °C   |            |
| Nozzle Temperature                                                                                            | 188 - 210              | °C   |            |
| Processing (Melt) Temp                                                                                        | 188 - 210              | °C   |            |
| Mold Temperature                                                                                              | 25.0 - 65.6            | °C   |            |
| Injection Pressure                                                                                            | 1.38 - 6.89            | MPa  |            |
| Injection Rate                                                                                                | Moderate-Fast          |      |            |
| Back Pressure                                                                                                 | 0.172 - 0.345          | 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.                                                                                         | 166 - 188              | °C   |            |
| Cylinder Zone 2 Temp.                                                                                         | 171 - 193              | °C   |            |
| Cylinder Zone 3 Temp.                                                                                         | 177 - 199              | °C   |            |
| Cylinder Zone 5 Temp.                                                                                         | 182 - 204              | °C   |            |
| Die Temperature                                                                                               | 190 - 210              | °C   |            |
| Extrusion instructions                                                                                        |                        |      |            |
| Screw Speed: 30 to 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      |      |            |

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