

# Sarlink® TPE ML-1660B BLK X (PRELIMINARY DATA)

Thermoplastic Elastomer  
Teknor Apex Company

Message:

Sarlink ML-1660B BLK is a general purpose TPE designed for automotive interior applications. This is a medium hardness, medium density grade suitable for injection molding. This high flow TPE exhibits improved moldability and surface appearance.

| General Information                       |                                 |                   |             |
|-------------------------------------------|---------------------------------|-------------------|-------------|
| Features                                  | Sunlight Resistant              |                   |             |
|                                           | Medium liquidity                |                   |             |
|                                           | Fill                            |                   |             |
|                                           | Medium density                  |                   |             |
|                                           | Medium hardness                 |                   |             |
|                                           | UV absorption                   |                   |             |
| Uses                                      | Washer                          |                   |             |
|                                           | Application in Automobile Field |                   |             |
|                                           | Car interior parts              |                   |             |
|                                           | General                         |                   |             |
| Appearance                                | Black                           |                   |             |
| Forms                                     | Particle                        |                   |             |
| Processing Method                         | Injection molding               |                   |             |
| Physical                                  | Nominal Value                   | Unit              | Test Method |
| Density                                   | 0.990                           | g/cm <sup>3</sup> | ISO 1183    |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 16                              | g/10 min          | ASTM D1238  |
| Hardness                                  | Nominal Value                   | Unit              | Test Method |
| Durometer Hardness                        |                                 |                   | ISO 868     |
| Shore A, 1 second, injection molding      | 62                              |                   | ISO 868     |
| Shore A, 5 seconds, injection molding     | 60                              |                   | ISO 868     |
| Shore A, 15 seconds, injection molding    | 58                              |                   | ISO 868     |
| Elastomers                                | Nominal Value                   | Unit              | Test Method |
| Tensile Stress <sup>1</sup>               |                                 |                   | ISO 37      |
| Transverse flow: 100% strain              | 1.63                            | MPa               | ISO 37      |
| Flow: 100% strain                         | 2.24                            | MPa               | ISO 37      |
| Tensile Stress <sup>2</sup>               |                                 |                   | ISO 37      |
| Transverse flow: Fracture                 | 6.70                            | MPa               | ISO 37      |

|                                                       |               |        |             |
|-------------------------------------------------------|---------------|--------|-------------|
| Flow: Fracture                                        | 5.80          | MPa    | ISO 37      |
| Tensile Elongation <sup>3</sup>                       |               |        | ISO 37      |
| Transverse flow: Fracture                             | 860           | %      | ISO 37      |
| Flow: Fracture                                        | 740           | %      | ISO 37      |
| Tear Strength <sup>4</sup>                            |               |        | ISO 34-1    |
| Transverse flow                                       | 23            | kN/m   | ISO 34-1    |
| Flow                                                  | 25            | kN/m   | ISO 34-1    |
| Compression Set <sup>5</sup>                          |               |        | ISO 815     |
| 23°C, 22 hr                                           | 22            | %      | ISO 815     |
| 70°C, 22 hr                                           | 43            | %      | ISO 815     |
| 90°C, 70 hr                                           | 65            | %      | ISO 815     |
| 125°C, 70 hr                                          | 92            | %      | ISO 815     |
| Aging                                                 | Nominal Value | Unit   | Test Method |
| Change in Tensile Strength in Air <sup>6</sup>        |               |        | ISO 188     |
| Transverse flow: 110°C, 1008 hr                       | 8.3           | %      | ISO 188     |
| Flow: 110°C, 1008 hr                                  | 6.2           | %      | ISO 188     |
| Transverse flow: 100% strain 110°C, 1008 hr           | 3.0           | %      | ISO 188     |
| Flow: 100% strain 110°C, 1008 hr                      | 9.0           | %      | ISO 188     |
| Transverse flow: 125°C, 168 hr                        | 12            | %      | ISO 188     |
| Flow: 125°C, 168 hr                                   | 3.6           | %      | ISO 188     |
| Transverse flow: 100% strain 125°C, 168 hr            | 5.5           | %      | ISO 188     |
| Flow: 100% strain 125°C, 168 hr                       | 9.8           | %      | ISO 188     |
| Change in Tensile Strain at Break in Air <sup>7</sup> |               |        | ISO 188     |
| Transverse flow: 110°C, 1008 hr                       | 6.8           | %      | ISO 188     |
| Flow: 110°C, 1008 hr                                  | 6.7           | %      | ISO 188     |
| Transverse flow: 125°C, 168 hr                        | 9.5           | %      | ISO 188     |
| Flow: 125°C, 168 hr                                   | 7.5           | %      | ISO 188     |
| Change in Shore Hardness in Air                       |               |        |             |
| Support a, 110°C, 1008 hr <sup>8</sup>                | 3.4           |        | ISO 188     |
| Support a, 110°C, 1008 hr <sup>9</sup>                | 4.1           |        | ISO 188     |
| Support a, 110°C, 1008 hr <sup>10</sup>               | 3.6           |        | ISO 188     |
| Support a, 125°C, 168 hr <sup>11</sup>                | 4.4           |        | ISO 188     |
| Support a, 125°C, 168 hr <sup>12</sup>                | 3.8           |        | ISO 188     |
| Fill Analysis                                         | Nominal Value | Unit   | Test Method |
| Apparent Viscosity (200°C, 206 sec <sup>-1</sup> )    | 113           | Pa · s | ASTM D3835  |
| Additional Information                                | Nominal Value | Unit   | Test Method |
| Xenon Weatherometer                                   |               |        | SAE J1885   |
| Delta E - 1250 kJ                                     | 0.900         |        | SAE J1885   |
| Delta E - 2500 kJ                                     | 1.10          |        | SAE J1885   |
| 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).

#### NOTE

1. Type 1, 510mm/min
2. Type 1, 510mm/min
3. Type 1, 510mm/min
4. B method, right angle specimen (without cut), 510mm/min
5. Type a
6. Type 1
7. Type 1
8. 5 sec
9. 15 sec
10. 1 sec
11. 15 sec
12. 5 sec

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