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TEKNOR APEX

# Sarlink® TPE ML-1150B BLK

## Teknor Apex Company - Thermoplastic Elastomer

### General Information

**Product Description**

Sarlink ML-1100 is a general purpose thermoplastic elastomer series, available in NAT and BLK designed for automotive interior applications. Sarlink ML-1150B BLK is a low hardness, high density, filled grade suitable for injection molding.

**General**

| | | | |
|---|---|---|---|
| Material Status | • Commercial: Active | | |
| Availability | • Africa & Middle East<br>• Asia Pacific | • Europe<br>• Latin America | • North America |
| Features | • Chemical Resistant<br>• Filled<br>• Good Adhesion<br>• Good Flexibility | • Good Moldability<br>• Good Tear Strength<br>• Good Toughness<br>• High Density | • High Specific Gravity<br>• Low Flow<br>• Low Hardness<br>• Resilient |
| Uses | • Automotive Applications<br>• Automotive Interior Parts<br>• Flexible Grips | • General Purpose<br>• Grommets<br>• Knobs | • Rubber Replacement<br>• Soft Touch Applications |
| RoHS Compliance | • RoHS Compliant | | |
| Appearance | • Black | | |
| Forms | • Pellets | | |
| Processing Method | • Injection Molding | | |

### ASTM & ISO Properties [1]

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Density | 1.19 | g/cm³ | ISO 1183 |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) | 6.0 | g/10 min | ASTM D1238 |
| **Elastomers** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Stress [2] | | | ISO 37 |
| Across Flow : 100% Strain | 164 | psi | |
| Flow : 100% Strain | 232 | psi | |
| Tensile Stress [2] | | | ISO 37 |
| Across Flow : Break | 711 | psi | |
| Flow : Break | 624 | psi | |
| Tensile Elongation [2] | | | ISO 37 |
| Across Flow : Break | 860 | % | |
| Flow : Break | 740 | % | |
| Tear Strength [3] | | | ISO 34-1 |
| Across Flow | 114 | lbf/in | |
| Flow | 116 | lbf/in | |
| Compression Set [4] | | | ISO 815 |
| 73°F, 22 hr | 25 | % | |
| 158°F, 22 hr | 43 | % | |
| 194°F, 70 hr | 69 | % | |
| 257°F, 70 hr | 93 | % | |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Shore Hardness | | | ISO 868 |
| Shore A, 1 sec, Injection Molded | 53 | | |
| Shore A, 5 sec, Injection Molded | 51 | | |
| Shore A, 15 sec, Injection Molded | 49 | | |

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## Teknor Apex Company - Thermoplastic Elastomer

| Aging | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Change in Tensile Strength in Air [5] | | | ISO 188 |
| Across Flow : 230°F, 1008 hr | 8.2 | % | |
| Flow : 230°F, 1008 hr | 14 | % | |
| Across Flow : 100% Strain 230°F, 1008 hr | 2.7 | % | |
| Flow : 100% Strain 230°F, 1008 hr | 3.8 | % | |
| Across Flow : 257°F, 168 hr | 12 | % | |
| Flow : 257°F, 168 hr | 14 | % | |
| Across Flow : 100% Strain 257°F, 168 hr | -0.88 | % | |
| Flow : 100% Strain 257°F, 168 hr | 13 | % | |
| Change in Tensile Strain at Break in Air [5] | | | ISO 188 |
| Across Flow : 230°F, 1008 hr | 8.1 | % | |
| Flow : 230°F, 1008 hr | 12 | % | |
| Across Flow : 257°F, 168 hr | 15 | % | |
| Flow : 257°F, 168 hr | 18 | % | |
| Change in Shore Hardness in Air | | | ISO 188 |
| Shore A, 230°F, 1008 hr [6] | 1.3 | | |
| Shore A, 230°F, 1008 hr [7] | 1.1 | | |
| Shore A, 230°F, 1008 hr [8] | 0.0 | | |
| Shore A, 257°F, 168 hr [6] | 1.5 | | |
| Shore A, 257°F, 168 hr [7] | 1.2 | | |
| Shore A, 257°F, 168 hr [8] | 0.80 | | |

| Fill Analysis | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Apparent Viscosity (392°F, 206 sec^-1) | 127 | Pa·s | ASTM D3835 |

| Additional Information | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Xenon Weatherometer | | | SAE J1885 |
| Delta E - 1250 kJ | 0.430 | | |
| Delta E - 2500 kJ | 0.190 | | |

## Processing Information

| Injection | Nominal Value | Unit |
|---|---|---|
| Rear Temperature | 340 to 380 | °F |
| Middle Temperature | 350 to 390 | °F |
| Front Temperature | 360 to 400 | °F |
| Nozzle Temperature | 370 to 410 | °F |
| Processing (Melt) Temp | 370 to 410 | °F |
| Mold Temperature | 77 to 150 | °F |
| Injection Pressure | 200 to 1000 | psi |
| Injection Rate | Moderate-Fast | |
| Back Pressure | 25.0 to 50.0 | psi |
| Screw Speed | 50 to 100 | rpm |

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## Teknor Apex Company - Thermoplastic Elastomer

| Injection | Nominal Value | Unit |
|---|---|---|
| Cushion | 0.150 to 1.00 | in |

**Injection Notes**

Drying is not necessary. However, if moisture is a problem, dry the pellets for 2 to 4 hours at 150°F (65°C).

### Notes

[1] Typical properties: these are not to be construed as specifications.

[2] Type 1, 20 in/min

[3] Method Ba, Angle (Unnicked), 20 in/min

[4] Type A

[5] Type 1

[6] 15 sec

[7] 5 sec

[8] 1 sec