

AVALON® 95 AEU

Thermoplastic Polyurethane Elastomer (Polyester)

Huntsman Corporation

Message:

AVALON 95 AEU is a high performance UV-stabilised polyester based thermoplastic polyurethane for injection moulding. AVALON 95 AEU is part of the AVALON Perform Range and offers a premium soling material for the sporting goods and fashion markets and is supplied with a high degree of stabilisation against premature yellowing from sunlight.

The features offered include:

- UV resistance
- Excellent surface definition
- Abrasion resistance
- Flex resistance
- Phthalate free TPU

| General Information | | | |
|--------------------------------|----------------------|-------------------|-------------|
| Additive | UV stabilizer | | |
| Features | Good UV resistance | | |
| | Good wear resistance | | |
| | Excellent appearance | | |
| Uses | Sporting goods | | |
| | Footwear | | |
| Forms | Particle | | |
| Processing Method | Injection molding | | |
| Physical | Nominal Value | Unit | Test Method |
| Density | 1.24 | g/cm ³ | ISO 2781 |
| Hardness | Nominal Value | Unit | Test Method |
| Durometer Hardness | | | ISO 868 |
| Shaw A | 95 | | ISO 868 |
| Shaw D | 50 | | ISO 868 |
| Mechanical | Nominal Value | Unit | Test Method |
| Ross Flex ¹ (-10°C) | 2.5E+5 | Cycles | |
| Abrasion Resistance | 35.0 | mm ³ | ISO 4649 |
| Elastomers | Nominal Value | Unit | Test Method |
| Tensile Stress | | | ISO 37 |
| 100% strain | 11.0 | MPa | ISO 37 |
| 300% strain | 18.0 | MPa | ISO 37 |
| Tensile Stress (Break) | 33.0 | MPa | ISO 37 |
| Tensile Elongation (Break) | 400 | % | ISO 37 |
| Tear Strength ² | 130 | kN/m | ISO 34-1 |
| Compression Set (23°C) | 20 | % | ISO 815 |
| Additional Information | | | |

Test plates conditioned 20 hours at 100°C before testing

| Injection | Nominal Value | Unit |
|--------------------------------------|-----------------------|------|
| Drying Temperature - Desiccant Dryer | 80.0 - 90.0 | °C |
| Drying Time - Desiccant Dryer | 2.0 | hr |
| Hopper Temperature | 25.0 - 35.0 | °C |
| Rear Temperature | 185 - 195 | °C |
| Middle Temperature | 190 - 200 | °C |
| Front Temperature | 195 - 205 | °C |
| Nozzle Temperature | 180 - 190 | °C |
| Mold Temperature | 25.0 - 50.0 | °C |
| Injection Pressure | 2.00 - 10.0 | MPa |
| Injection Rate | Slow | |
| Holding Pressure | 1.00 - 5.00 | MPa |
| Back Pressure | 0.0300 - 0.300 | MPa |
| Screw Speed | 20 - 80 | rpm |
| Screw L/D Ratio | 20.0:1.0 to 25.0:1.0 | |
| Screw Compression Ratio | 2.0 : 1.0 - 3.0 : 1.0 | |

Injection instructions

Typical Screw Diameter : 40 - 120 mm3 Stage Design

Feed Zone : 0.4L

Compression Zone : 0.3L

Metering Zone : 0.3L

NOTE

1. BS 5131
2. Method B, right-angle specimen
(without cut)

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