

Huntsman AVALON[®] 90 AK Thermoplastic Polyurethane

Category : Polymer , Thermoplastic , Polyurethane, TP , Thermoplastic Polyurethane (TPUR), Polyester Grade

Material Notes:

Introduction: AVALON 90 AK is a part of the AVALON Crystal Range and offers a specially designed, flexible material with a higher degree of transparency compared with conventional TPU at the same hardness. AVALON Crystal materials are particularly suitable for the sporting goods and fashion markets. It is recommended that a suitable UV stabilizer be incorporated for most applications to prevent premature yellowing. The features offered include: Transparency Durability Information provided by Alliance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_Huntsman-AVALON-90-AK-Thermoplastic-Polyurethane.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|---------------------------|----------|
| Density | 1.21 g/cc | 0.0437 lb/in ³ | ISO 2781 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|-------------|----------|----------------------------|
| Hardness, Shore A | 90 | 90 | ISO 868 |
| Hardness, Shore D | 44 | 44 | ISO 868 |
| Tensile Strength at Break | 45.0 MPa | 6530 psi | ISO 37 |
| Elongation at Break | 450 % | 450 % | ISO 37 |
| 100% Modulus | 0.00800 GPa | 1.16 ksi | ISO 37 |
| 300% Modulus | 0.0160 GPa | 2.32 ksi | ISO 37 |
| Tear Strength | 110 kN/m | 628 pli | ISO 34B |
| Abrasion | 50 | 50 | mm ³ ; ISO 4649 |

| Processing Properties | Metric | English | Comments |
|---------------------------|-----------------|-----------------|----------|
| Feed Temperature | 25.0 - 35.0 Â°C | 77.0 - 95.0 Â°F | |
| Rear Barrel Temperature | 195 - 205 Â°C | 383 - 401 Â°F | |
| Middle Barrel Temperature | 205 - 215 Â°C | 401 - 419 Â°F | |
| Front Barrel Temperature | 210 - 220 Â°C | 410 - 428 Â°F | |
| Nozzle Temperature | 205 - 215 Â°C | 401 - 419 Â°F | |
| Mold Temperature | 25.0 - 50.0 Â°C | 77.0 - 122 Â°F | |
| Injection Pressure | 2.00 - 10.0 MPa | 290 - 1450 psi | |
| Hold Pressure | 1.00 - 5.00 MPa | 145 - 725 psi | |

| Processing Properties | Metric | English | Comments |
|-----------------------|-------------|-------------|----------|
| Screw Speed | 20 - 80 rpm | 20 - 80 rpm | |

| Descriptive Properties | Value | Comments |
|------------------------|-----------------|----------|
| Compression Ratio | 2-3:1 | |
| L/D Ratio | 20-25:1 | |
| Ross Flex | -10Å°C, BS 5131 | |
| Typical Screw Diameter | 40-120 nm | |

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