

# AVALON® 55 AEX

Thermoplastic Polyurethane Elastomer (Polyester)

Huntsman Corporation

## Message:

AVALON 55 AEX is a high performance polyester based thermoplastic polyurethane for injection moulding. AVALON 55 AEX is part of the AVALON Perform Range and offers a specially designed, flexible material with improved slip resistance and rubber-like properties, particularly suitable for TPU/PU applications. The features offered include:

- Improved processing
- Lower density
- Excellent surface definition
- Abrasion resistance
- Flex resistance
- Phthalate free TPU

General Information			
Features	Good flexibility		
	Good wear resistance		
	Excellent appearance		
Uses	Footwear		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.13	g/cm <sup>3</sup>	DIN 53479
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	57		DIN 53505
Mechanical	Nominal Value	Unit	Test Method
Abrasion Resistance		mm <sup>3</sup>	DIN 53516
Bending life	> 1.0E+5	Cycles	DIN 53522
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (Break)	> 7.00	MPa	DIN 53504
Tensile Elongation (Break)	> 800	%	DIN 53504
Tear Strength <sup>1</sup>	> 15	kN/m	DIN 53507
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	155 - 175	°C	
Middle Temperature	160 - 180	°C	
Front Temperature	160 - 185	°C	

Nozzle Temperature	155 - 180	°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. Method B, right-angle specimen  
(without cut)

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#### Recommended distributors for this material

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