

TPU 90A

Technical Data

Product Description

Thermoplastic Polyester Polyurethane Elastomers with excellent mechanical properties, outstanding wear resistance, good tensile strength, good damping and resilience performance and superior low temperature flexibility.

Typical applications

Sport-shoe soles and accessories, Skiboot shells, technical mouldings, e.g. seals, castor tyres, tubing.

General

Material Status	• Commercial: Active		
Literature ¹	• Processing - Elastollan (English) • Technical Datasheet (English)		
Availability	• Europe		
Features	• Good Wear Resistance	• Low Temperature Flexibility	• Resilient
Uses	• Footwear • Seals	• Sporting Goods • Tubing	
Processing Method	• Blow Molding	• Extrusion	• Injection Molding

Physical	Nominal Value Unit	Test Method
Density	1.21 g/cm ³	ISO 1183/A
Mechanical	Nominal Value Unit	Test Method
Abrasion Loss	30.0 mm ³	ISO 4649-A
Elastomers	Nominal Value Unit	Test Method
Tensile Stress		DIN 53504
20% Strain	4.00 MPa	
100% Strain	7.00 MPa	
300% Strain	20.0 MPa	
Tensile Stress		DIN 53504
Yield ³	40.0 MPa	
Yield	55.0 MPa	
Tensile Elongation ³ (Break)	550 %	DIN 53504
Tear Strength ⁴	90 kN/m	ISO 34-1
Compression Set		ISO 815
23°C, 72 hr	25 %	
70°C, 24 hr	40 %	
Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength		ISO 179
-30°C	No Break	
23°C	No Break	
Hardness	Nominal Value Unit	Test Method
Shore Hardness		ISO 7619
Shore A, 3 sec	91	
Shore D, 3 sec	42	
Injection	Nominal Value Unit	
Processing (Melt) Temp	190 to 220 °C	
Mold Temperature	20.0 to 50.0 °C	
Extrusion	Nominal Value Unit	
Melt Temperature	180 to 230 °C	

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Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² Typical properties: these are not to be construed as specifications.

³ after storage in water for 21 days at 80°C

⁴ Method Bb, Angle (Nicked)