

AuroraTec™ TPU077-NA

Aurora Material Solutions, LLC - Thermoplastic Polyurethane Elastomer (Polyester)

General Information
Product Description

AuroraTec™ TPU077-NA is a Natural. Thermoplastic Polyurethane Elastomer (Polyester) Injection Molding Grade.,

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Features	• Abrasion Resistant	• High Moisture Vapor Transmission	• Low Temperature Resistant
	• Aromatic	• Hydrolysis Resistant	
Uses	• Composites	• Overmolding	• Seals
Agency Ratings	• FDA 21 CFR 177.1680	• FDA 21 CFR 177.2600	
RoHS Compliance	• RoHS Compliant		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.07		ASTM D792
Molding Shrinkage - Flow (0.100 in)	8.0E-3	in/in	ASTM D955
Molding Shrinkage - Across Flow (0.100 in)	8.0E-3	in/in	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus			ASTM D790
-22°F	15500	psi	
73°F	2100	psi	
Taber Abrasion Resistance (1000 Cycles, 1000 g, H-18 Wheel)	7.00	mg	ASTM D3489
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (100% Strain)	493	psi	ASTM D412
Tensile Stress (300% Strain)	754	psi	ASTM D412
Tensile Stress (Break)	3700	psi	ASTM D412
Tensile Elongation (Break)	770	%	ASTM D412
Tear Strength ²	345	lbf/in	ASTM D624
Compression Set			ASTM D395 B
73°F, 72 hr	11	%	
158°F, 24 hr ³	30	%	
Bayshore Resilience	68	%	ASTM D2632
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore A, 1 sec, 73°F)	70		ISO 7619
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	-70.6	°F	DMA
Vicat Softening Temperature	167	°F	ASTM D1525 ⁴

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	195	°F
Drying Time	4.0	hr
Suggested Max Moisture	0.030	%



Suggested Max Regrind	20 %
Rear Temperature	360 to 380 °F
Middle Temperature	370 to 390 °F
Front Temperature	370 to 390 °F
Nozzle Temperature	375 to 395 °F
Processing (Melt) Temp	370 to 390 °F
Mold Temperature	60 to 100 °F
Injection Pressure	8000 to 13000 psi
Injection Rate	Slow-Moderate
Back Pressure	< 800 psi
Screw Speed	40 to 80 rpm
Cushion	< 0.125 in

Notes

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

² Die C

³ Method A

⁴ Rate A (50°C/h)

