



Estane® 58142 TPU

Lubrizol Advanced Materials, Inc. - Thermoplastic Polyurethane Elastomer (Polyester)

Wednesday, November 6, 2019

General Information

Product Description

Type: Estane® 58142 is a 60D Polyester Thermoplastic Polyurethane (TPU).

Features: Fast cycling, broad temperature performance, and durability

Use: Injection Molding

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Latin America	• North America
Features	• Durable	• Fast Molding Cycle	
RoHS Compliance	• RoHS Compliant		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.23		ASTM D792
Molding Shrinkage - Flow			ASTM D955
-- ²	8.0E-3	in/in	
-- ³	7.0E-3	in/in	
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus (73°F)	33400	psi	ASTM D790
Taber Abrasion Resistance			ASTM D3389
1000 Cycles, 1000 g, CS-17 Wheel	82.0	mg	
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (100% Strain, 0.0300 in)	2760	psi	ASTM D412
Tensile Stress (300% Strain, 0.0300 in)	4210	psi	ASTM D412
Tensile Strength (Break, 0.0300 in)	5510	psi	ASTM D412
Tensile Elongation (Break, 0.0300 in)	430	%	ASTM D412
Tear Strength ⁴ (0.0300 in)	1120	lbf/in	ASTM D624
Tear Strength (Split)	290	lbf/in	ASTM D470
Compression Set			ASTM D395
73°F, 22 hr	34	%	
158°F, 22 hr	53	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, 5 sec)	57 to 63		ASTM D2240
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	-11.2	°F	DSC
Melting Temperature	414	°F	DSC

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	219	°F

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Injection	Nominal Value	Unit
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Rear Temperature	410	°F
Middle Temperature	419	°F
Front Temperature	435	°F
Nozzle Temperature	444	°F
Processing (Melt) Temp	444	°F
Injection Pressure	10000 to 14900	psi
Injection Rate	Moderate	
Holding Pressure	5080 to 10000	psi
Back Pressure	50.0	psi
Screw Speed	60 to 100	rpm

Injection Notes

Air Dew Point: -40°C

Notes

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

² Disc

³ Flex Bar

⁴ Die C