

Estane® 58142 TPU

Thermoplastic Polyurethane Elastomer (Polyester)

Lubrizol Advanced Materials, Inc.

Message:

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

Features: Fast cycling, broad temperature performance, and durability

Use: Injection Molding

General Information			
Features	Fast molding cycle		
	Durability		
RoHS Compliance	RoHS compliance		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.23	g/cm ³	ASTM D792
Molding Shrinkage - Flow			ASTM D955
-- ¹	0.70	%	ASTM D955
-- ²	0.80	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, 5 sec)	57 - 63		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus (23°C)	230	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	82.0	mg	ASTM D3389
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
100% strain, 0.762mm	19.0	MPa	ASTM D412
300% strain, 0.762mm	29.0	MPa	ASTM D412
Tensile Strength (Break, 0.762 mm)	38.0	MPa	ASTM D412
Tensile Elongation (Break, 0.762 mm)	430	%	ASTM D412
Tear Strength			
0.762 mm ³	196	kN/m	ASTM D624
Cracking	51	kN/m	ASTM D470
Compression Set			ASTM D395
23°C, 22 hr	34	%	ASTM D395
70°C, 22 hr	53	%	ASTM D395
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	-24.0	°C	DSC
Melting Temperature	212	°C	DSC

Injection	Nominal Value	Unit
Drying Temperature	104	°C
Drying Time	2.0 - 4.0	hr
Suggested Max Moisture	0.020	%
Rear Temperature	210	°C
Middle Temperature	215	°C
Front Temperature	224	°C
Nozzle Temperature	229	°C
Processing (Melt) Temp	229	°C
Injection Pressure	69.0 - 103	MPa
Injection Rate	Moderate	
Holding Pressure	35.0 - 69.0	MPa
Back Pressure	0.345	MPa
Screw Speed	60 - 100	rpm

Injection instructions

Air Dew Point: -40°C

NOTE

1. Flex Bar
2. Disc
3. C mould

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

