

Texin® 1209

Thermoplastic Polyurethane Elastomer (Polyether)

Covestro - PUR

Message:

Texin 1209 resin is an aromatic polyether-based thermoplastic polyurethane; it can be processed by injection molding or extrusion.

General Information			
Features	High Moisture Vapor Transmission		
	Flexibility at low temperatures		
	Impact resistance, good		
	Hydrolysis resistance		
	Compliance of Food Exposure		
	Elastic		
Uses	overmolding		
	Films		
	Lining		
	Seals		
	Membrane		
	Footwear		
Agency Ratings	FDA 21 CFR 177.1680		
	FDA 21 CFR 177.2600		
Processing Method	Extrusion		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.07	g/cm ³	ASTM D792, ISO 1183
Molding Shrinkage			
Flow: 2.54mm	0.80	%	ASTM D955
Transverse flow: 2.54mm	0.80	%	ASTM D955
Vertical flow direction: 2.54mm	0.80	%	ISO 2577
Flow direction: 2.54mm	0.80	%	ISO 2577
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	70		ASTM D2240, ISO 868
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus			ASTM D790, ISO 178
-30°C	107	MPa	ASTM D790, ISO 178
23°C	14.5	MPa	ASTM D790, ISO 178

Taber Abrasion Resistance			
1000 Cycles, 1000g, H-18 wheel	7.00	mg	ISO 4649
1000 Cycles, 1000g, H-18 wheel	7.00	mg	ASTM D1044
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412, ISO 37
100% strain	3.40	MPa	ASTM D412, ISO 37
300% strain	5.20	MPa	ASTM D412, ISO 37
Tensile Strength (Yield)	25.5	MPa	ASTM D412, ISO 37
Tensile Elongation (Break)	770	%	ASTM D412, ISO 37
Tear Strength			
-- ¹	60.5	kN/m	ASTM D624
--	61	kN/m	ISO 34-1
Compression Set ²			ASTM D395B, ISO 815
23°C, 22 hr	11	%	ASTM D395B, ISO 815
70°C, 22 hr	30	%	ASTM D395B, ISO 815
Bayshore Resilience	68	%	ASTM D2632
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	-57.0	°C	DMA
Vicat Softening Temperature	75.0	°C	ISO 306/A50, ASTM D1525 ³
Injection	Nominal Value	Unit	
Drying Temperature - Desiccant Dryer	82.0 - 93.0	°C	
Drying Time - Desiccant Dryer	2.0	hr	
Suggested Max Moisture	< 0.030	%	
Suggested Max Regrind	20	%	
Rear Temperature	182 - 193	°C	
Middle Temperature	188 - 199	°C	
Front Temperature	188 - 199	°C	
Nozzle Temperature	191 - 202	°C	
Processing (Melt) Temp	188 - 199	°C	
Mold Temperature	16.0 - 38.0	°C	
Injection Pressure	41.4 - 103	MPa	
Injection Rate	Slow-Moderate		
Back Pressure	< 1.38	MPa	
Screw Speed	40 - 80	rpm	
Cushion	< 3.18	mm	
Injection instructions			
Hold Pressure: 60 to 80% of Injection Pressure			
Extrusion	Nominal Value	Unit	
Drying Temperature	82.0 - 93.0	°C	
Drying Time	2.0	hr	
Cylinder Zone 1 Temp.	182 - 199	°C	

Cylinder Zone 2 Temp.	182 - 204	°C
Cylinder Zone 3 Temp.	182 - 204	°C
Melt Temperature	191 - 204	°C
Die Temperature	188 - 204	°C

NOTE		
1.	C mould	
2.	Post-cured 16 hr at 230°F	
3.	速率 A (50°C/h), 压力1 (10N)	

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Recommended distributors for this material

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



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