

Adiprene® L 42

Polyurethane (Polyether, TDI)

Chemtura

Message:

ADIPRENE L 42 is a liquid urethane elastomer which yields high quality vulcanizates of 80 durometer A hardness when cured with MBCA. ADIPRENE L 42 products have good tear strength, good abrasion resistance, and excellent flex life. They are very flexible at low temperatures having a torsional modulus of 10,000 psi (703 kg./sq. cm.) at -80°F (-62°C), and a brittleness temperature of -130°F (-90°C). ADIPRENE L 42 has been found suitable for the preparation of rolls, solid tires, diaphragms, boots, and for other applications where good flex life is needed. It should also be considered for making seals, bushings, and mountings for use at very low temperatures. ADIPRENE L 42 resembles ADIPRENE L-100 in its processing and handling characteristics, and can be processed in the same type of automatic mixing equipment used to process ADIPRENE L-100.

General Information			
Features	Good Abrasion Resistance		
	Good Tear Strength		
	Low Temperature Flexibility		
	Resilient		
Uses	Bushings		
	Diaphragms		
	Footwear		
	Seals		
Forms	Liquid		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.07	g/cm ³	ASTM D792
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 24°C ¹	75		
Shore A, 24°C ²	80		
Shore A, 100°C	80		
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
100% Strain, 24°C ³	2.59	MPa	
100% Strain, 24°C ⁴	2.76	MPa	
100% Strain, 100°C	2.76	MPa	
300% Strain, 24°C ⁵	3.79	MPa	
300% Strain, 24°C ⁶	4.31	MPa	
300% Strain, 100°C	4.31	MPa	
Tensile Strength			ASTM D412
24°C ⁷	17.9	MPa	
24°C ⁸	20.7	MPa	
100°C	11.7	MPa	

Tensile Elongation			ASTM D412
Break, 24°C ⁹	780	%	
Break, 24°C ¹⁰	800	%	
Break, 100°C	650	%	
Tear Strength			ASTM D470
Split ¹¹	5.3	kN/m	
Split ¹²	11	kN/m	
Split ¹³	12	kN/m	
Compression Set (70°C, 22 hr)	45	%	ASTM D395B
Bayshore Resilience	70	%	ASTM D2632
Aging	Nominal Value	Unit	Test Method
Change in Volume			ASTM D471
50°C, 168 hr ¹⁴	180	%	
50°C, 168 hr, in ASTM Oil #3	25	%	
50°C, 168 hr, in Methylenehtylketone	500	%	
50°C, 168 hr, in Reference Fuel B	60	%	
Thermoset	Nominal Value	Unit	
Thermoset Components			
Hardener	Mix Ratio by Weight: 8.8		
Resin	Mix Ratio by Weight: 100		
Pot Life (100°C)	6.0 to 12	min	
Demold Time (100°C)	45 to 60	min	
Post Cure Time (24°C)	170	hr	
Additional Information	Nominal Value	Unit	
Abrasion Index - NBS	110		
Uncured Properties	Nominal Value	Unit	
Curing Time (100°C)	3.0	hr	
NOTE			
1.	100% R.H.		
2.	60% R.H.		
3.	100% R.H.		
4.	60% R.H.		
5.	100% R.H.		
6.	60% R.H.		
7.	100% R.H.		
8.	60% R.H.		
9.	100% R.H.		
10.	60% R.H.		
11.	100°C		
12.	100% R.H.		
13.	60% R.H.		
14.	in Toluene		

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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

