

Zythane® 3045DX

Thermoplastic Polyurethane Elastomer (Polycaprolactone)

Alliance Polymers & Services

Message:

Zythane 3045DX is a polycaprolactone--based TPU with high Vicat S.P. specifically formulated for injection molding applications. It exhibits excellent low compression set, abrasion resistance and toughness and has good hydrolytic stability, oil, fuel and solvent resistance. It is supplied uncolored in pellet form.

Typical Applications:

Zythane 3045DX application include high temperature hydraulic seals and other applications require good higher temp compression set.

General Information			
Features	Low compressive deformability		
	Solvent resistance		
	Good wear resistance		
	Fuel resistance		
	Oil resistance		
	Good toughness		
	Hydrolysis stability		
Uses	High temperature application		
	Seals		
	Hydraulic application		
Appearance	Colorless		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm ³	ASTM D792
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shaw A	95		ASTM D2240
Shaw D	52		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Taber Abrasion Resistance	44.0	mg	ASTM D1044
Abrasion - DIN	38	mm ³	DIN 53516
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
100% strain	16.0	MPa	ASTM D412
300% strain	37.0	MPa	ASTM D412
Tensile Strength (Break)	61.0	MPa	ASTM D412
Tensile Elongation (Break)	390	%	ASTM D412

Tear Strength ¹	160	kN/m	ASTM D624
Compression Set			ASTM D395B
23°C, 22 hr	8.0	%	ASTM D395B
70°C, 72 hr	12	%	ASTM D395B
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	-25.0	°C	DSC
Vicat Softening Temperature	165	°C	ASTM D1525
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
1.00 mm	HB		UL 94
1.50 mm	V-0		UL 94
3.00 mm	V-0		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	85.0	°C	
Drying Time	4.0	hr	
Rear Temperature	190	°C	
Middle Temperature	205	°C	
Front Temperature	215	°C	
Nozzle Temperature	215 - 225	°C	
Processing (Melt) Temp	215 - 225	°C	
Mold Temperature	40.0 - 70.0	°C	
Back Pressure	0.500 - 1.00	MPa	
Screw Speed	60 - 200	rpm	
Clamp Tonnage	4.0 - 7.0	kN/cm ²	
Injection instructions			
Injection Speed: 0.4 in/sec or more (10 mm/sec or more)			
NOTE			
1.	C mould		

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