

Zythane® 3045DX

Alliance Polymers & Services - Thermoplastic Polyurethane Elastomer (Polycaprolactone)

General Information

Product Description

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

Features	<ul style="list-style-type: none"> Abrasion Resistant Fuel Resistant Good Toughness 	<ul style="list-style-type: none"> Hydrolytically Stable Low Compression Set Oil Resistant 	<ul style="list-style-type: none"> Solvent Resistant
Uses	<ul style="list-style-type: none"> High Temperature Applications 	<ul style="list-style-type: none"> Hydraulic Applications 	<ul style="list-style-type: none"> Seals
Appearance	<ul style="list-style-type: none"> Colorless 		
Forms	<ul style="list-style-type: none"> Pellets 		
Processing Method	<ul style="list-style-type: none"> Injection Molding 		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
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 (100% Strain)	2320	psi	ASTM D412
Tensile Stress (300% Strain)	5370	psi	ASTM D412
Tensile Strength (Break)	8850	psi	ASTM D412
Tensile Elongation (Break)	390	%	ASTM D412
Tear Strength ²	914	lbf/in	ASTM D624
Compression Set			ASTM D395B
73°F, 22 hr	8.0	%	
158°F, 72 hr	12	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A	95		
Shore D	52		
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	-13.0	°F	DSC
Vicat Softening Temperature	329	°F	ASTM D1525
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.04 in	HB		
0.06 in	V-0		
0.12 in	V-0		

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Processing Information

Injection	Nominal Value	Unit
Drying Temperature	185	°F
Drying Time	4.0	hr
Rear Temperature	374	°F
Middle Temperature	401	°F
Front Temperature	419	°F
Nozzle Temperature	419 to 437	°F
Processing (Melt) Temp	419 to 437	°F
Mold Temperature	104 to 158	°F
Back Pressure	72.5 to 145	psi
Screw Speed	60 to 200	rpm
Clamp Tonnage	2.9 to 5.1	tons/in ²

Injection Notes

Injection Speed: 0.4 in/sec or more (10 mm/sec or more)

Notes

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

² Die C