

# Zythane® 7055D

## Alliance Polymers & Services - Thermoplastic Polyurethane Elastomer (Polyether)

### General Information

#### Product Description

Zythane 7055D is a polyether--based TPU specifically formulated for extrusion applications with ease of processing. It exhibits excellent abrasion resistance and toughness and has good hydrolytic stability, oil, fuel and solvent resistance. It is supplied uncolored in pellet form.

Typical Applications:

Zythane 7055D applications include among others FDA applications, cable sheathing, spiral and pneumatic tubing, film, irrigation hoses, conveyor hoses, fire hoses, hydraulic hoses, cable jacketing, flat flex cables, automotive sensor cables.

#### General

Features	<ul style="list-style-type: none"> <li>Abrasion Resistant</li> <li>Fuel Resistant</li> </ul>	<ul style="list-style-type: none"> <li>Good Toughness</li> <li>Hydrolytically Stable</li> </ul>	<ul style="list-style-type: none"> <li>Oil Resistant</li> <li>Solvent Resistant</li> </ul>
Uses	<ul style="list-style-type: none"> <li>Automotive Applications</li> <li>Cable Jacketing</li> </ul>	<ul style="list-style-type: none"> <li>Hose</li> <li>Tubing</li> </ul>	
Agency Ratings	<ul style="list-style-type: none"> <li>FDA</li> </ul>		
Appearance	<ul style="list-style-type: none"> <li>Colorless</li> </ul>		
Forms	<ul style="list-style-type: none"> <li>Pellets</li> </ul>		
Processing Method	<ul style="list-style-type: none"> <li>Extrusion</li> </ul>	<ul style="list-style-type: none"> <li>Injection Molding</li> </ul>	

### Properties <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.16		ASTM D792
Mechanical	Nominal Value	Unit	Test Method
Taber Abrasion Resistance	353	mg	ASTM D1044
Abrasion - DIN	28	mm <sup>3</sup>	DIN 53516
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (100% Strain)	3480	psi	ASTM D412
Tensile Stress (300% Strain)	5510	psi	ASTM D412
Tensile Strength (Break)	7250	psi	ASTM D412
Tensile Elongation (Break)	400	%	ASTM D412
Tear Strength <sup>2</sup>	1120	lbf/in	ASTM D624
Compression Set			ASTM D395B
75°F, 22 hr	38	%	
158°F, 72 hr	48	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	55		ASTM D2240
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	3.00	°F	DSC
Vicat Softening Temperature	284	°F	ASTM D1525
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.04 in		HB	
0.06 in		HB	
0.12 in		HB	

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### Processing Information

Injection	Nominal Value	Unit
Drying Temperature	194	°F
Drying Time	4.0	hr
Rear Temperature	392	°F
Middle Temperature	410	°F
Front Temperature	428	°F
Nozzle Temperature	419 to 437	°F
Processing (Melt) Temp	419 to 437	°F
Mold Temperature	77 to 140	°F
Back Pressure	87.0 to 203	psi
Screw Speed	60 to 200	rpm
Clamp Tonnage	3.0 to 5.0	tons/in <sup>2</sup>

#### Injection Notes

Injection Speed: >.4 in/sec

Extrusion	Nominal Value	Unit
Drying Temperature	194	°F
Drying Time	4.0	hr
Cylinder Zone 1 Temp.	392	°F
Cylinder Zone 2 Temp.	410	°F
Cylinder Zone 3 Temp.	428	°F
Die Temperature	437	°F

#### Extrusion Notes

Gate Temperature: 215°C (419°F)

#### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Die C