

# Zythane® 6080A

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

### General Information

#### Product Description

Zythane 6080A is a polyether-based TPU specifically formulated for injection molding applications, especially for overmold onto PC, ABS & PC/ABS substrates. 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 6080A applications include among others FDA applications, sports shoes, ski tips, other sporting goods, casters, power tools handles, good overmolded adhesion to certain EP (ex: PC, ABS, PMMA), cell phone cases, plugs, terminations, ski boot shell, animal tags, railroad pads.

#### 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>Cell Phones</li> <li>Footwear</li> </ul>	<ul style="list-style-type: none"> <li>Industrial Applications</li> <li>Power/Other Tools</li> </ul>	<ul style="list-style-type: none"> <li>Sporting Goods</li> <li>Wheels/Casters</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>Injection Molding</li> </ul>		

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

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.11		ASTM D792
Mechanical	Nominal Value	Unit	Test Method
Taber Abrasion Resistance	23.0	mg	ASTM D1044
Abrasion - DIN	15	mm <sup>3</sup>	DIN 53516
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (100% Strain)	580	psi	ASTM D412
Tensile Stress (300% Strain)	1020	psi	ASTM D412
Tensile Strength (Break)	5080	psi	ASTM D412
Tensile Elongation (Break)	610	%	ASTM D412
Tear Strength <sup>2</sup>	560	lbf/in	ASTM D624
Compression Set			ASTM D395B
75°F, 22 hr	23	%	
158°F, 72 hr	37	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	80		ASTM D2240
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	-40.0	°F	DSC
Vicat Softening Temperature	194	°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	185	°F
Drying Time	4.0	hr
Rear Temperature	347	°F
Middle Temperature	374	°F
Front Temperature	401	°F
Nozzle Temperature	401 to 410	°F
Processing (Melt) Temp	392 to 401	°F
Mold Temperature	77 to 140	°F
Back Pressure	72.5 to 145	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

#### Notes

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

<sup>2</sup> Die C