Zythane® 8080DU

Alliance Polymers & Services - Thermoplastic Polyurethane Elastomer (Polyether)

General Information

Product Description

Zythane 8080DU is a rigid clear polyether--based TPU specifically formulated for injection molding applications. It exhibits excellent clarity, UV--stability, high elastic modulus (about 275,000 psi), softening temperature, abrasion resistance and toughness and has good hydrolytic stability, oil, fuel and solvent resistance. It is supplied uncolored in pellet form.

Typical Applications:

Zythane 8080DU applications include among others dampening applications for sports shoes, ski tips, 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	• Abrasion Resistant • Fuel Resistant • Good Toughness	• Halogen Free • Hydrolytically Stable • Medium Rigidity	• Oil Resistant • Solvent Resistant
Uses	• Cell Phones • Footwear	• Industrial Applications • Power/Other Tools	• Sporting Goods
Appearance	• Clear/Transparent	• Colorless	
Forms	• Pellets		
Processing Method	• Injection Molding		

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.22		ASTM D792
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Taber Abrasion Resistance	45.0	mg	ASTM D1044
Abrasion - DIN	50	mm^3	DIN 53516
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (100% Strain)	2470	psi	ASTM D412
Tensile Stress (300% Strain)	4350	psi	ASTM D412
Tensile Strength (Break)	9430	psi	ASTM D412
Tensile Elongation (Break)	150	%	ASTM D412
Tear Strength [2]	1710	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)	82		ASTM D2240
Thermal	**Nominal Value**	**Unit**	**Test Method**
Brittleness Temperature	23.0	°F	DSC
Vicat Softening Temperature	442	°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		

Zythane® 8080DU

Alliance Polymers & Services - Thermoplastic Polyurethane Elastomer (Polyether)

Processing Information		
Injection	**Nominal Value**	**Unit**
Drying Temperature	212	°F
Drying Time	6.0	hr
Rear Temperature	401	°F
Middle Temperature	419	°F
Front Temperature	446	°F
Nozzle Temperature	446 to 464	°F
Processing (Melt) Temp	446 to 482	°F
Mold Temperature	158 to 194	°F
Back Pressure	87.0 to 203	psi
Screw Speed	60 to 200	rpm
Clamp Tonnage	4.0 to 7.0	tons/in²

Injection Notes

Injection Speed: >.4 in/sec

Notes

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

[2] Die C