

Texin[®] 983A

Texin 983A resin is a polyether-based thermoplastic polyurethane; it can be processed by injection molding or extrusion.

Physical Properties

MEASUREMENT	CONDITION	Value
Density / Specific Gravity	ASTM D792	1.11
--	ISO 1183	1.10g/cm ³
Molding Shrinkage		
Flow : 0.100 in	ASTM D955	8.0E-3in/in
Across Flow : 0.100 in	ASTM D955	8.0E-3in/in
Across Flow : 0.100 in	ISO 2577	0.80%
Flow : 0.100 in	ISO 2577	0.80%

Hardness Properties

MEASUREMENT	CONDITION	Value
Durometer Hardness (Shore A)	ASTM D2240, ISO 868	83

Mechanical Properties

MEASUREMENT	CONDITION	Value
Flexural Modulus		
-22°F	ASTM D790, ISO 178	8560psi
73°F		3900psi
Taber Abrasion Resistance		
1000 Cycles, 1000 g, H-18 Wheel	ASTM D1044	30.0mg
1000 Cycles, 1000 g, H-18 Wheel	ISO 4649	30.0mg

Features

- Abrasion Resistant
- High Flexibility
- High Impact Resistance
- High Toughness
- Hydrolytically Stable

Applications

- Belts/Belt Repair
- Cable Jacketing
- Film
- Footwear
- Gaskets
- Hose
- Jacketing
- Mining Applications
- Profiles
- Seals
- Tubing
- Wheels/Casters

Processing Method

- Injection Molding
- Extrusion

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Elastomer Properties

MEASUREMENT	CONDITION	Value
Tensile Stress 100% Strain 300% Strain	ASTM D412, ISO 37	798psi 1200psi
Tensile Stress Break --	ISO 37 ASTM D412	4500psi 4500psi
Tensile Elongation (Break)	ASTM D412, ISO 37	670%
Tear Strength -- ³ --	ASTM D624 ISO 34-1	500lbf/in 500lbf/in
Compression Set 73°F, 22 hr 158°F, 22 hr	ASTM D395B, ISO 815	16% 40%

Thermal Properties

MEASUREMENT	CONDITION	Value
Glass Transition Temperature	DMA	-50.8°F
Vicat Softening Temperature	ISO 306/50, ASTM D1525 4	176°F

Additional Properties

MEASUREMENT	CONDITION	Value
Bayshore Resistance	ASTM D2632	45%

Injection Properties

MEASUREMENT	Value
Drying Temperature - Desiccant Dryer	180 to 199°F
Drying Time - Desiccant Dryer	4.0hr
Suggested Max Moisture	< 0.030%
Suggested Max Regrind	20%
Rear Temperature	360 to 390°F
Middle Temperature	360 to 399°F

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Injection Properties (continued)

MEASUREMENT	Value
Front Temperature	360 to 410°F
Nozzle Temperature	370 to 415°F
Processing (Melt) Temp	370 to 399°F
Mold Temperature	61 to 109°F
Injection Pressure	8000 to 14000psi
Injection Rate	Slow-Moderate
Back Pressure	< 800psi
Screw Speed	40 to 80rpm
Cushion	0.125in

Extrusion Properties

MEASUREMENT	Value
Drying Temperature	180 to 199°F
Drying Time	4.0hr
Suggested Max Moisture	< 0.030%
Suggested Max Regrind	20%
Cylinder Zone 1 Temp.	360 to 390°F
Cylinder Zone 2 Temp.	360 to 399°F
Cylinder Zone 3 Temp.	370 to 410°F
Melt Temperature	365 to 399°F
Die Temperature	365 to 399°F

Notes

³Die C

⁴Rate A (50°C/h)

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