

Technical Data

Product Description

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

Properties / Applications:

Texin 983A resin offers outstanding abrasion resistance, impact strength, toughness, and flexibility. It also exhibits excellent hydrolytic stability. Texin 983A resin complies with FDA food-contact regulations 21 CFR 177.1680 (Polyurethane Resins) and 177.2600 (Rubber Articles Intended for Repeated Use), subject to the limitations of these and other applicable regulations. Applications include belting, hose, seals and gaskets, tubing, cable jackets, hose jackets, athletic soles, casters, mine screens, film, and extruded profiles. As with any product, use of Texin 983A resin in a given application must be tested (including but not limited to field testing) in advance by the user to determine suitability.

General

Material Status	• Commercial: Active		
Literature ¹	• Technical Datasheet (English)		
UL Yellow Card ²	• E33640-480092		
Search for UL Yellow Card	• Covestro - PUR • Texin®		
Availability	• Europe	• North America	
Features	• Abrasion Resistant • High Flexibility	• High Impact Resistance • High Toughness	• Hydrolytically Stable
Uses	• Belts/Belt Repair • Cable Jacketing • Film • Footwear	• Gaskets • Hose • Jacketing • Mining Applications	• Profiles • Seals • Tubing • Wheels/Casters
Processing Method	• Extrusion	• Injection Molding	

Physical	Nominal Value Unit	Test Method
Density / Specific Gravity	1.10 g/cm ³	ASTM D792 ISO 1183
Molding Shrinkage		ASTM D955 ISO 2577
Flow : 2.54 mm	0.80 %	
Across Flow : 2.54 mm	0.80 %	
Mechanical	Nominal Value Unit	Test Method
Flexural Modulus		ASTM D790 ISO 178
-30°C	59.0 MPa	
23°C	26.9 MPa	
Taber Abrasion Resistance		
1000 Cycles, 1000 g, H-18 Wheel	30.0 mg	ASTM D1044
1000 Cycles, 1000 g, H-18 Wheel	30.0 mg	ISO 4649



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Thermoplastic Polyurethane Elastomer (Polyether)

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Elastomers	Nominal Value Unit	Test Method
Tensile Stress		ASTM D412 ISO 37
100% Strain	5.50 MPa	
300% Strain	8.30 MPa	
Tensile Stress		
Break	31.0 MPa	ISO 37
--	31.0 MPa	ASTM D412
Tensile Elongation (Break)	670 %	ASTM D412 ISO 37
Tear Strength		
-- ⁴	87.6 kN/m	ASTM D624
--	87.6 kN/m	ISO 34-1
Compression Set		ASTM D395B ISO 815
23°C, 22 hr	16 %	
70°C, 22 hr	40 %	
Hardness	Nominal Value Unit	Test Method
Durometer Hardness (Shore A)	83	ASTM D2240 ISO 868
Thermal	Nominal Value Unit	Test Method
Glass Transition Temperature	-46.0 °C	DMA
Vicat Softening Temperature	80.0 °C	ISO 306/50 ASTM D1525 ⁵
Additional Information	Nominal Value Unit	Test Method
Bayshore Resistance	45 %	ASTM D2632
Injection	Nominal Value Unit	
Drying Temperature - Desiccant Dryer	82 to 93 °C	
Drying Time - Desiccant Dryer	4.0 hr	
Suggested Max Moisture	< 0.030 %	
Suggested Max Re grind	20 %	
Rear Temperature	182 to 199 °C	
Middle Temperature	182 to 204 °C	
Front Temperature	182 to 210 °C	
Nozzle Temperature	188 to 213 °C	
Processing (Melt) Temp	188 to 204 °C	
Mold Temperature	16 to 43 °C	
Injection Pressure	55.2 to 96.5 MPa	
Injection Rate	Slow-Moderate	
Back Pressure	< 5.52 MPa	
Screw Speed	40 to 80 rpm	
Cushion	3.18 mm	



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Extrusion	Nominal Value Unit
Drying Temperature	82 to 93 °C
Drying Time	4.0 hr
Suggested Max Moisture	< 0.030 %
Suggested Max Regrind	20 %
Cylinder Zone 1 Temp.	182 to 199 °C
Cylinder Zone 2 Temp.	182 to 204 °C
Cylinder Zone 3 Temp.	188 to 210 °C
Melt Temperature	185 to 204 °C
Die Temperature	185 to 204 °C

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ Die C

⁵ Rate A (50°C/h)



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Where to Buy

Supplier

Covestro - PUR

Leverkusen, Leverkusen Germany

Telephone: +49-214-6009-2000

Web: <http://www.tpu.covestro.com/>

Distributor

Bamberger Amco Polymers

Telephone: 800-262-6685

Web: <https://bapolymers.com/>

Availability: North America

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Availability: Mexico, United States

Mito Polimeri SRL

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Web: <https://www.mitopolimeri.it/>

Availability: Europe, Switzerland, United Kingdom

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Telephone: 833-446-3936

Web: <https://www.nexeoplastics.com/>

Availability: North America

