Texin® 950DLW

Characterization

Texin 950DLW resin is an aromatic polyether-based thermoplastic polyurethane. It can be processed by injection molding, extrusion or blow molding.

Properties / Applications

Texin 950DLW offers outstanding abrasion resistance, impact strength, toughness, and flexibility. It also exhibits excellent hydrolytic stability. Texin 950DLW natural color 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 any other applicable regulations. Typical applications include gaskets, hose, tubing, shoe inserts, connectors, belting and miscellaneous molded articles. As with any product, use of Texin 950DLW resin in a given application must be tested (including field testing, etc.) in advance by the user to determine suitability.

Storage, Drying and Regrind Usage

Texin thermoplastic polyurethane resins are hygroscopic and will absorb ambient moisture. The resins should remain in their sealed containers and stored in a dry area. Storage temperatures should not exceed 86°F (30°C). Unused resin from opened containers, or reground material that is not to be used immediately, should also be stored in sealed containers under cool and dry conditions.

Prior to processing, Texin 950DLW resin must be thoroughly dried for a minimum of 4 hours in a pre-heated desiccant dehumidifying hopper dryer to a moisture content of less than 0.03%. Hopper inlet air temperature should be 190-220°F (88-104°C), the inlet air dew point should be -20°F(-29°C) or lower.

Where end-use requirements permit, up to 20% Texin resin regrind may be used with virgin material. Regrind material must be generated from properly molded/extruded parts, sprues, runners, trimmings, and/or films.

Degraded or discolored material may not be used for regrind. All regrind material must be free of contamination and thoroughly blended with virgin material prior to drying and processing. Finish parts containing regrind must be tested to ensure that end-use requirements are fully met.

Document contains important information and must be read in its entirety.

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Injection Molding, Extrusion and Blow Molding Conditions

Typical starting conditions for injection molding, extrusion and blow molding are noted below. It is recommended that initial processing is done at the lower end of the suggested temperature ranges and increased as necessary. Actual processing conditions will depend on machine size, mold design, material residence time, shot size, part geometry, etc.

Typical Injection Molding Conditions

Barrel Temperature: Rear	390°–410°F (199°–210°C)
Barrel Temperature: Middle	395°–415°F (202°–213°C)
Barrel Temperature: Front	395°–415°F (202°–213°C)
Barrel Temperature: Nozzle	400°–420°F (204°–216°C)
Melt Temperature	400°–420°F (204°–216°C)
Mold Temperature	80°–120°F (27°–49°C)
Injection Pressure	8,000 - 15,000 psi
Hold Pressure	60 - 80% of Injection Pressure
Back Pressure	800 psi max.
Screw Speed	40 - 80 rpm
Injection Speed	Moderate
Cushion	1/8 in max

Extrusion and Blow Molding Profile

Typical Temperature Profile for Extrusion and Blow Molding

Rear (Feed)	380º - 400ºF (193º - 204ºC)
Middle (Transition)	385º - 405ºF (196º - 207ºC)
Front (Meter)	385º - 405ºF (196º - 207ºC)
Die	390º - 410ºF (199º - 210ºC)
Melt	390º - 410ºF (199º - 210ºC)

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Typical Properties* for Natural Resin

Property	ASTM Test Method (Other)	Texin 950DLW Resin U.S. Units	Texin 950DLW Resin S.I. Units
General			
Specific Gravity	D 792 (ISO 1183)	1.15	1.15
Shore Hardness	D 2240 (ISO 868)	50D	50D
Taber Abrasion: H-18, 1,000-g Load, 1,000 Cycles	D 3489 (ISO 4649)	75 mg Loss	75 mg Loss
Bayshore Resilience	D 2632	35%	35%
Mold Shrinkage, 100-mil thickness	D 955 (ISO 2577)		
Flow Direction		0.008 in/in (mm/mm)	0.008 in/in (mm/mm)
Cross-Flow Direction		0.008 in/in (mm/mm)	0.008 in/in (mm/mm)
Mechanical			
Tensile Strength	D 412 (ISO 37)	7,200 lb/in^2	49.7 MPa
Tensile Stress at 100% Elongation	D 412 (ISO 37)	2,100 lb/in^2	14.5 MPa
Tensile Stress at 300% Elongation	D 412 (ISO 37)	4,400 lb/in^2	30.3 MPa
Ultimate Elongation	D 412 (ISO 37)	460%	460%
Flexural Modulus: 73°F (23°C)	D 790 (ISO 178)	16,500 lb/in^2	113.8 MPa
Tear Strength, Die C	D 624 (ISO 34)	750 lbf/in	131.3 kN/m
Compression Set (postcured):**	D 395-B (ISO 815)		
22 Hours at 158°F (70°C)		40%	40%
22 Hours at 73°F (23°C)		15%	15%
Thermal			
Vicat Softening Temperature, Rate A	D 1525 (ISO 306)	262°F	128°C

** These items are provided as general information only. They are approximate values and are not part of the product specifications.*

*** Postcured for 16 hours at 230°F (110°C).*

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Health and Safety Information	Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling this product. Before working with this product, you must read and become familiar with the available information on its risks, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., safety data sheets and product labels. For further information contact your Covestro LLC representative or the Product Safety and Regulatory Affairs Department in Pittsburgh, PA.
Regulatory Compliance Information	Some of the end uses of the products described in this bulletin must comply with applicable regulations, such as the FDA, NSF, USDA, and CPSC. If you have any questions on the regulatory status of these products, contact your Covestro representative or Regulatory Affairs Manager in Pittsburgh, PA.
Note	***The purchaser/user agrees that Covestro LLC reserves the right to discontinue this product without prior notice.***

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