Texin® 965D

Characterization	Texin 965D resin is an aromatic polyether-based thermoplastic polyurethane. It can be processed by injection molding, extrusion or blow molding.
Properties / Applications	Texin 965D is characterized by outstanding abrasion resistance, impact strength, toughness and flexibility. It also exhibits excellent hydrolytic stability. Typical applications include gaskets, hose, tubing, connectors, belting and miscellaneous molded articles. As with any product, use of Texin 965D resin in a given application must be tested (including but not limited to field testing) in advance by the user to determine suitability.
Storage and Drying	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 965D resin must be thoroughly dried for a minimum of 4 hours in a desiccant dehumidifying hopper dryer to a moisture content of less than 0.03%. Hopper inlet air temperature should be 210-230°F (99-110°C), the inlet air dew point should be -20°F (-29°C) or lower.

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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 be 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	390º-420ºF (199º-216ºC)
Barrel Temperature: Middle	395º-425ºF (202º-218ºC)
Barrel Temperature: Front	395º-425ºF (202º-218ºC)
Barrel Temperature: Nozzle	400º-430ºF (204º-221ºC)
Melt Temperature	400º-430ºF (204º-221ºC)
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

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Typical Temperature Profile for Extrusion and Blow Molding

Rear (Feed)	390° - 410°F (199° - 210°C)
Middle (Transition)	395º - 420ºF (202º - 216ºC)
Front (Meter)	395º - 420ºF (202º - 216ºC)
Die	395º - 420ºF (202º - 216ºC)
Melt	395º - 420ºF (202º - 216ºC)

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Typical Properties* for Natural Resin

Property	ASTM Test Method (Other)	Texin 965D Resin U.S. Units	Texin 965D Resin S.I. Units
General			
Specific Gravity	D 792 (ISO 1183)	1.17	1.17
Shore Hardness	D 2240 (ISO 868)	65D	65D
Taber Abrasion: H-18, 1,000-g Load, 1,000 Cycles	D 3489 (ISO 4649)	75 mg Loss	75 mg Loss
Mold Shrinkage, 100-mil thickness: Flow Direction Cross-flow Direction	D 955 (ISO 2577)	0.008 in/in (mm/mm) 0.008 in/in (mm/mm)	0.008 in/in (mm/mm) 0.008 in/in (mm/mm)
Mechanical			
Tensile Strength	D 412 (ISO 37)	7,500 lb/in^2	51.7 MPa
Tensile Stress at 100% Elongation	D 412 (ISO 37)	3,300 lb/in^2	22.8 MPa
Tensile Stress at 300% Elongation	D 412 (ISO 37)	6,000 lb/in^2	41.4 MPa
Ultimate Elongation	D 412 (ISO 37)	350%	350%
Flexural Modulus: 73°F (23°C)	D 790 (ISO 178)	61,000 lb/in^2	420.6 MPa
Tear Strength, Die C	D 624 (ISO 34)	1,200 lbf/in	210 kN/m
Compression Set (postcured):[a] 22 Hours at 158°F (70°C) 22 Hours at 73°F (23°C)	D 395-B (ISO 815)	35% 20%	35% 20%
Thermal			
Vicat Softening Temperature, Rate A	D 1525 (ISO 306)	280°F	138°C
Glass Transition Temperature (Tg)	(DMA)[b]	14°F	-10°C

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

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

b DMA - Dynanmic Mechanical Analysis

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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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