



AVAILABLE IN HARDNESSES RANGING FROM

75 Shore A to 75 Shore D

HydroThane™

The lubricity of a hydrogel; the mechanical strength to withstand extrusion.

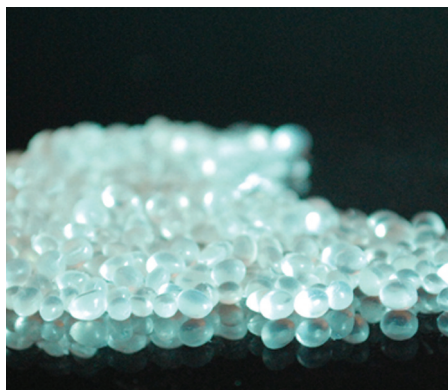
Description

HydroThane is a hydrophilic thermoplastic polyurethane elastomer, ranging in water absorption rates from 5% to 25%. This unique extrudable hydrophilic product line was designed to provide maximum physical properties for use in extruded or injection molded components, while allowing for consistent single-step surface lubricity characteristics and a low coefficient of friction.

Available in aliphatic and aromatic versions, these elastomers have the ability to rapidly absorb water while maintaining high tensile strength and high elongation, resulting in a permanently lubricious polymer.

HydroThane can be processed using conventional extrusion or injection molding equipment.

Being hydrophilic even when dehydrated, they should be sealed and stored in a cool, dry place and are available in hardnesses of 80 Shore A and 93 Shore A.



HYDROTHANE IN PELLET FORM

The ASB Advantage

AdvanSource Biomaterials synthesizes and manufactures medical grade materials offering the ability to tailor physical and mechanical characteristics to support and enhance your end product design.

These mechanical characteristic's, critical to the design and development of medical devices, can incorporate a wide range of physical and chemical properties while maintaining core characteristics such as biodegradability and biocompatibility. In most materials, specialized characteristics such as the addition of colorant agents or antimicrobial properties (where applicable) can be added to the polymer to provide a homogenous material and limit secondary processing steps.

In addition, radiopaque agents may also be incorporated into the formula to provide additional product enhancements and may contain up to 40%, by weight, of a radiopaque agent thus allowing varied-scale visibility options.

With an expanding range of secondary operations including custom solution development, prototype coating capabilities, and project management services, ASB's expert team of chemists, scientists, engineers and industry professionals assist in every stage of customers' projects, from concept initiation through full-scale manufacture.

An ASB product

BIODURABLE

TARGETED HYDROPHILICITY

TAILORED TO MEET MECHANICAL SPECIFICATIONS

EXTRUDABLE / INJECTION MOLDABLE

WATER ABSORPTION RATES FROM 5% - 25%

SUPERIOR ELONGATION

HIGH TENSILE STRENGTH

USP CLASS VI

BIOCOMPATIBLE

ANIMAL-FREE ORIGIN CERTIFIED



Creating Technology. Enabling Success.

TYPICAL MECHANICAL CHARACTERISTIC RANGES

HydroThane AL

		ASTM Standard	
Durometer Range Available	80 Shore A – 93 Shore A	D2240	
Water Content	5 – 20% (by weight)	D570	
Melt Flow	2 – 26 g/10 min 190° – 205° C/2.16 kg	D1238	
MECHANICAL PROPERTY RANGES (EXAMPLE RANGES SHOWN)*			
	Hydrated	Non-Hydrated	
Durometer	93A	93A	
Ultimate Tensile Strength (psi)	2000 – 3000	4800 – 5500	D638
Tensile (psi)			
@ 50% elongation	600 – 800	800 – 1050	D638
@ 100% elongation	900 – 1200	1200 – 1500	D638
@ 200% elongation	1300 – 1700	1800 – 2200	D638
@ 300% elongation	1500 – 2100	2400 – 2800	D638
Ultimate Elongation (%)	450 – 650	550 – 650	D638

*Data provided herein is meant to show a general range for the HydroThane product lines; these properties can be tailored to meet specific values based on customer requirements.

BIOCOMPATIBILITY TESTING

	USP CLASS VI TESTED:	ISO TESTED:
MEM Elution		Meets ISO 10993-5 guidelines
AGAR Overlay		Meets ISO 10993-5 guidelines
Systemic Injection Test	Meets Class VI guidelines	
Intracutaneous Injection Test	Meets Class VI guidelines	
Intramuscular Implantation (macro)	Meets Class VI guidelines	
Phthalate Free		Does not contain or come in contact with DEHP
Animal-Free Origin Certified		BSE/TSE free

Pre-Processing Recommendations:

HydroThane processing can be optimized by drying to a moisture content equal to or less than 0.05% by weight prior to melt processing.

Typically, the pellets must be dried for 3-4 hours with a dryer inlet air temperature of 180°F +/- 20°F. We recommend a machine-mounted desiccant-type hopper dryer, capable of reaching and maintaining a dew point of -40°F. If dry times are in excess of 8-10 hours, a hopper dryer temperature of 120-150°F is usually sufficient to achieve optimal moisture content.

FDA Master Files It is the responsibility of the user to establish safety with the FDA for their specific medical device.

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