# **NEWSKES** Polyurethane

Celebrating Over 65 Years of Service

Polyurethane combines the best properties of both plastic and rubber. It offers abrasion and tear resistance, high tensile and elongation values, and low compression set. Polyurethane is naturally flexible and exhibits virtually unlimited flexural abilities.

> Combining good chemical resistance with excellent weathering characteristics sets polyurethane apart from most other thermoplastics. It has exceptional resistance to most gasolines, oils,

kerosene, and other petroleumbased chemicals, making it an ideal choice for fuel lines (although additives in today's gasoline and petroleum products warrant field testing).

The two basic formulations of urethane, ester and ether, have some important differences. Water attacks ester-based urethane, causing a significant reduction in physical properties. Ether urethanes exhibit far superior hydrolytic stability, especially in humid environments. Ether-based materials also resist fungus growth better than ester-based materials.

### Superthane<sup>®</sup>

Transparent polyurethane

### **Urebrade**<sup>®</sup>

Transparent braid reinforced polyurethane hose ......4

### **Applications**

Abrasive Powder Transfer Agriculture & Lawn Equipment Air Tools
Automated Machinery Automotive Fluids Cement Slurries Computer
Disc Drive Equipment Fluid Circuitry Fluid Feeds Granular Transfer
Grease & Lubrication Lines Hydraulic Control Systems
Instrumentation Insulating Sleeves Lubricated Air Feeds Metering
Pumps Oil & Fuel Lines Oxygen & Gas Lines Petroleum Products
Transfer Pneumatic Control Systems Pressure Measuring Devices
Robotics Sensing Systems Small Motor Fuel Lines Transfer Lines
for Clean Liquids Transfer Lines for Internal Contamination Fluids
Vacuum Equipment Well Pipe and Cable Jacket More





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### Transparent Polyurethane Tubing

- Available in Ester or Ether formulations
  - Both formulations made from non-toxic raw materials conforming to FDA standards for use with wet and fatty food contact surfaces
    - Extremely resistant to weathering<sup>†</sup>, tearing, impact, radiation, and abrasion
      - Transparent, flexible, resilient, tough; resistant to oils, greases, and fuels<sup>††</sup>
      - Wide range of temperature resistance: -85°F to 185°F (ester)
      - Ether-based resin is listed by the National Sanitation Foundation (NSF 61) for use with potable water
    - Ester-based raw material is free of animal derived components and REACH compliant



Free of DEHP, phthalates, BPA and conflict minerals
RoHS compliant

Can be heat sealed, coiled, fabricated, or bonded

### Notes

⁺Hydrolytic Stability — For resistance to moisture and fungi, SUPERTHANE ether is recommended. (Ester polyurethane does not react well with water, prolonged humid conditions, or attack from fungi.) The resin used in its manufacture is listed by the National Sanitation Foundation (NSF 61).

SUPERTHANE is much more resistant to pressure and vacuum applications than corresponding sizes of PVC or rubber.

††Ålthough polyurethane is commonly used in fuel applications, due to additives in today's gasoline and petroleum products, field testing should be performed.

Custom coiled polyurethane is available — call for details.

For easy identification, SUPERTHANE is imprinted with the trademarked name.

### **Physical Properties\*\***

	ESTER	ETHER
Hardness, Shore A $\pm 5$	85	85
Tensile Strength, psi	6100	7500
Elongation at Break, %	490	500
Brittle Temperature, °F	-85	-85
Maximum Operating Temp., °F	185	175

\*\*Values listed are typical for the material used in manufacture, except where noted, and are meant only as a guide to aid in design. Field testing should be performed to find the actual values for your application.



- Thermobarb<sup>®</sup> barbed fittings
- Cam operated couplings
- Oetiker<sup>®</sup> ear type clamps
- Kwik Clamp<sup>™</sup> nylon double bond hose clamps
- Worm gear clamps





### Did you know . . . ?

Through an Employee Stock Ownership Plan (ESOP), NewAge's team members are owners of the company, and that makes **your satisfaction** an investment in our future.



### . Superthane®

### Transparent Polyurethane Tubing

PART NO. ESTER	PART NO. ETHER	ID (IN.)	OD (IN.)	WALL (IN.)	STANDARD LENGTH (FT.)	WORKING PSI AT 70°F	LBS. PER 100 FT. <i>ESTER</i>	LBS. PER 100 FT. <i>ETHER</i>
200 0075	210 0070	.063	.125	.031	100	135	.48	.45
200 0070	210 0070	.063	.125	.031	500	135		.45
200 0152	210 0147	.125	.188	.031	100	72	.79	.74
200 0152	210 01 11	.125	.188	.031	1000	72	.79	
200 0229	210 0224	.125	.250	.063	100, 1500	130	1.92	1.77
200 0383	210 0221	.170	.250	.040	500	70	1.37	
200 0460		.188	.250	.031	100	27	1.13	
200 0537*	210 0455	.188	.313	.063	100, 1000	74	2.55	2.38
	210 0462	.188	.438	.125	100	ĊF	2.00	5.97
200 0768	210 0609	.250	.313	.031	100	33	1.42	1.33
200 0845	210 0686	.250	.375	.063	100, 1000	67	3.19	2.98
200 0999	210 0840	.250	.500	.125	100	131	7.66	7.15
200 1076	210 0917	.313	.438	.063	100	65	3.83	3.57
200 1153		.313	.500	.094	100	75	6.24	
200 1230		.313	.563	.125	100	118	8.93	
200 1307	210 1148	.375	.500	.063	100	59	4.47	4.17
	210 1148	.375	.500	.063	500	59		4.17
200 1384	210 1225	.375	.563	.094	100	84	7.16	6.68
200 1461	210 1302	.375	.625	.125	100	100	10.22	9.54
200 1615		.438	.688	.125	100	80	11.48	
	210 1533	.500	.625	.063	50	36		5.36
200 1692	210 1533	.500	.625	.063	100	36	5.75	5.36
	210 1610	.500	.688	.094	100	48		8.47
200 1846	210 1687	.500	.750	.125	50, 100	60	12.77	11.92
	210 1764	.625	.750	.063	100	40		6.56
200 2000	210 1841	.625	.813	.094	100	54	10.98	10.25
200 2077	210 1918	.625	.875	.125	100	60	15.33	14.30
	210 1995	.750	.938	.094	100	43		12.03
200 2231	210 2072	.750	1.000	.125	50, 100	51	17.88	16.69
200 2385	210 2226	.875	1.125	.125	100	33	20.43	19.07
	210 2380	1.000	1.250	.125	50	40		21.46
200 2539	210 2380	1.000	1.250	.125	100	40	22.99	21.46
	210 2534	1.500	1.750	.125	100	31		30.99
	210 2688	2.000	2.250	.125	50	22		40.53

Add length suffix to part number when ordering. Example: 100 ft. of .125" I.D. x .188" O.D. ester tubing is part number 200 0152-100. Working pressures are calculated from burst testing using a 3:1 safety factor. Application testing is recommended. Cut coils are available from coils of 100 ft. or less; charges apply — call for details. Coils over 100 ft. are sold by standard coil length only. Due to the coil diameter, some larger sizes must ship via truck.

Tolerances: ID & OD ±3% but not less than ±.005".

**BOLD** indicates the critical dimension for fittings application.

CF = Consult factory

\*Limited stock availability; lead times and minimums may apply - call for details.

#### **Cutting Tools Available!**

Standard (pictured): part no. 980 0000 Mini: part no. 980 0049

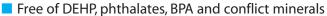


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### Transparent Braid Reinforced Polyurethane Hose

- Open mesh polyester braiding incorporated within the wall of flexible, ether-based polyurethane
  - Made from non-toxic raw ingredients conforming to FDA standards
    - Resin is listed by the National Sanitation Foundation (NSF 61) for use with potable water
    - Offers much greater pressure capability than unreinforced polyurethane tubing
    - Resistant to weathering<sup>+</sup>, tearing, impact, abrasion, radiation exposure, oils, greases, and fuels<sup>††</sup>
    - Wide range of temperature resistance; -90°F to 175°F



- RoHS compliant
- Naturally transparent for visual contact with the flow

PART NO.	ID (IN.)	OD (IN.)	WALL (IN.)	STANDARD LENGTH (FT.)	WORKING PSI AT 70°F	BEND RADIUS (IN.)	LBS. PER 100 FT.
220 0072*	.250	.470	.110	50, 100	250	.750	6.04
220 0149*	.375	.630	.127	50, 100	190	.750	9.78
220 0226*	.500	.750	.125	25, 50, 100	150	1.500	11.92
220 0303	.625	.905	.140	100	130	2.000	16.34
220 0380	.750	1.025	.137	50, 100	100	3.000	18.62
220 0457*	1.000	1.300	.150	25, 50, 100	80	3.500	26.32
220 0534	1.250	1.710	.230	50, 100	75	4.000	51.94
220 0611*	1.500	1.930	.215	50, 100	50	5.500	56.26
220 0688	2.000	2.500	.250	100	40	7.500	85.82

Add length suffix to part number when ordering. Example: 100 ft. of .250" I.D. x .470" O.D. hose is part number 220 0072-100.

Working pressures are calculated from burst testing using a 4:1 safety factor. Application testing is recommended.

Cut coils available; charges apply - call for details.

Due to the coil diameter, some larger sizes must ship via truck.

BOLD indicates the critical dimension for fittings application.

\*Limited stock availability; lead times and minimums may apply - call for details.



### **Recommended Fittings & Clamps**

- Thermobarb<sup>®</sup> barbed fittings
- Cam operated couplings
- Oetiker<sup>®</sup> ear type clamps
- Kwik Clamp™nylon double bond hose clamps Worm gear clamps

145 James Way

Southampton, PA 18966





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Notes

*†*Hydrolytic Stability — UREBRADE is supplied in an ether formulation, making it resistant to attack from moisture and fungi. The resin used in UREBRADE is listed by the National Sanitation Foundation (NSF 61).

Urebrade<sup>®</sup>

Where applications involve repeated flexing, heavy vibration, or abrasion, UREBRADE offers superior service life over other materials.

Ester-based UREBRADE is available through minimum order — call for details.

††Due to additives in today's gasoline and petroleum products, field testing should be performed.

For easy identification, transparent UREBRADE is imprinted with the trademarked name.

#### Physical Properties\*\*

Hardness, Shore A $\pm 5$	85
Tensile Strength, psi	5500
Elongation at Break, %	580
Brittle Temperature, °F	-90
Max. Operating Temperature, °F	175

\*\*Values listed are typical for the material used in manufacture, except where noted, and are meant only as a guide to aid in design. Field testing should be performed to find the actual values for your application.