Airlite PLASTICS

SINCE 1946

AEROSPACE / HYDRAULIC & PNEUMATIC EQUIPMENT / CONVEYORS

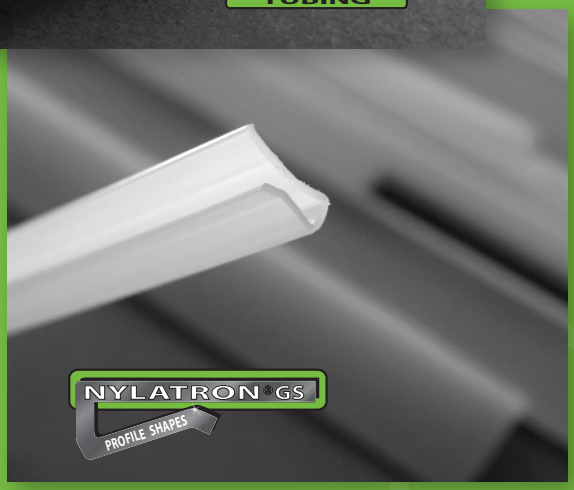
Extruded Tubing and Shapes

Manufacturing stock and custom thin wall extruded shapes and tubes for over 70 years

For over 70 years we have been designing and producing thin wall extruded shapes and tubes. Profile extrusion is somewhat of an "art". Our technicians are skilled artisans in their trade and can take your idea from pellet to product. Special focus is given to understanding the fit, form and function of every part.

That same skill set is applied to our nylon products. Whether your product is a Nylatron® stock die or custom shape, attention is paid to the details you need for a functional part. Stock extrusions are continually monitored and measured for critical fit dimensions. Stock Nylaflow pressures tubing is measured in line and post checked for burst pressure.

Many grades of nylon can be found running in our plant. We can help you choose the right grade for your application based on environmental and thermal requirements. And, if nylon doesn't fit the property requirements, we can assist in finding another engineered thermoplastic that will. We have grown with our customers by keeping pace with the ever-changing needs of the market. Our knowledge of plastics technology allows us to provide quality parts, on time, at a competitive price.



Airlite Plastics Co. Quality Policy

Contribute to customer success by providing quality products that are priced competitively and delivered correct, complete and on-time.

Exceed customer regulatory requirements, while being mindful of our responsibilities to the environment, employees and communities in which we operate. Focus on continuous improvement to our Food Safety and Quality Management Systems.

Be the industry leader in developing new innovative products that drive our customers' growth.

Airlite PLASTICS SINCE 1946

High Quality Pressure
NYLAFLOW
TUBING

Nylaflow nylon tubing is high quality pressure tubing, available in several formulations. For applications that require toughness, resilience, a small bend radius and high burst strength, Nylaflow pressure tubing is a high performance, long-lasting alternative to copper, rubber, aluminum and other types of plastic tubing. Nylaflow tubing is available with custom markings, cut to length and custom packaging.

T and H Nylaflow Tubing

Types T and H Nylaflow tubing are thin and heavy wall, general purpose tubing made from type 6/6 nylon. These types offer the highest strength and are FDA compliant for use in food or beverage handling applications.

LM Nylaflow Tubing

Nylaflow LM tubing is a premium high flex tubing available in two types: natural or black, which exhibits improved light stability. Type LM offers excellent chemical resistance and low moisture absorption.

Standard Nylon Nylaflow Tubing

Standard Nylon 6/6 mechanical grade tubing is designed for low pressure mechanical application such as fluid and air transmission. It is an extremely tough, low friction, high flexibility tubing that can be used for cable protectors or in short pieces as small bushings and washers. Airlite Plastics Co. standard nylon is ideal for a wide variety of other mechanical applications where higher pressure ratings are not required. Nylon tubing resists abrasion and wear and is better than aluminum or steel. It has an extremely smooth inner surface with a very low coefficient of friction. Nylon 6/6 is produced on a custom basis and is available in colors, with custom markings and cut to length.

Type LP Nylaflow Tubing

Type LP is a low pressure, general purpose type 6 nylon tubing with carbon added for UV stability.

Both Nylaflow and Standard tubing can be cut with a sharp knife and flared hot or cold. They are odorless, tasteless and non-corrosive

NYLATRON® GS
PROFILE SHAPES

Airlite Plastics Co. stocks a variety of Standard Nylatron GS Profile shapes. These shapes are used as wear surfaces on conveyors, guide rails and as edge protectors on metal parts and sides to replace more expensive beading.

Stock and Custom Profiles

In addition to the in stock profile shapes, similar custom extruded shapes can be produced in other materials such as types:

- 6
- 6/6
- 6/12
- 11 and 12 Nylons
- Polycarbonate
- Polypropylene
- HDPE
- LDPE
- Styrene
- ABS
- PVC
- Celcon
- Acrylics
- Elastomers
- Noryl
- K-Resin
- PETG
- SAN

Requests for special requirements are custom quoted.

Experience and Service

Airlite Plastics Co. has more than fifty years' experience in the design and production of custom precision extrusions. Profiles can be a low-cost solution for your project. They are extruded in continuous lengths and cut to your specific requirements, coiled or put on reels.

Nylaflow Pressure Tubing

English Specifications

Part No.	O.D.	I.D.	Wall	Min. Bend Radius	O.D. Tolerance	Wall Tol.	Coil Length
TYPE H							
4TD2-03420*	1/8″	.079″	.023″	3/8″	+.002″–.004″	±.003″	1500′
4TD2-04420*	3/16″	.111″	.038″	5/8″	+.002″–.008″	±.003″	1000′
4TD2-05420*	1/4″	.150″	.050″	11/4″	+.002″–.008″	±.003″	500′
4TD2-06420*	5/16″	.188″	.062″	2″	+.002″–.008″	±.003″	250′
4TD2-07420*	3/8″	.225″	.075″	21/2″	+.002″–.010″	±.004″	250′
TYPE T							
4TD2-53420*	1/8″	.095″	.015″	5/8″	+.002″–.004″	±.003″	1500′
4TD2-53820*	5/32″	.106″	.025″	3/4″	+.002″–.004″	±.003″	1000′
4TD2-54420*	3/16″	.137″	.025″	1″	+.002″–.008″	±.003″	1000′
4TD2-55420*	1/4″	.190″	.030″	11/4″	+.002″–.008″	±.003″	500′
4TD2-56420*	5/16″	.242″	.035″	2″	+.002″–.008″	±.003″	250′
4TD2-57420*	3/8″	.295″	.040″	3″	+.002″–.010″	±.004″	250″
TYPE LM NATURAL							
4TE1-03420	1/8″	.095″	.015″	5/8″	+.002″–.004″	±.002″	1500′
4TE1-04420*	3/16″	.137″	.025″	1″	+.002″–.006″	±.003″	1000′
4TE1-05420*	1/4″	.180″	.035″	11/4″	+.002″–.008″	±.003″	500′
4TE1-07420	5/16″	.232″	.040″	2″	+.002″–.008″	±.003″	250′
4TE1-08420*	3/8″	.275″	.050″	3″	+.002″–.010″	±.004″	250′
4TE1-10420*	1/2″	.375	.0625″	41/2″	+.005″–.010″	±.004″	150′
TYPE LM BLACK							
4TE1-03425	1/8″	.095″	.015″	5/8″	+.002″–.004″	±.002″	1500′
4TE1-04425	3/16″	.137″	.025″	1″	+.002″–.006″	±.003″	1000′
4TE1-05425	1/4″	.180″	.035″	11/4″	+.002″–.008″	±.003″	500′
4TE1-07425	5/16″	.232″	.040″	2″	+.002″–.008″	±.003″	250′
4TE1-08425*	3/8″	.275″	.050″	3″	+.002″–.010″	±.004″	250′
4TE1-10425	1/2″	.375″	.0625″	41/2″	+.005″–.010″	±.004″	150′
TYPE LP							
4TC2-03420	1/8″	.095″	.015″	5/8″	+.002″–.008″	±.003″	1500′
4TC2-04420	3/16″	.137″	.025″	1″	+.002″–.006″	±.003″	1000′
4TC2-05420	1/4″	.190″	.030″	11/4″	+.003″–.011″	±.003″	500′
4TC2-06420	5/16″	.242″	.035″	2″	+.003″–.011″	±.003″	250′
4TC2-07420	3/8″	.295″	.040″	3″	+.003″–.016″	±.004″	250′
4TC2-09420	1/2″	.376″	.062″	41/2″	+.003″–.019″	±.004″	150′

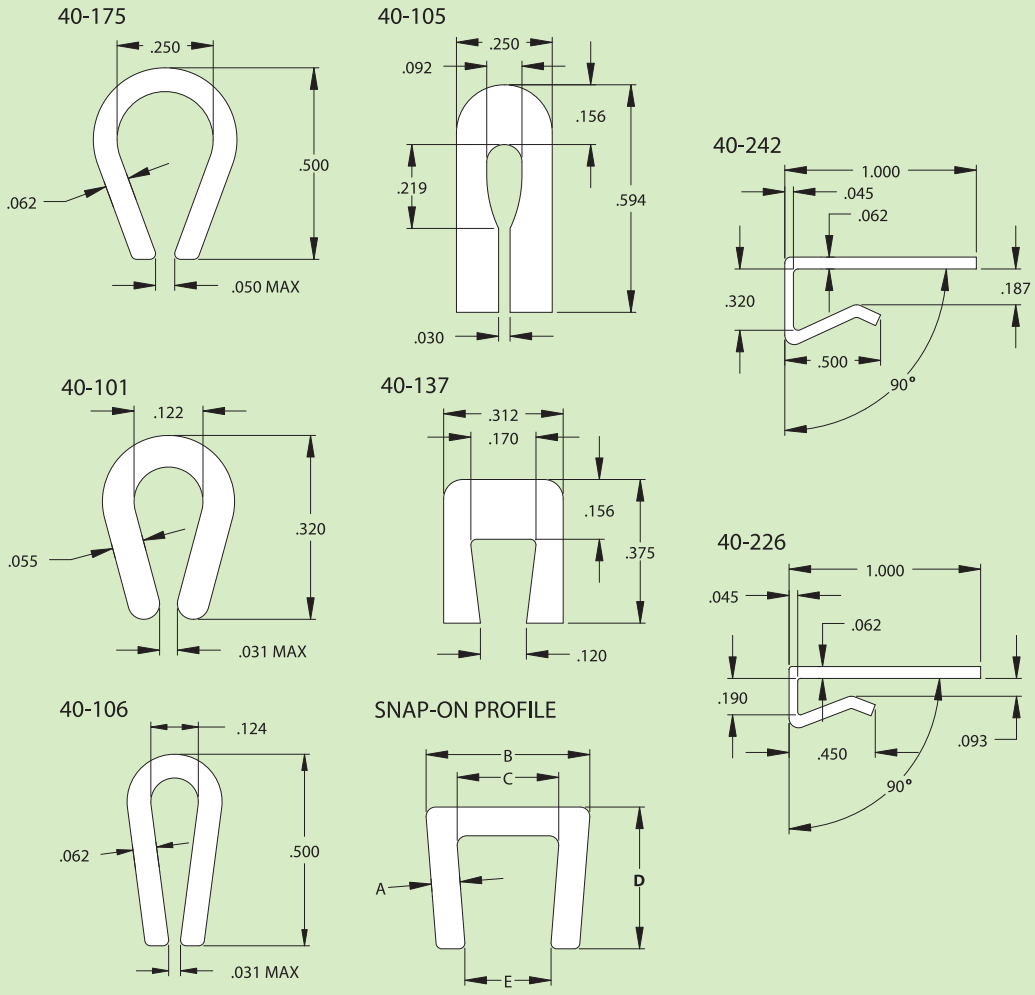
*Stock sizes. All other sizes will have minimum quantities and set-up charges.

Properties of Nylaflow and Standard Nylon Tubing

	NYLAFLOW T (TYPE 6/6)	NYLAFLOW H (TYPE 6/6)	NYLAFLOW LM (TYPE 11 OR 12)	NYLAFLOW LM (TYPE 11 OR 12)	NYLAFLOW LP (TYPE 6)	NYLAFLOW TUBING (TYPE 6/6)
Color	Natural	Natural	Natural	Black	Black	Natural
Melting Point	500 ± 5°F	500 ± 5°F	Type11-365 ± 10°F	Type 12-365 ± 10°F	420 ± 13°F	500 ± 5°F
Water Absorption at Equilibrium (%)	2.50	2.50	.9	.9	3.50	2.50
at Saturation (%)	8.0	8.0	1.9	1.9	11.0	8.0
Suggest Temp. Range (°F)	-65 to +150	-65 to +150	-80 to +200	-80 to +200	-40 to +150	-65 to +150
Light Stabilized	No	No	No	Yes	Yes	No
Hoop Stress at 73°F Bone Dry (psi)	7,500	7,500	2,500	2,500	6,000	7,500
Hoop Stress at 73°F 50% R.H. (psi)	4,500	4,500	2,000	2,000	2,600	4,500
Hoop Stress at 73°F Full Saturation (psi)	3,100	3,100	1,850	1,850	2,100	3,100
Material's Flexural Elastic Modulus at 73°F. 50% R.H. (psi)	175,000 (conditioned)	175,000 (conditioned)	103,000	103,000	130,000	175,000 (conditioned)
Operating Pressure at 73°F. 50% R.H. (psi)	250	625	250	250	175	Not Pressure Rated
Bursting Pressure at 73°F 50% R.H. (psi)	1,000 Minimum	2,500 Minimum	1,000 Minimum	1,000 Minimum	700 Minimum	
Important Facts	Moderate cost. General purpose nylon. Highest strength. Stiffest of all nylons. FDA compliant. Meets 3A sanitary standards. Carried in stock.	Moderate cost. General purpose nylon. Highest strength. Stiffest of all nylons. FDA compliant. Meets 3A sanitary standards. Carried in stock.	Premium material. Excellent flexibility. Best chemical resistance including resistance to ZnC12:(zinc chloride). Lowest moisture pickup. Wide temperature range usage. Carried in stock.	Same as natural except light stability improved.	General purpose. Light stability.	Moderate cost. General purpose nylon. Highest strength. Stiffest of all nylons. Meets 3A sanitary standards.
Typical Applications	Air lines, grease lines, vacuum lines, hydraulic lines, high pressure gases.	Air lines, grease lines, vacuum lines, hydraulic lines, high pressure gases.	Automotive fuel lines, lubrication lines, vacuum lines, air lines.	Automotive fuel lines, lubrication lines, vacuum lines, air lines.	General purpose tubing. Excellent for farm machinery.	Mechanical applications, such as conduit, small sleeve bearings, busings, insulators.
Chemical Resistance at 73°F						
Acids	Good to pH-5	Good to pH-5	Good to pH-5	Good to pH-5	Good to pH-5	Good to pH-5
Alkalies	Good to pH-11	Good to pH-11	Good to pH-11	Good to pH-11	Good to pH-11	Good to pH-11
Hydrocarbons-aromatic	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Hydrocarbons-aliphatic	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Ketones	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Ethers	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Alcohols	Good	Good	Good	Good	Good	Good
Salts, neutral	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Freons	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Sunlight	Fair	Fair	Fair	Good	Good	Fair
Zinc chloride	Poor	Poor	Good	Good	Poor	Poor

Notes: Formula for calculating hoop stress of any nylon tube: $S = P(d+t) / 2t$
S=hoop stress strength (psi); d=inside diameter of tube (inches), P=burst strength (psi); t=wall thickness of tube (inches)

Nylatron GS Profile Shapes



Snap-On Profile Options

DWG NO.	SIZE	A	B	C	D	E	LENGTH
40-922	1/16	.050	.175	.067	.280	.055	500' coil
40-923	1/8	.065	.270	.130	.310	.095	500' coil
40-924	1/4	.075	.425	.265	.370	.225	12ft.
40-925	3/8	.085	.565	.385	.435	.305	12ft.
40-926	1/2	.097	.750	.535	.500	.475	12ft.
40-927	3/4	.118	1.025	.780	.610	.675	12ft.
40-928	1	.130	1.330	1.050	.725	.900	12ft.

Property Comparison

Product Description	Units	Test Method ASTM	Unfilled Type 6/6 Nylon	Nylatron GS Nylon	Unfilled Polycarbonate	High Impact Polystyrene	ABS
MECHANICAL							
Specific Gravity 73°F.	–	D7592	1.15	1.16	1.20	1.04	1.05
Tensile Strength (at break), 73°F.	psi	D638	11,500	12,500	10,000	3,500	10,000
Tensile Modulus of Elasticity 73°F.	psi	D638	425,000	480,000	315,000	270,000	325,000
Tensile Elongation (at break) 73°F.	%	D638	50	25	135	45	2
Flexural Strength, 73°F.	psi	D790	15,000	17,000	14,200	7,000	9,500
Flexural Modulus of Elasticity, 73°F.	psi	D790	450,000	460,000	340,000	310,000	315,000
Shear Strength, 73°F.	psi	D732	10,000	10,500	6,000	3,000	7,700
Compressive Strength, 10% Deformation, 73°F.	psi	D695	12,500	16,000	12,500	6,400	16,000
Compressive Modulus of Elasticity, 73°F.	psi	D695	420,000	420,000	345,000	270,00	410,000
Hardness, Rockwell, Scale as noted, 73°F.	–	D785	M85 (R115)	M85 (R115)	M70	M65 (R95)	M80
Izod Impact (notched), 73°F.	ft.lb./in. of notch	D256 Type"A"	0.6	0.5	17.0	2.0	1.5
Coefficient of Friction (Dry vs. Steel) Dynamic	–	D1894	0.25	0.20	–	0.40	0.15
THERMAL							
Coefficient of Linear Thermal Expansion (-40°F to 300°F.)	in./in./°F	D696	5.5x10-5	4.7x10-5	3.8x10-5	4.5x105	5.0x10
Heat Deflection Temperature 264 psi	°F	D648	200	200	265	200	165
Melting Point (crystalline) peak	°F	D3418	500	500	N/A	270	430
Continuous Service Temperature in Air (Max.) (1)	°F	–	210	220	225	125	140
Thermal Conductivity	BTU in./(hr. Ft2°F)	–	1.7	1.7	1.3	1.0	1.0
ELECTRICAL							
Dielectric Strength, Short Term	Volts/mil	D149	400	350	380	550	380
Volume Resistivity	ohm-cm	D257	4.5x1013	2.5x1013	1.0x1017	1.0x1016	.15x18
Dielectric Constant, 106 Hz	–	D150	3.6	–	2.96	2.5	2.41
Dissipation Factor, 106 Hz	–	D150	0.02	–	0.010	0.0005	.003
Flammability @ 3.1 mm(1/8 in.) (5)	–	UL 94	V-2	V-2	V-2	94 HB	94 HB
CHEMICAL(3)							
Water Absorption Immersion 24 Hours	% by wt.	D570 (2)	0.3	0.3	0.15	0.00	0
Water Absorption Immersion, Saturation	% by wt.	D570 (2)	7.0	7.0	0.35	0.00	0
Acids, Weak, 73°F., acetic acid dilute hydrochloric or sulfuric acid	–	–	L	L	A	A	L
Acids, Strong, 73°F., conc. hydrochloric or sulfuric acid	–	–	U	U	A	A	U
Alkalis, Weak, 73°F., dilute ammonia or sodium hydroxide	–	–	L	L	A	L	L
Alkalis, Weak, 73°F., strong ammonia or sodium hydroxide	–	–	U	U	U	L	L
Hydrocarbons-Aromatic, 73°F.,benzene, toluene	–	–	A	A	U	U	U
Hydrocarbons-Aliphatic, 73°F., gasoline hexane grease	–	–	A	A	A	U	U
Ketones, Esters 73°F., acetone methyl ethyl ketone	–	–	A	A	U	U	U
Ethers 73°F., diethyl ether tetrahydrofuran	–	–	A	A	A	U	U
Chlorinated Solvents 73°F., methylene chloride, chloroform	–	–	A	A	U	U	U
Alcohols, 73°F., methanol, ethynol, anti-freeze	–	–	A	A	A	A	L
Inorganic Salt Solutions, 73°F., sodium chloride, potassium cyanate	–	–	A	A	A	A	A
Continuous Sunlight 73°F.	–	–	L	L	L	U	U
OTHER							
Relative Cost (4)	–	–	$$	$$	$$$	$	$
Relative Machinability (1-10, 1=Easier to Machine)	–	–	1	1	3	3	2

(1) Data represents estimated maximum long term service temperature based on practical field experience.
(2) Specimens 1/8' thick x 2' dia. or square.
(3) Chemical resistance data are for little or no applied stress. Increased stress, especially localized may result in more severe attack. Examples of common chemicals also included.
(4) Relative cost of material profiled in this brochure ($ = Least Expensive and $$$$$$ = Most Expensive)
(5) Estimated rating based on available data. The UL 94 Test is a laboratory test and does not relate to actual fire hazard.
(6) Values are typical averages and will vary with resin lots and by size and shape of product. The data shown is based on dry as manufactured test samples.
Key: A = Acceptable Service
L = Limited Service
U = Unacceptable

High Quality Pressure NYLAFLOW TUBING

nylaflow.com

NYLATRON® GS PROFILE SHAPES

nylatronshapes.com

Airlite PLASTICS SINCE 1946

Airlite Plastics Co.–PA Plant
2860 Bath Pike
Nazareth, PA 18064
Phone: 610-759-0280 • Fax: 610-759-0650
E-Mail: nylaflow@airliteplastics.com