



Parflex Thermoplastic Tubing Tutorial

- Review the general attributes of our thermoplastic tubing that follows- this provides an excellent overview for all of thermoplastic tubing in our product line
- Review the symbols pages- this will help clear up any questions you may have on the product tables within this section
- The market/applications table identifies and provides a “good fit” summary
- Review the pressure bar graph provided- this shows relative pressure ratings for the entire line of thermoplastic tubing
- Review the **STAMPED guide** (Size, Temperature, Media, Application, Pressure, End Configuration, and Delivered Preferences) **on page 173** to help narrow your search for the desired product
- Specific nomenclature, features, advantages, and benefits can be found at the beginning page of each product line

- All Plastic tubing dimensions are laser monitored to ensure an overall quality product
- Most Tubing sizes are packaged in convenient 100 ft., 250 ft., 500 ft. and 1,000 ft lengths

Polyethylene Tubing

- Parflex polyethylene tubing meets FDA, NSF Standard 51 for all food contact applications and NSF-61 for potable water applications
- Our E-Series tubing is made of 100% virgin resin material
- Polyethylene tubing meets ASTM D-1693 for stress crack resistance
- We also offer special PE tubing: FRPE (flame retardant & plenum rated) as well as HDPE (high density)

Nylon Tubing

- Flexible Nylon tubing use high grade resins for strength and flexibility for routing in tight spaces
- Semirigid high strength Nylon use high grade resins without the addition of plasticizers for higher pressure tubing applications
- Pure Air Tubing (PAT) is the tubing choice for pure air systems (Semiconductor) due to its cleanliness in addition to excellent chemical and UV light resistance

Polypropylene

- Polypropylene tubing meets FDA, NSF Standard 51 for all food contact applications
- Polypropylene tubing exhibits excellent chemical resistance to chlorinated water applications
- Polypropylene tubing is commonly used in outdoor applications where UV light stabilization is required

Polyurethane


- Polyurethane tubing is a flexible, kink resistant and abrasion resistant material commonly used in Pneumatic applications
- Polyurethane is available in multiple transparent and opaque colors for system color coding
- Polyurethane is available in the following durometers (measurement of material hardness):
 - Medium Durometer (90-less flexible)
 - High Durometer (→95-least flexible, highest pressures)

Polyvinyl Chloride (PVC)

- PVC tubing is made from 100% virgin resin material and Meets all FDA specifications for materials in contact with food and drugs
- PVC tubing is very flexible (70 Durometer) tubing that is crystal clear and is Ideal for situations where visible fluid flow is necessary (i.e. sight gages for tank identification)

Product Family	Series	Suggested Markets and Applications
Polyethylene	E and EB	Potable water, chemical transfer, and low cost, low pressure pneumatics, NSF-51 & NSF- 61
	FRPE	Pneumatic controls in HVAC/plenum space (UL 1820), Dubl-Barb fitting from Parker Brass
High Density Polyethylene	HDPE	Chemical transfer and low cost pneumatics
Nylon	N	Pneumatic and petroleum-based chemical transfer
	PAT	Pure air and gas distribution systems, Semiconductor
	NR	High pressure pneumatic, lubrication, and Marine control systems
Polypropylene	PP and PPB	Food contact and chemical transfer applications, chlorinated water, NSF-51
Urethane	U and UM	Pneumatic controls requiring high flexibility, kink resistance and movement
	HU and HUM	High pressure pneumatics requiring flexibility and kink resistance. Robotics
Vinyl	PV	Low pressure chemical and medical applications requiring high clarity and flexibility, FDA

Add caveat for ordering Series EB and Series PPB NSF tubing with “-NSF” suffix



How To Select Thermoplastic Tubing (STAMPED)

- Size** Choose appropriate outside diameters - tubing is always measured on the OD
- Temperature** The maximum temperature of the material being conveyed
- Application** External conditions including abrasion, climate, heat, flexing, crushing, kinking, and degrees of bending
- Media** The composition of the substance being conveyed and chemical compatibility with the tubing
- Pressure** The maximum pressure of the system, including pressure spikes
- Ends** The appropriate end connection (barb, push to connect, compression)
- Delivery** Testing, quality, packaging, and delivery requirements

Hydraulic & Pneumatic Hose & Fit.

PTFE Hose & Fittings

Thermoplastic Tubing

Coiled Air Hose, Fittings & Accessories

Truck (Fleet) Products

Tooling & Equipment

Hose Accessories

Technical & Design Information

Approvals & Guides

Alphanumeric Index

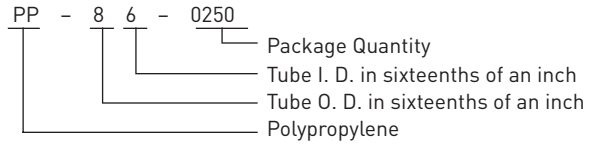
Polypropylene Tubing

Series PP: Laboratory Grade—FDA, NSF Listed
 Series PPB: Ultraviolet Light Resistant

- Acid and chemically resistant.
- Flexible.
- Dimensionally stable.
- May be used at higher temperatures and working pressures than polyethylene tubing.
- Resistance to hot water and hot corrosive acids is excellent. Polypropylene tubing will last many times longer than nylon tubing in hot water service.
- Has water absorption of less than .01%.
- Has good resistance to vegetable oils.
- Has excellent resistance to environmental stress cracking.
- Available in white, UV-resistant black and special NSF black.
- PPB series tubing has superior ultraviolet resistance.
- White and NSF black polypropylene meet FDA and NSF-51 requirements for food contact and potable water.
- NSF black polypropylene tubing is available upon special request. Add -NSF suffix to PPB part number.
- The recommended operating temperature range for service at rated pressures with compatible fluids is 0°F (-18°C) to +200°F (+93°C).

How to order Parflex polypropylene tubing

Example: PP-86-0250 is 1/2" O. D. x 3/8" I. D.



Fitting Recommendations:

- Parker TrueSeal™ fittings.
- Parker Fast & Tite® fittings.
- A tube support can be used with this tubing for maximum holding power where tensiling, vibration or pressure spikes may occur
- Parker Brass Fittings available from Brass Products Division
 Otsego, MI
 (269) 694-2550
 (269) 692-6634 FAX

Part Number	Color	Nom. Tube O. D. in.	Nom. Tube I. D. in.	Avg. Wall Thick in.	Working Pressure at 73°F PSI	Min. Burst Pressure at 73°F PSI	Reel Length ft.	Min. Bend Radius in.	Weight lbs. Per 100ft.
#									
PP-21-1000 PPB-21-1000	White Black	1/8	.080	.023	350	1400	1000	1/2	0.28
PP-32-0500 PPB-32-0500	White Black	3/16	.120	.034	350	1400	500	3/4	0.62
PP-43-0500 PPB-43-0500	White Black	1/4	.170	.040	300	1200	500	1	1.01
PP-53-0500 PPB-53-0500	White Black	5/16	.187	.062	350	1400	500	1-1/4	1.87
PP-64-0500 PPB-64-0500	White Black	3/8	.250	.062	300	1200	500	1-1/4	2.35
PP-86-0250 PPB-86-0250	White Black	1/2	.375	.062	225	900	250	2-1/2	3.28
PP-108-0100 PPB-108-0100	White Black	5/8	.500	.062	175	700	100	4	4.22

* Suggested working pressure is 1/4 of burst pressure.