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Thermoplastik- & Fluorpolymerprodukte

Thermoplastikleitungen und -rohre

Nylon / PE / PP / PUR / PVC

Katalog CAT 4660/USA 01/12(2)



KATALOG

Vertrieb

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Parflex Tubing Introduction

Parflex Tubing Tutorial

- Review the general attributes of Parflex thermoplastic and fluoropolymer tubing this provides an
 excellent overview for the tubing product line.
- Review the symbols pages this will help you clear up any questions you may have on the product tables within the section. The market/applications table identifies and provides a "good fit" summary.
- Review the pressure bar graph provides relative pressure ratings for the entire line of thermoplastic tubing. For fluoropolymer tubing, please contact your Customer Service Representative.
- Review the STAMPED guide (Size, Temperature, Media, Application, Pressure, End Configuration, and Delivery Preferences) on page 11 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.
- Text appears in 2 colors. The primary dimensions are in black. As courtesy, the metric/inch equivalent has been added and appears in blue.

Tube Line Fabrication Guide for Leak Free Systems

Every hydraulic, pneumatic and lubrication system requires some form of tube line fabrication and fitting installation for completion. Proper fabrication and installation are essential for the overall efficiency, leak free performance and general appearance of any system.

Start by planning ahead. After sizing the tube lines and selecting the appropriate style of fitting, consider the following in the design of your system:

- Accessibility of joints
- Proper routing of lines
- Adequate tube line supports
- Available fabricating tools

Routing of Lines

Routing of lines is probably the most difficult, yet most significant, of these system design considerations. Proper routing involves getting a connecting line from one point to another through the most logical path.

Always try to leave fitting joints as accessible as possible. Hard to reach joints are hard to assemble and tighten properly. Inaccessible joints are also more difficult and time consuming to service.

Applications/Markets

Product applications for all pertinent markets



Transportation



Mobile Hydraulics



Industrial Pneumatic



Industrial Hydraulics



Fluid Handling



Life Science





Tubing Thermoplastic

S Coiled Air Hose & Fittings

Parflex Tubing Introduction

Tubing Compatibility Chart Parker Tubing / Hose Capability with Parker FSC Fittings

								The	rmople	stic Tu	ibing							Ruo	ropoly	mer Tu	phing
	Parker Tubing Compatibility			Indi	ustrial 7	lubing :	Series (Outsid	e Diam	eter Sho	own)			Tra	парогта	tion Tu	bing				
TS BS CL	with Parker FSC Fittings Plastic Sleeve & Tube Support Suggested Tube Support Suggested Brass Sleeve Suggested Clamp Required Tube/Fitting Combination Compatible Tube/Fitting Combination Not Compatible	Polyethylene E & EB Inch (4.5.6.8.10) Metric (6.8.10.12)	Potyethylene PEFR Inch (25,45,8)	Polyethylene HDPE inch (4,6)	Nyton N Inch (2,2,5,3,4,5,6,8) Metric (4mm - 20mm)	Nyton PAT Inch (2.4.6,8,10,12)	Nyton NR Inch (2,2,4,5,6,8)	Nyton NT Inch (2.253.45.6.0)	Polypropylene PP & PPB Inch (2,25,3,45,6,8)	Polyurethane U & UM (90 - 95 Shore A) nch (2,3,4,5,8,9,12) Merric (4,6,8,10,12)	Potyurethane HU & HUM (>95 Shore A) Inch (2.2.5.4.6.8.1.2) Metric (4.6.8.10.1.2)	Polyurethane HUFR (MircoWeld Tubing) inch (4,6,8)	Clear Vinyl inch (1/8* - 2 1/2*)	1120/1220 Air Brake (SAE J844) nch (2,25,3,4,5,6,8,10,12)	Air Brake DIN 74324 (Nyton 12) Wetne (4.6.8.10.12.15.16.18)	PFT Diesel Fuel Stars 4,5,8,10,12	MTFL Dieset Fuel Stacs 4,6,8,10,12	PFA Flueropolymer Inch (3/32" - 1") Metric (4mm - 12mm)	FEP Fluoropolymer Inch (1/8° - 1°) Metric (3mm - 12mm)	PTFE Fluoropolymer nch (3/32" - 1.1") Metric (3mm - 16mm)	PVDF Fluoropolymer Inch (2345.68101216)
	Sizes (inch)									_	-		-	_	-	w. 01	- "				
	Compression Inch (2,3,4,5,6,7,8,10,12,14)	PS TS	PS TS	PS TS	PS TS	PS TS	PS TS	PS TS	PS TS		3	51	(5)	15.	130	30	15	PS TS	PS TS	PS TS	PS TS
	Compress-Align* Inch (2,3,4,5,6,8,10,12,14,16)	TS	TS	TS	TS	TS	TS	TS	TS	13	-	-	N.	(4)	123	Z)	-	TS	TS	TS	TS
2	Metru-Lok** Metric (4,6,8,10,12,14,16,18,22)	TS	-	100	T5	-	-	3	-		+	-	100	200	100	3	-		3	-	20
Compression & Flare	Poly-Tite Inch (2,3,4,5,6,8)				85	85	85	BS	BS	5	2	H		1	253	570	8	2	2	5	2
ress.	HI-Duty Inch (2,3,4,5,6,8,10)	TS	TS	TS	TS	TS	TS	TS	TS		+1	-	-	120	-		-	+	14	9	*
S	45 degree flare Inch (2,3,4,5,6,8,10,12,14)	-		0	-	-		*	-	-	*	=	-		-	3	=	-	3	-	*
	Inverted Flare Inch (2,3,4,5,6,8,10,12,14)	1	-		3	=	2	-	((4))	(4)	197	-	-	4		3	-		-	(0)	1
	Fast & Title Inch (4,5,6,8,10)	TS	TS	TS	ŤS	TS	TS	TS	TS	TS	TS	-1	TS	6	-	2	-	TS	TS	TS	4
	Flow Centrols Inch (2,2.5,4,5,6,8) Metric (4,6,8,10,12)											+	-		-	3	-	5	=	-	Ť.
*	Prestolok Brass Inch (2,2.5,3,4,5,6,8) Metric (4,5,6,8,10,12,14) Prestolok Composite											100	-		3	3		*	0	8	(6)
Push-to-Connect	Inch [2,2,5,3,4,5,6,8] Metric [4,5,6,8,10,12,14] Prestoweld	H										-	-	-	-	-	-	-	4	8	*
6	Inch [4,5,6,8] Global Connect		550				-	-		5				100	100	200				2	
2	Inch (2,2,5,3,4,5,6,8) Metric (4,6,8,10,12)		-								~	-	-	-		121	-		-	-	
	Inch (4,6,8) TrueSeal **					_	-	-		-	**	-	-	2003	-			-	3		
	Inch (4,5,6,8) Par-Barb*		1000		920	100		12		TS CL	TS		TS CL		100	880					
	Inch (2,3,4,5,6,8,10,12) Oubl-Barb®	F								-			-								
Barb	Inch (2.5,4,6,8) Hose Barb									0			CL								
	Inch (2,3,4,5,6,8,10,12,16) Inside Diameter Garden Hose				100			2			13		CL								
	NTA*												-								
	Inch (3,4,6,8,10,12) Transmission Fittings		-						-		-	-		-	(2)		-		-	-	
	Inch (2,2.5) Air Brake Inch (4,6,8,10,12,16)	-	-			14	1	12		×	-	2	E			2:	-	7	×		2
tation	Air Brake Hose	8	-	-	-33	-	(+	7	-	-	+)		-	100	33	-	-	-	3	-	*
DOT Transportation	Vibra-Lok Inch (2,3,4,5,6,8,10,12)	75	2	173	3	-	i.e.	3	-	-	5	5	-51	-	570	30	a	5	3		-
DOT Tre	Prestomatic Inch (2,2.5,3,4,6,8,10,12) Metric (6,8,10,12,16)		-			-	-	×	-		-	2	28			-	2	1	9		-
	PTC Inch (4,6,8,10,12)	3	-	*	-		-	•	-	•			œ.		œ	-	2		•	=	*
	SAE Cartridges Inch (2.5,4,6,8,10,12)		-	-		191	-	55	-	100	7	-	+		50	1	-	10	2	-	E
	Manifolds Inch (4,6,8)	-	100	-	1	-	1	12	12		41	4	-		40	4	-	12	18	18	4

Thermoplastic Tubing

Polyethylene

- Parflex polyethylene tubing meets FDA, NSF Standard 51 for all food contact applications and NSF-61 for potable water applications.
- E-Series tubing is made of 100% virgin resin material.
- Polyethylene tubing meets ASTM D-1693 (10% IGEPAL) for stress crack resistance.
- Parflex also offers special PE tubing: PEFR (flame retardant) and HDPE (high density).

Nylon

- Flexible nylon tubing is constructed of high-grade resins for strength and flexibility for routing in tight spaces.
- Semi-rigid high strength nylon is constructed of 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, it offers excellent chemical and UV light resistance.
- NTNA Tubing meets NSF Standard 51 for all food contact applications and may be used for instrumentation lines, lubrication and process piping systems and oil and refrigerant lines.

Polypropylene

- Polypropylene tubing meets FDA, NSF Standard 51 for all food contact applications.
- Polypropylene tubing exhibits excellent chemical resistance to chlorinated water applications.
- Black 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 − 95)

High durometer: (>95) for higher 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 a very flexible, 70 durometer tubing. It is crystal-clear and ideal for situations where visible fluid flow is necessary (i.e. sight gauges for tank identification).

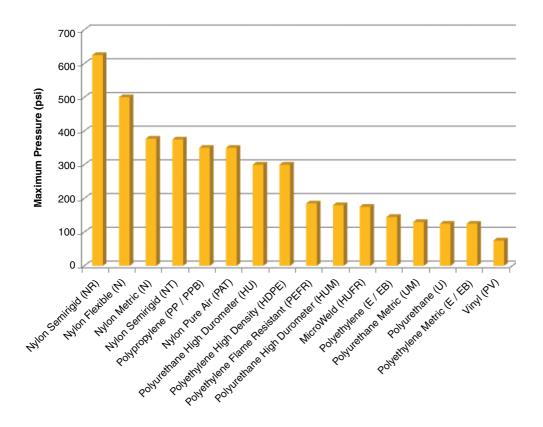
All plastic tubing dimensions are laser monitored to ensure overall quality product. Most tubing sizes are packaged in convenient 100-ft., 250-ft., 500-ft. and 1,000-ft. lengths.



Thermoplastic Tubing

Product Family	Series	Suggested Markets and Applications
Dalvathylana	E and EB	Potable water, chemical transfer, and low-cost, low-pressure pneumatics, NSF-51 & NSF- 61
Polyethylene	PEFR	Pneumatic controls in HVAC
High Density Polyethylene	HDPE	Chemical transfer and low-cost pneumatics
	N	Pneumatic and petroleum-based chemical transfer
Mulan	PAT	Pure air and gas distribution systems, semiconductor
Nylon	NR	High pressure pneumatic, low pressure lubrication and hydraulic, marine control systems
	NTNA	Instrumentation lines, lubrication and process piping systems, oil and refrigerant lines, NSF-51
Polypropylene	PP and PPB	Food contact and chemical transfer applications, chlorinated water, NSF-51
Unathana	U and UM	Pneumatic controls requiring high flexibility, kink resistance and movement
Urethane	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

Tubing Pressure Ranges

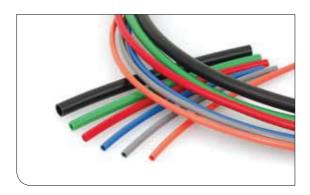


Working pressures are at 73° F (23° C). Pressure ratings are also effected by diameter of tubing and wall thickness. Actual performance may vary with different media and working conditions. Use this information for comparison only.



Polyethylene TubingSeries E: Instrument Grade – FDA, NSF Listed

Series EB: Ultraviolet Light Resistant



Features

- Made from 100% virgin resin material
- Chemically resistant and flexible
- High molecular weight resin provides increased dimensional stability, uniformity and long-term strength
- Economical system solution

Certifications

- FDA compliant for food contact
- ASTM D-1693 (10% IGEPAL) for stress crack resistance
- NSF 51
- NSF 61

Applications/Markets





- Potable water
- Chemical transfer
- Low-pressure pneumatics

Part Number	Part Number			Tu I.I	be D.	W	rage all (ness	Wor Pres at 73°	sure	Minii Bu at 73°	rst	Package Quantity	Ве	mum nd lius	We	ight
#	#		9)	() -				<u> </u>	Package quantities vary by size and color	7	\mathcal{Z}	lbs	[103]
Natural	Black	inch	mm	inch	mm	inch	mm	psi	bar	psi	bar	feet	inch	mm	lbs./ft.	kg./mtr.
E-43-XXXX	EB-43-XXXX	1/4	6.4	.170	4.3	.040	1.0	120	8.3	480	33.1	0100, 0500, 1000	1.00	25.4	.011	.016
E-53-XXXX	EB-53-XXXX	5/16	7.9	.187	4.8	.062	1.6	145	10.0	580	40.0	0100, 0500	1.13	28.7	.020	.030
E-64-XXXX	EB-64-XXXX	3/8	9.5	.250	6.4	.062	1.6	125	8.6	500	34.5	0100, 0500	1.25	31.8	.025	.037
E-86-XXXX	EB-86-XXXX	1/2	12.7	.375	9.5	.062	1.6	90	6.2	360	24.8	0100, 0500	2.50	63.5	.034	.051
E-108-XXXX	EB-108-XXXX	5/8	15.9	.500	12.7	.062	1.6	70	4.8	280	19.3	0100	4.00	101.6	.044	.065

Standard black is not NSF approved.



Example: E-64-Y-0500

E-64-Y-0500 – Polyethylene

E-64-Y-0500 - **Tube O.D.** in sixteenths of an inch (3/8")

E-64-Y-0500 – **Tube I.D.** in sixteenths of an inch **(.250")**

E-64-Y-0500 - Color, i.e. Yellow (Omit for Natural and Black)

E-64-0500 – Natural Polyethylene **EB**-64-0500 – Black Polyethylene

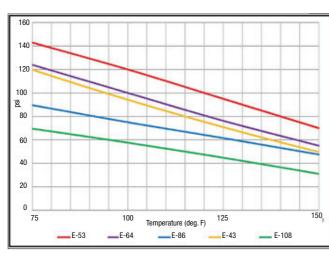
E-64-Y-0500 - Package Quantity in feet (500')

Available in black as well as nine other colors, as recommended by the Instrument Society of America

Color Code											
	-	Natural									
•	-	Black									
•	В	Blue									
•	• G										
•	0	Orange									
•	Р	Purple									
•	R	Red									
•	GRA	Gray									
•	Y	Yellow									
0	WHT	White									

Polyethylene Tubing (Series E)

Maximum Working Pressure (psig)



Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

- Compression
- Compress-Align[®]
- Poly-Tite
- Hi-Duty
- Fast & Tite
- Flow Control
- Prestolok Brass
- Prestolok Composite
- Global Connect
- Liquifit
- TrueSeal™
- Dubl-Barb®
- Prestomatic
- SAE Cartridge

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Notes

- FDA, NSF-51 and NSF-61 compliant black polyethylene tubing is also available.
 Add -NSF suffix to the EB part number (ie. EB-64-0500-NSF)
- E series natural and colored tubing meet FDA, NSF-51 requirements for food contact applications and NSF-61 for potable water
- Resistant to environmental stress cracking exceeding that of ordinary polyethylene tubing as measured by ASTM D-1693 (10% IGEPAL)
- Black (EB) tubing contains an ultraviolet inhibitor which is recommended for use in sunlit areas and in close proximity to high ultraviolet light sources
- All tubing conforms to ASTM D-1248, Type I, Class A, Category 4, Grade E5
- The recommended operating temperature range for service at rated pressures with compatible fluids is -80°F (-62°C) to +150°F (+66°C)

Colors

■ See Color Code Table



Metric Polyethylene Tubing Series E: Instrument Grade - FDA, NSF Listed

Series EB: Ultraviolet Light Resistant



Features

- Made from 100% virgin resin material
- Chemically resistant and flexible
- High molecular weight resin provides increased dimensional stability, uniformity and long-term strength
- Economical system solution

Certifications

- FDA compliant for food contact
- ASTM D-1693 (10% IGEPAL) for stress crack resistance
- NSF 51
- NSF 61

Applications/Markets





- Potable water
- Chemical transfer
- Low-pressure pneumatics

Part Number	Part Number		Tube 0.D.		be D.	W	rage all (ness		king sure F /23°C	Minii Bu at 73°		Package Quantity	Mini Be Rac		Wei	ight
#	#		\bigcirc			()-	(5 **	7	bg c	lbs
Natural	Black	mm	inch	mm	inch	mm	inch	bar	psi	bar	psi	feet	mm	inch	kg./mtr.	lbs./ft.
E-6X1-0100	EB-6X1-0100	6	.236	4	.157	1.00	.039	8.6	125	34.5	500	0100	25	1.00	.019	.013
E-8X1-0100	EB-8X1-0100	8	.315	6	.236	1.00	.039	6.9	100	27.6	400	0100	38	1.50	.021	.014
E-10X1.5-0100	EB-10X1.5-0100	10	.393	7	.276	1.50	.059	8.6	125	34.5	500	0100	38	1.50	.039	.026
E-12X1.5-0100	EB-12X1.5-0100	12	.472	9	.354	1.50	.059	6.2	100	24.8	400	0100	63	2.50	.048	.032

Standard black is not NSF approved.



Example: E-8x1-0100

E-8x1-0100 - Metric Polyethylene (Natural)

EB-8x1-0100 – Metric Polyethylene (Black)

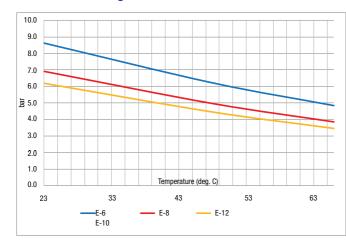
E-8x1-0100 – **Tube O.D.** in millimeters **(8 mm)**

E-8x1-0100 – Tube Wall Thickness in millimeters (1 mm)

E-8x1-**0100** – **Package Quantity** in feet **(100')**

Metric Polyethylene Tubing (Series E)

Maximum Working Pressure (bar)



Fitting Recommendations

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

- Metru-Lok[™]
- Flow Control
- Prestolok Brass
- Prestolok Composite
- Global Connect
- Prestomatic

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

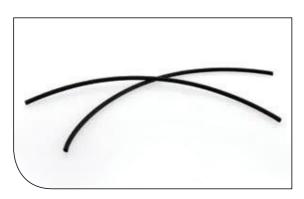
Notes

- E series natural and colored tubing listed below meet FDA, NSF-51 requirements for food contact applications and NSF-61 for potable water
- Resistant to environmental stress cracking exceeding that of ordinary polyethylene tubing as measured by ASTM D-1693 (10% IGEPAL)
- Black (EB) tubing contains an ultraviolet inhibitor which is recommended for use in sunlit areas and in close proximity to high ultraviolet light sources
- All tubing conforms to ASTM D-1248,
 Type I, Class A, Category 4, Grade E5
- The recommended operating temperature range for service at rated pressures with compatible fluids is -62°C (-80°F) to +66°C (+150°F)

Colors

- Natural
- Black

Polyethylene Tubing Series PEFR: Flame Resistant



Features

• Excellent stress crack resistance

Certifications

- UL 94 V-2
- ASTM D-1693 (10% IGEPAL) for stress crack resistance





- Pneumatic controls in HVAC applications
- Weld spatter/spark environments

Part Number	Tube 0.D.		Tu I.	be D.	Aver Wa Thick	all	Pres	king sure F /23°C	Bu	mum rst F /23°C	Package Quantity	Mini Be Rac	nd	We	ight
#		\bigcirc		\bigcirc	() -				K		- -/	\mathscr{D}	Ibs	bg bg
Black	inch	mm	inch	mm	inch	mm	psi	bar	psi	bar	feet	inch	mm	lbs./ft.	kg./mtr.
PEFR-2.5-XXXX	5/32	4.0	.096	2.4	.030	0.76	185	12.8	740	51.0	0500	.50	12.7	.006	.009
PEFR-4-XXXX	1/4	6.4	.170	4.3	.040	1.0	140	9.7	560	38.6	0500, 1000	.75	17.4	.012	.018
PEFR-6-XXXX	3/8	9.5	.250	6.4	.062	1.6	155	10.7	620	42.8	0500	1.50	36.1	.029	.043
PEFR-8-XXXX	1/2	12.7	.375	9.5	.062	1.6	100	6.9	400 27.6		0250	1.75	39.1	.041	.061



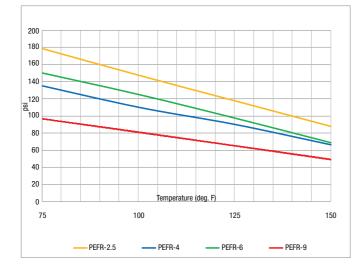
Example: PEFR-4-0500

PEFR-4-0500 - Flame Resistant Polyethylene

PEFR-4-0500 - Tube O.D. in sixteenths of an inch (1/4")

PEFR-4-0500 - Package Quantity in feet (500')

Flame Resistant Polyethylene Tubing (Series PEFR) Maximum Working Pressure (psig)



Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

- FSC Product Families:
- Compression
- Compress-Align[®]
- Poly-Tite
- Hi-Duty
- Fast & Tite
- Flow Control
- Prestolok Brass
- Prestolok Composite
- Global Connect
- Dubl-Barb®

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Notes

Using the same base linear low-density polyethylene (LLDPE) as the E-Series tubing, Parker Hannifin, Parflex Division's PEFR tubing has the following advantages:

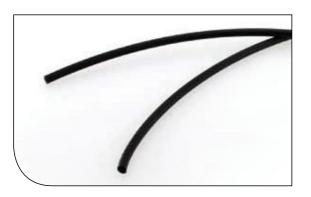
- Resistant to environmental stress cracking exceeding that of ordinary polyethylene tubing as measured by ASTM D-1693 (10% IGEPAL)
- The recommended operating temperature range for service at rated pressures with compatible fluids is -85°F (-65°C) to +150°F (+66°C).

Colors

Black



Polyethylene Tubing Series HDPE: High Density



Features

- Manufactured from high strength, high density polyethylene
- Semi-rigid tubing that is inherently resistant to most chemicals, less easily cut or damaged and has a higher burst pressure rating than Series E tubing
- Economical system solution

Applications/Markets





- Chemical transfer
- Low-pressure pneumatics

Part Number	Tu O.	be D.	Tu I.I		W	rage all kness	Pres	king sure F /23°C	Minii Bu at 73°i	rst	Package Quantity	Minii Be Rac	nd	We	ight
#					()-	(4	\mathcal{D}	lbs	
Black	inch	mm	inch	mm	inch	mm	psi	bar	psi	bar	feet	inch	mm	lbs./ft.	kg./mtr.
HDPE-43-XXXX	1/4	6.4	.170	4.3	.040	1.0	300	20.7	1200	82.7	0250, 0500	1.50	38.1	.011	.016
HDPE-64-XXXX	3/8	8.5	.250	6.4	.062	1.6	300	20.7	1200	82.7	0250, 0500	2.50	63.5	.025	.037

Only available in black.



Example: HDPE-43-0500

HDPE-43-0500 – **High Density Polyethylene**

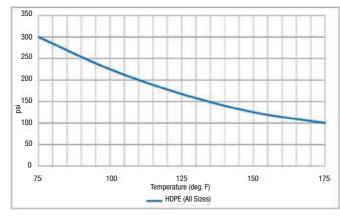
HDPE-43-0500 - Tube O.D. in sixteenths of an inch (1/4")

HDPE-43-0500 - **Tube I.D.** in sixteenths of an inch **(.170")**

HDPE-43-0500 - Package Quantity in feet (500')

High Density Polyethylene Tubing (Series HDPE)

Maximum Working Pressure (psig)



Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

- FSC Product Families:
- Compression
- Compress-Align[®]
- Poly-Tite
- Hi-Duty
- Fast & Tite
- Flow Control
- Prestolok Brass
- Prestolok Composite
- Global Connect

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Notes

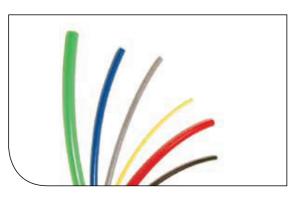
 Recommended operating temperature range for service at rated pressures with compatible fluids is -80°F (-62°C) to +175°F (+80°C).

Colors

Black



Nylon Tubing Series N: Flexible



Features

- Flexible nylon tubing uses high-grade resins for strength and flexibility for routing in tight spaces
- Made from abrasion-resistant, heat and light-stabilized nylon
- Exhibits low-level water absorption
- Chemically resistant









- Robotics
- Machine tool
- General pneumatics
- Lubrication
- Petroleum-based chemical transfer
- Pest control lines

Part Number	Part Number	Tu O.		Tu I.	be D.	Ave W Thick	all	Pres	king sure F /23°C	Bu	mum Irst F/23°C	Reel Length		mum nd lius	We	ight
#	#		\bigcirc		\bigcirc	() -	(2		K		4	\mathcal{S}	lbs	8
Natural	Black	inch	mm	inch	mm	inch	mm	psi	bar	psi	bar	feet	inch	mm	lbs./ft.	kg./mtr.
NN-2-016	NB-2-016	1/8	3.2	.093	2.4	.016	0.41	250	17.2	1000	69.0	0100, 0250	.25	4.6	.003	.005
NN-2-031	NB-2-031	1/8	3.2	.064	1.6	.031	0.79	500	34.5	2000	137.9	0100, 0250	.25	4.6	.004	.006
NN-2.5-025	NB-2.5-025	5/32	4.0	.106	2.7	.025	0.64	300	20.7	1200	82.7	0100, 0250	.50	12.7	.005	.007
NN-3-025	NB-3-025	3/16	4.8	.138	3.5	.025	0.64	250	17.2	1000	69.0	0100, 0250	.63	16.0	.006	.009
NN-3-046	NB-3-046	3/16	4.8	.096	2.4	.046	1.2	500	34.5	2000	137.9	0100, 0250	.44	11.2	.009	.013
NN-4-035	NB-4-035	1/4	6.4	.180	4.6	.035	0.89	250	17.2	1000	69.0	0100, 0250	.88	22.4	.011	.016
NN-4-040	NB-4-040	1/4	6.4	.170	4.3	.040	1.0	310	21.4	1250	86.2	0100, 0250	.88	22.4	.012	.018
NN-4-062	NB-4-062	1/4	6.4	.127	3.2	.062	1.6	500	34.5	2000	137.9	0100, 0250	.50	12.7	.017	.025
NN-5-040	NB-5-040	5/16	7.9	.233	5.9	.040	1.0	250	17.2	1000	69.0	0100, 0250	1.13	28.7	.016	.024
NN-6-050	NB-6-050	3/8	9.5	.275	7.0	.050	1.3	250	17.2	1000	69.0	0100, 0250	1.13	28.7	.023	.034
NN-6-093	NB-6-093	3/8	9.5	.190	4.8	.093	2.4	500	34.5	2000	137.9	0100, 0250	.75	19.0	.038	.056
NN-8-062	NB-8-062	1/2	12.7	.375	9.5	.062	1.6	250	17.2	1000	69.0	0100, 0250	1.25	31.8	.039	.058
NN-8-124	NB-8-124	1/2	12.7	.253	6.4	.124	3.2	500	34.5	2000	137.9	0100, 0250	1.00	25.4	.067	.099



Example: N-2-016-RED-0100

N-2-016-RED-0100 - Nylon

N-2-016-RED-0100 - **Tube O.D.** in sixteenths of an inch **(1/8")**

N-2-016-RED-0100 - Wall Thickness in inches (.016")

N-2-016-**RED**-0100 – **Colors** (Omit for Natural and Black)

NN-2-016-0100 - Natural Nylon NB-2-016-0100 - Black Nylon

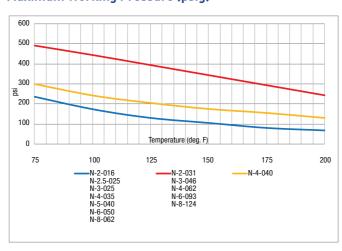
N-2-016-RED-0100 - Package Quantity in feet (100')

(Omit quantity number after color for 250' reel length)

Color Code											
0	NN	Natural									
•	NB	Black									
•	BLU	Blue									
•	GRN	Green									
•	RED	Red									
•	YEL	Yellow									

Nylon Tubing (Series N)

Maximum Working Pressure (psig)



Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

- Compression
- Compress-Align[®]
- Poly-Tite
- Hi-Duty
- Fast & Tite
- Flow Control
- Prestolok Brass
- Prestolok Composite
- Global Connect
- TrueSeal™
- NTA®
- Transmission
- Prestomatic
- SAE Cartridge

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Notes

- The recommended operating temperature range for service at rated pressures with compatible fluids, depending upon conditions, is -65°F (-54°C) to +200°F (+93°C)
- Black tubing suggested for use in sunlit areas and in close proximity to high ultraviolet light sources

Colors

See Color Code Table



Metric Nylon Tubing Series N: Flexible



Features

- Flexible nylon tubing uses high-grade resins for strength and flexibility for routing in tight spaces
- Made from abrasion-resistant, heat and light-stabilized nylon
- Exhibits low-level water absorption
- Chemically resistant









- Robotics
- Machine tool
- General pneumatics
- Lubrication
- Petroleum-based chemical transfer
- Pest control lines

Part Number	Part Number		Tube 0.D.		be D.	Ave W Thick		Worl Pres at 73°	sure	Bu	mum irst F /23°C	Reel Length	Wei	ight
#	#	(\bigcirc)	() -		7					sd sd
Natural	Black	mm	inch	mm	inch	mm	inch	bar	psi	bar	psi	feet	kg./mtr.	lbs./ft.
NN4X.65	NB4X.65	4	.157	2.7	.107	0.65	.026	20.7	300	82.7	1200	100	.007	.005
NN6X1	NB6X1	6	.236	4.0	.157	1.00	.039	23.5	341	94	1363	100	.016	.011
NN8X1	NB8X1	8	.315	6.0	.236	1.00	.039	17.0	247	68	986	100	.024	.016
NN10X1	NB10X1	10	.393	8.0	.315	1.00	.039	12.5	181	50	725	100	030	.020
NN12X1	NB12X1	12	.472	10.0	.393	1.00	.039	11.0	160	44	638	100	.036	.024
NN14X1.5	NB14X1.5	14	.551	11.0	.433	1.50	.059	15.0	218	60	870	100	.063	.042
NN16X1.5	NB16X1.5	16	.630	13.0	.512	1.50	.059	12.5	181	50	725	100	.073	.049
NN18X1.5	NB18X1.5	18	.709	15.0	.591	1.50	.059	10.5	152	42	609	100	.082	.055
NN20X1.5	NB20X1.5	20	.787	17.0	.669	1.50	.059	9.5	138	38	551	100	.092	.062



Example: NN4x.65

NN4x.65 - Natural Nylon

NN4x.65 – **Tube O.D.** in millimeters **(4mm)**

NN4x.65 – Wall Thickness in millimeters (0.65mm)

Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

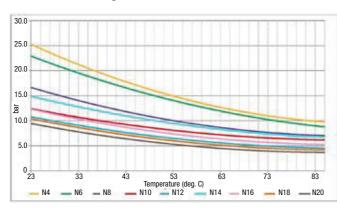
FSC Product Families:

- Metru-Lok™
- Flow Control
- Prestolok Brass
- Prestolok Composite
- Global Connect
- Prestomatic

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Metric Nylon Tubing (Series N)

Maximum Working Pressure (bar)



Notes

- The recommended operating temperature range for service at rated pressures with compatible fluids, depending upon conditions, is -54°C (-65°F) to +93°C (+200°F)
- Black tubing suggested for use in sunlit areas and in close proximity to high ultraviolet light sources

Colors

- Natural
- Black

Nylon Pure Air TubingSeries PAT: Ultra Pure, UV Resistant



Applications/Markets



- Pure air and gas distribution systems
- Semi-conductor

Features

- The tubing choice for pure air systems (semiconductor) due to its cleanliness and excellent chemical and UV light
- Maintains good resistance to high ambient temperatures with low moisture absorption
- Manufactured from a specially formulated nylon for use in pure air and gas distribution systems
- Provides high tensile strength with excellent coupling retention in high pressure, temperature and vibration environments
- Sizes -2 and -4 are single wall tubing construction
- Sizes -6 through -12 are reinforced tubing construction

Part Number	Tube 0.D.		Tu I.I	be D.	W	rage all kness	Pres	king sure F /23°C		mum rst F /23°C	Reel Length	Mini Be Rac		We	ight
#			()-	(K		7	\mathcal{D}	lbs	<u>s</u>
	inch	mm	inch	mm	inch	mm	psi	bar	psi	bar	feet	inch	mm	lbs./ft.	kg./mtr.
PAT2	1/8	3.2	.079	2.0	.023	0.58	250	17.2	1000	69.0	1000	.37	9.4	.035	.052
PAT4	1/4	6.4	.170	4.3	.040	1.0	300	20.7	1200	82.7	1000	1.00	25.4	.124	.185
PAT6	3/8	9.5	.251	6.4	.062	1.6	350	24.1	1400	96.4	500	1.50	38.1	.282	.420
PAT8	1/2	12.7	.376	9.6	.062	1.6	235	16.2	950	65.5	500	2.00	50.8	.395	.588
PAT10	5/8	15.9	.441	11.2	.092	2.3	225	15.5	900	62.1	250	2.50	63.5	.702	1.04
PAT12	3/4	19.1	.566	14.4	.092	2.3	200	13.8	800	55.2	250	3.00	76.2	.872	1.30



Example: PAT4-BLK-0250

PAT4-BLK-0250 – Pure Air Tubing

PAT4-BLK-0250 - Tube O.D. in sixteenths of an inch (1/4")

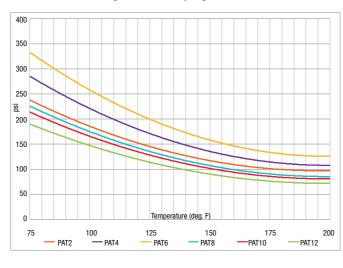
PAT4-BLK-0250 - Color (Black)

PAT4-BLK-0250 - Package Quantity in feet (250')

	Color Code	
•	BLK	Black
•	BRN	Brown
	SIL	Silver

Pure Air Nylon Tubing (Series PAT)

Maximum Working Pressure (psig)



Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

- Compression
- Compress-Align[®]
- Poly-Tite
- Hi-Duty
- Fast & Tite
- Flow Control
- Prestolok Brass
- Prestolok Composite
- Global Connect
- NTA®

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Notes

- Packaged on corrugated plastic reel with ends capped and shipped in a plastic-lined container
- The suggested operating temperature range for service at rated pressures with compatible fluids is -70°F (-57°C) to +200°F (+93°C)
- PAT tubing is rated for full vacuum service at 28 inch Hg

Colors

■ See Color Code Table



Nylon TubingSeries NR: Semi-rigid High Strength



Features

- High grade nylon resins without the addition of plasticizers for higher pressure tubing applications
- Better chemical resistance than Series N, good resistance to high ambient temperature and low moisture absorption
- High tensile strength and excellent coupling retention in high pressure, temperature and vibration environments

Applications/Markets









- High-pressure pneumatics
- Lubrication systems
- Marine control systems

 Process lines for chemicals and oils

Part Number	Part Number		Tube O.D.		Tube I.D.		Average Wall Thickness		Working Pressure at 73°F /23°C		mum Irst F/23°C	Reel Length	Minimum Bend Radius		Weight	
#	#	($\overline{\bigcirc}$	0		<u></u>				*			<i>₹</i>		lbs	[10]
Natural	Black	inch	mm	inch	mm	inch	mm	psi	bar	psi	bar	feet	inch	mm	lbs./ft.	kg./mtr.
NNR-2-017	NBR-2-017	1/8	3.2	.091	2.3	.017	0.43	425	29.3	1700	117.2	0100, 0500	.50	12.7	.003	.005
NNR-2-026	NBR-2-026	1/8	3.2	.073	1.9	.026	0.66	625	43.1	2500	172.4	0100, 0500	.38	9.7	.004	.006
NNR-3-024	NBR-3-024	3/16	4.8	.140	3.6	.024	0.61	425	29.3	1700	117.2	0100, 0500	.75	19.0	.006	.009
NNR-3-039	NBR-3-039	3/16	4.8	.110	2.8	.039	0.99	625	43.1	2500	172.4	0100, 0500	.63	16.0	.008	.012
NNR-4-035	NBR-4-035	1/4	6.4	.180	4.6	.035	0.89	425	29.3	1700	117.2	0100, 0250	1.00	25.4	.011	.016
NNR-4-050	NBR-4-050	1/4	6.4	.150	3.9	.050	1.3	625	43.1	2500	172.4	0100, 0250	.88	22.3	.014	.021
NNR-5-040	NBR-5-040	5/16	7.9	.233	5.9	.040	1.0	425	29.3	1700	117.2	0100, 0250	1.50	38.1	.015	.022
NNR-6-048	NBR-6-048	3/8	9.5	.279	7.1	.048	1.2	425	29.3	1700	117.2	0100, 0250	1.75	44.5	.022	.033
NNR-6-075	NBR-6-075	3/8	9.5	.225	5.7	.075	1.9	625	43.1	2500	172.4	0100, 0250	1.50	38.1	.032	.048
NNR-8-062	NBR-8-062	1/2	12.7	.375	9.5	.062	1.6	350	29.3	1400	117.2	0100, 0250	2.38	60.5	.038	.057
NNR-8-075	NBR-8-075	1/2	12.7	.350	8.9	.075	1.9	625	43.1	2500	172.4	0100, 0250	2.50	63.5	.045	.067



Example: NBR-2-017-0100

NBR-2-017-0100 - **Nylon**

NBR-2-017-0100 - Color (Black)

NBR-2-017-0100 - Rigid

NBR-2-017-0100 - **Tube O.D.** in sixteenths of an inch (1/8")

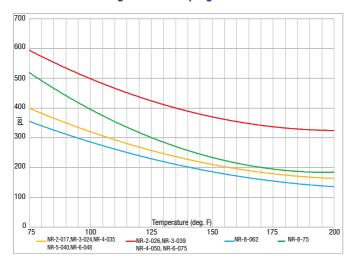
NBR-2-017-0100 - Wall Thickness in inches (.017")

NBR-2-017-0100 - Package Quantity in feet (100')

(Omit for other package quantities)

Semi-rigid Nylon Tubing (Series NR)

Maximum Working Pressure (psig)



Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

- Compression
- Compress-Align[®]
- Poly-Tite
- Hi-Duty
- Fast & Tite
- Flow Control
- Prestolok Brass
- Prestolok Composite
- Global Connect
- TrueSeal™
- NTA®
- Transmission
- Prestomatic
- SAE Cartridge

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

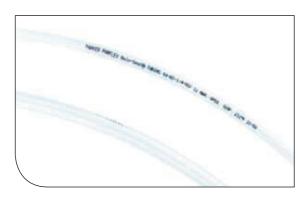
Notes

 Suggested operating temperature range for service at rated pressures with compatible fluids is -60°F (-51°C) to +200°F (+93°C)

Colors

- Natural
- Black

Nylon TubingSeries NTNA: Semi-rigid Nylon Tubing



Features

- High grade nylon resins without the addition of plasticizers
- High tensile strength and excellent coupling retention in high pressure, temperature and vibration environments
- Excellent chemical resistance
- Rugged construction resists vermin attack

Certifications

■ NSF-51



- Instrumentation lines
- Lubrication systems
- Process piping systems
- Refrigerant lines

Part Number		Tube O.D.		Tube I.D.		Average Wall Thickness		Working Pressure at 73°F /23°C		mum irst F/23°C	Reel Length	Minimum Bend Radius		Weight	
#			0		() -				*			5	9	lbs	bg C
	inch	mm	inch	mm	inch	mm	psi	bar	psi	bar	feet	inch	mm	lbs./ft.	kg./mtr.
22NTNA	1/8	3.2	.091	2.3	.017	0.4	375	25.9	1,500	103.4	500	0.50	12.7	.003	.005
532NTNA	5/32	4.0	.113	2.9	.022	0.6	375	25.9	1,500	103.4	500	0.63	16.0	.004	.006
33NTNA	3/16	4.8	.139	3.5	.024	0.6	375	25.9	1,500	103.4	350	0.75	19.0	.006	.009
44NTNA	1/4	6.4	.184	4.7	.033	0.8	375	25.9	1,500	103.4	200	1.00	25.4	.010	.015
55NTNA	5/16	7.9	.232	5.8	.040	1.0	375	25.9	1,500	103.4	150	1.50	38.1	.015	.022
66NTNA	3/8	9.5	.282	7.1	.048	1.2	375	25.9	1,500	103.4	100	1.75	44.4	.022	.033
88NTNA	1/2	12.7	.375	9.5	.062	1.6	375	25.9	1,500	103.4	100	2.38	60.5	.032	.048



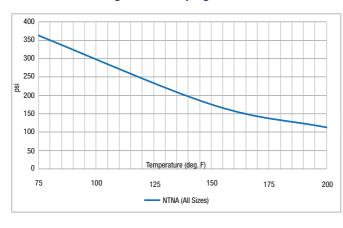
Example: 44NTNA

44NTNA - Tube O.D. in sixteenths of an inch (1/4")

44NTNA – Nylon Tubing 44NTNA – Color (Natural)

Semi-rigid Nylon Tubing (Series NTNA)

Maximum Working Pressure (psig)



Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

- Compression
- Compress-Align[®]
- Poly-Tite
- Hi-Duty
- Fast & Tite
- Flow Control
- Prestolok Brass
- Prestolok Composite
- Global Connect
- TrueSeal[™]

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Notes

 Suggested operating temperature range from -60°F to +212°F (-51°C to +100°C)

Colors

Natural



Polypropylene Tubing
Series PP: Laboratory Grade – FDA, NSF Listed

Series PPB: Ultraviolet Light Resistant



Features

- · Acid and chemically resistant
- May be used in higher temperatures and working pressures than polyethylene tubing
- Excellent compatibility with high temperature water
- Low water absorption (less than .01%)
- Good compatibility with vegetable oils
- Excellent resistance to environmental stress cracking

Certifications

■ FDA Both in white; NSF also in special black part numbers ■ NSF-51



- Food contact White only
- Chemical transfer
- Chlorinated water

Part Number	Part Number	Tu O.	be D.		Tube I.D.		Average Wall Thickness		Working Pressure at 73°F /23°C		mum irst F /23°C	t Reel		mum end dius	Weight	
#	#	(\bigcirc	(\bigcirc					*		r I		\mathcal{A}		E
White	Black	inch	mm	inch	mm	inch	mm	psi	bar	psi	bar	feet	inch	mm	lbs./ft.	kg./mtr.
PP-21-1000	PPB-21-1000	1/8	3.2	.079	2.0	.023	0.58	350	24.1	1400	96.4	1000	.50	12.7	.003	.005
PP-32-0500	PPB-32-0500	3/16	4.8	.120	3.1	.034	0.86	350	24.1	1400	96.4	0500	.75	14.4	.006	.009
PP-43-0500	PPB-43-0500	1/4	6.4	.170	4.3	.040	1.0	300	20.7	1200	82.7	0500	1.00	25.4	.010	.019
PP-53-0500	PPB-53-0500	5/16	7.9	.188	4.8	.062	1.6	350	24.1	1400	96.4	0500	1.25	31.8	.019	.028
PP-64-0500	PPB-64-0500	3/8	9.5	.250	6.4	.062	1.6	300	20.7	1200	82.7	0500	1.25	31.8	.024	.036
PP-86-0250	PPB-86-0250	1/2	12.7	.375	9.5	.062	1.6	225	15.5	900	62.1	0250	2.50	63.5	.033	.049
PP-108-0100	PPB-108-0100	5/8	15.9	.500	12.7	.062	1.6	175	12.1	700	48.3	0100	4.00	101.6	.042	.062



Example: PP-86-0250

PP-86-0250 – Polypropylene

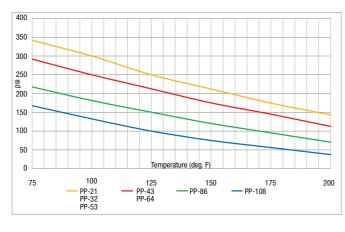
PP-86-0250 - **Tube O.D.** in sixteenths of an inch **(1/2")**

PP-86-0250 - **Tube I.D.** in sixteenths of an inch **(.375")**

PP-86-0250 - Package Quantity in feet (250')

Polypropylene Tubing (Series PP & PPB)

Maximum Working Pressure (psig)



Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

- Compression
- Compress-Align[®]
- Poly-Tite
- Hi-Duty
- Fast & Tite
- Flow Control
- Prestolok Brass
- Prestolok Composite
- Global Connect
- Liquifit
- TrueSeal[™]

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Notes

- NSF black polypropylene tubing is available upon special request. Add -FDA suffix to PPB part number
- Suggested operating temperature range for service at rated pressures with compatible fluids is 0°F (-18°C) to +200°F (+93°C)

Colors

O White

Black

Polyurethane Tubing

Series U: Polyether Base



Features

- 90 to 95 Shore A durometer
- · Excellent kink and abrasion resistance
- Excellent hydrolytic stability
- Flexible and easy to assemble onto designated fittings
- Polyurethane tubing exhibits the elongation and recovery characteristics of rubber and the chemical resistance associated with plastics

Applications/Markets







- Pneumatic controls
- Robotics
- Machine tools
- General industrial pneumatics
- Vacuum equipment
- Analytical instrumentation
- Semiconductor equipment
- Medical and laboratory applications

Also available in coils

Part Number	Tube 0.D.		Tu I.I	··· Wall		Working Pressure at 73°F /23°C		Minimum Burst at 73°F /23°C		Reel Length	Weight		
#			() -	(lbs	
Natural	inch			mm	inch	mm	psi	bar	psi bar		feet	lbs./ft.	kg./mtr.
U-21-XXXX	1/8	3.2	.063	1.6	.031	0.79	125	8.6	375	25.9	0050, 0250, 0500, 1000	.005	.007
U-32-XXXX	3/16	4.8	.125	3.2	.031	0.79	125	8.6	375	25.9	0050, 0250, 0500	.008	.012
U-42-XXXX	1/4	6.4	.125 3.2		.063	1.6	125	8.6	375	25.9	0050, 0250, 0500, 1000	.018	.027
U-64-XXXX	3/8	9.5	.250	6.4	.063	1.6	125	8.6	375	25.9	0050, 0250, 0500, 1000	.030	.045
U-85-XXXX	1/2	12.7	.328	8.3	.086	2.2	125	8.6	375	25.9	0050, 0250, 0500	.044	.065
U-86-XXXX	1/2	12.7	.375	9.5	.063	1.6	85	5.9	255	17.6	0050, 0250, 0500	.042	.062
U-96-XXXX	9/16	14.3	.375	9.5	.094	2.4	125	8.6	375	25.9	0050, 0100	.068	.101
U-128-XXXX	3/4	19.1	.500	12.7	.125	3.2	125	8.6	375	25.9	0050, 0100	.120	.179



Example: U-21-BLK-0500

U-21-BLK-0500 – Polyurethane

U-21-BLK-0500 - Tube O.D. in sixteenths of an inch (1/8")

U-21-BLK-0500 – **Tube I.D.** in sixteenths of an inch **(.063")**

U-21-BLK-0500 – Color (Black) (Omit for Natural)

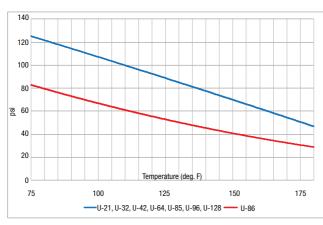
U-21-BLK-0500 - Package Quantity in feet (500')

Ора	Opaque Color Code											
0	-	Natural										
•	BLK	Black										
•	BLU	Blue										
•	GRA	Gray										
•	GRN	Green										
•	ORG	Orange										
•	RED	Red										
0	WHT	White										
•	YEL	Yellow										

1	[ransparent	Color Code
•	TBLU	Transparent Blue
•	TGRN	Transparent Green
•	TORG	Transparent Orange
•	TRED	Transparent Red
•	TYEL	Transparent Yellow

Polyurethane Tubing (Series U)

Maximum Working Pressure (psig)



Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

- Fast & Tite
- Flow Control
- Prestolok Brass
- Prestolok Composite
- TrueSeal™
- Par-Barb®

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Notes

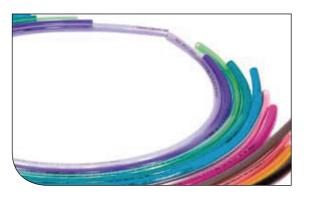
 Suggested operating temperature range for service at rated pressures with compatible fluids is -40°F (-40°C) to +180°F (+82°C)

Colors

■ See Color Code Table



Metric Polyurethane Tubing Series UM: Polyether Base



Features

- 90 to 95 Shore A durometer
- · Excellent kink and abrasion resistance
- Excellent hydrolytic stability
- Flexible and easy to assemble onto designated fittings
- Polyurethane tubing exhibits the elongation and recovery characteristics of rubber and the chemical resistance associated with plastics







- Pneumatic controls
- Robotics
- Machine tools
- General industrial pneumatics
- Vacuum equipment
- Analytical instrumentation
- Semiconductor equipment
- Medical and laboratory applications

Part Number		Tube 0.D.		be D.	Average Wall Thickness		Working Pressure at 73°F /23°C		Minimum Burst at 73°F /23°C		Reel Length	Weight	
#	0		(\bigcirc)- (1					lagg Bagg	lbs
Natural	mm	inch	mm	inch	mm	inch	bar	psi	bar	psi	feet	kg./mtr.	lbs./ft.
UM4x2.5-XXXX	4	.157	2.5	.098	0.75	.030	9.0	131	26.0	377	0100, 0250, 0500	.009	.006
UM6x4-XXXX	6	.236	4.0	.157	1.00	.039	9.0	131	26.0	377	0100, 0250, 0500	.018	.012
UM8x5-XXXX	8	.315	5.0	.196	1.50	.059	9.0	131	26.0	377	0100, 0250, 0500	.036	.024
UM10x6.5-XXXX	10	.393	6.5	.256	1.75	.069	9.0	131	26.0	377	0100, 0250	.053	.036
UM12x8-XXXX	12	.472	8.0	.315	2.00	.079	9.0	131	26.0 377		0100, 0250	.073	.049



Example: UM6x4-BLK-0100

UM6X4-BLK-0100 – **Polyurethane Metric**

UM6X4-BLK-0100 – **Tube O.D.** in millimeters **(6 mm)**

UM6X4-BLK-0100 - Tube I.D. in millimeters (4 mm)

UM6X4-BLK-0100 – Color (Black) (Omit for Natural)

UM6X4-BLK-0100 - Package Quantity in feet (100')

Ора	que Color C	ode
0	-	Natural
•	BLK	Black
•	BLU	Blue
•	GRA	Gray
•	GRN	Green
•	ORG	Orange
•	RED	Red
•	YEL	Yellow

1	[ransparent	Color Code
•	TBLU	Transparent Blue
•	TGRN	Transparent Green
•	TORG	Transparent Orange
•	TRED	Transparent Red
•	TYEL	Transparent Yellow

Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

- Flow Control
- Prestolok Brass
- Prestolok Composite

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Notes

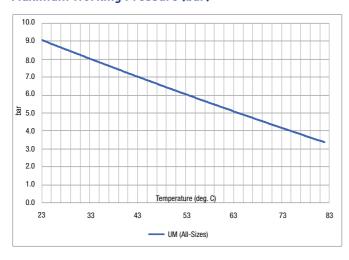
■ The recommended operating temperature range for service at rated pressures with compatible fluids is -40°C (-40°F) to +82°C (+180°F)

Colors

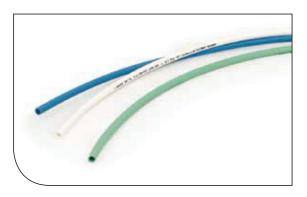
See Color Code Table

Metric Polyurethane Tubing (Series UM)

Maximum Working Pressure (bar)



HUFR MicroWeld™ Tubing



Features

- Mono-wall construction eliminates the need for skiving tools or knives, reducing installation time
- Excellent abrasion resistance
- Silicone and halogen free
- Weighs 36% less than equivalent jacketed tubing

Certifications

■ UL 94 V2 compliant



- Robotics
- Welding
- General automation

Part Number		Tube 0.D.		Tube I.D.		Average Wall Thickness		Working Pressure at 73°F /23°C		nimum Burst 3°F/23°C Reel Length		Minimum Bend Radius		We	ight
#		0		(C)		-	(- 1	\mathcal{S}	lbs	bg
	inch	nch mm in		mm	inch	mm	psi	bar	psi	bar	feet	inch	mm	lbs./ft.	kg./mtr.
HUFR-4-045-XX-0500	1/4			4.1	.045	1.1	175	12.1	525	36.2	0500	.50	12.7	.016	.024
HUFR-6-062-XX-0500	3/8	8 9.5 .29		6.4	.062	1.6	150	10.3	450	31.0	0500	.75	19.1	.033	.049
HUFR-8-090-XX-0250	1/2			8.1	.090	2.3	160	11.0	475	32.7	0250	1.00	25.4	.063	.094



Example: HUFR-4-045-BL-0500

HUFR-4-045-BL-0500 – **MicroWeld™ Polyurethane**

HUFR-4-045-BL-0500 - **Tube O.D.** in sixteenths of an inch **(1/4")**

HUFR-4-045-BL-0500 - Wall Thickness in inches (.045")

HUFR-4-045-**BL**-0500 – **Color (Blue)**

HUFR-4-045-BL-0500 - Package Quantity in feet (500')

	Color Code	
•	BK	Black
•	BL	Blue
•	GN	Green
•	RD	Red
0	WH	White

Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

■ PrestoWeld

Notes

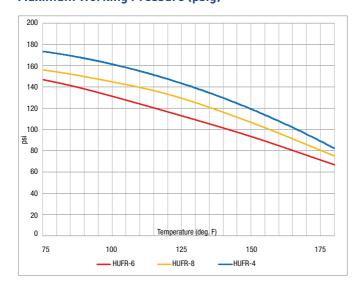
 Suggested operating temperature range for service at rated pressures with compatible fluids is -40°F (-40°C) to +180°F (+82°C)

Colors

■ See Color Code Table

MicroWeld™ Tubing (Series HUFR)

Maximum Working Pressure (psig)



Polyurethane Tubing Series HU: High Durometer Polyether Base



Features

- 95 Shore A durometer or greater
- · Excellent kink and abrasion resistance
- Excellent hydrolytic stability
- Flexible and easy to assemble onto designated fittings
- Polyurethane tubing exhibits the elongation and recovery characteristics of rubber and the chemical resistance associated with plastics







- Pneumatic controls
- Robotics
- Machine tools
- General industrial pneumatics
- Vacuum equipment
- Analytical instrumentation
- Semiconductor equipment
- Medical and laboratory applications

Part Number	Tube 0.D.		Tube I.D.		Average Wall Thickness		Working Pressure at 73°F /23°C		Minimum Burst at 73°F /23°C		Reel Length	Weight	
#		inch mm) () -						lbs	
	inch	mm	inch	mm	inch	mm	psi	bar	psi	bar	feet	lbs./ft.	kg./mtr.
HU-2-XXXX	1/8	3.2	.063	1.6	.031	0.79	300	20.7	900	62.1	0100, 0250, 0500	.005	.007
HU-2.5-XXXX	5/32	4.0	.094	2.4	.031	0.79	210	14.5	630	43.4	0100, 0500	.006	.009
HU-4-XXXX	1/4	6.4	.160	4.1	.045	1.1	180	12.4	540	37.2	0100, 0500	.014	.021
HU-6-XXXX	3/8	9.5	.250	6.4	.062	1.6	180	12.4	540	37.2	0100, 0500	.030	.045
HU-8-XXXX	1/2 12.7 .320 8.		8.1	.090	2.3	180	12.4	540	37.2	0100, 0250	.057	.085	
HU-12-XXXX	3/4 19.1 .467 11.9		11.9	.142	3.6	180	12.4	540	37.2	0100, 0250	.133	.198	



Example: HU-2-BLK-0500

HU-2-BLK-0500 – **High Durometer Polyurethane**

HU-2-BLK-0500 - Tube O.D. in sixteenths of an inch (1/8")

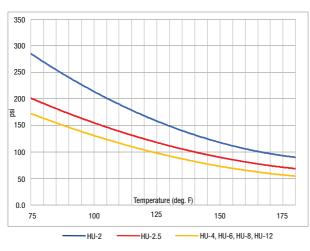
HU-2-BLK-0500 - Color (Black)

HU-2-BLK-0500 - Package Quantity in feet (500')

Color Code										
•	BLK	Black								
•	BLU	Blue								
•	DBL	Dark Blue								
•	RED	Red								
•	YEL	Yellow								

Polyurethane Tubing (Series HU)

Maximum Working Pressure (psig)



Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

- Fast & Tite
- Flow Control
- Prestolok Brass
- Prestolok Composite
- TrueSeal™

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Notes

 Suggested operating temperature range for service at rated pressures with compatible fluids is -40°F (-40°C) to +180°F (+82°C)

Colors

See Color Code Table



Metric Polyurethane Tubing Series HUM: High Durometer (Metric) Polyether Base



Features

- 95 Shore A durometer or greater
- · Excellent kink and abrasion resistance
- Excellent hydrolytic stability
- Flexible and easy to assemble onto designated fittings
- Polyurethane tubing exhibits the elongation and recovery characteristics of rubber and the chemical resistance associated with plastics







- Pneumatic controls
- Robotics
- Machine tools
- General industrial pneumatics
- Vacuum equipment
- Analytical instrumentation
- Semiconductor equipment
- Medical and laboratory applications

Part Number		be D.	lube /		W	Average Wall Thickness		Working Pressure at 73°F/23°C		mum rst F/23°C	Reel Length	WAI	
#			0		<u></u>								lbs
	mm	inch	mm	inch	mm	inch	bar	psi	bar	psi	feet	kg./mtr.	lbs./ft.
HUM-4-XXXX	4	.157	2.4	.094	0.80	.031	12.4	180	37.2	540	0100, 0500	.009	.006
HUM-6-XXXX	6	.236	4.0	.157	1.00	.039	12.4	180	37.2	540	0100, 0500	.018	.012
HUM-8-XXXX	8	.315	5.0	.196	1.50	.059	12.4	180	37.2	540	0100, 0500	.036	.024
HUM-10-XXXX	10	.393	6.4	.236	1.75	.069	12.4	180	37.2	540	0100, 0250	.053	.036
HUM-12-XXXX	12	.472	8.0	.315	2.00	.079	12.4	180	37.2	540	0100, 0250	.073	.049



Example: HUM-6-BLK-0100

HUM-6-BLK-0100 – **High Durometer Metric Polyurethane**

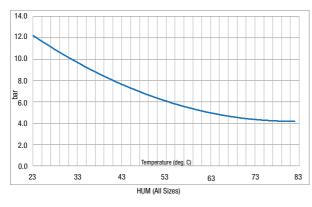
HUM-6-BLK-0100 – Tube O.D. in millimeters (6mm)

HUM-6-BLK-0100 - Color (Black)

HUM-6-BLK-0100 - Package Quantity in feet (100')

Metric Polyurethane Tubing (Series HUM)

Maximum Working Pressure (bar)



Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

- Flow Control
- Prestolok Brass
- Prestolok Composite

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Notes

 Suggested operating temperature range for service at rated pressures with compatible fluids is -40°C (-40°F) to +82°C (+180°F)

Colors

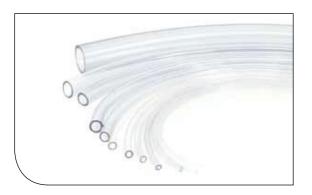
- Natural
- Black



Notes		

Vinyl Tubing

Series PV: Clear Vinyl Tubing



Features

- Made from a virgin clear PVC (polyvinyl chloride) resin; specifically formulated for exceptional purity, clarity and flexibility
- 70 durometer for soft, easy handling and bending without tubing collapse

Certifications

FDA compliant

Applications/Markets





- Low-pressure chemicals
- Pneumatics
- Low-pressure sight flow indicator

Order Information

Example: PV108-1

PV108-1 – **Poly-Vinyl Tubing**

PV108-1 - Tube O.D. in sixteenths of an inch (5/8")

PV108-1 - Tube I.D. in sixteenths of an inch (1/2")

PV108-1 - Formula V-1 FDA Approved Formulation

Fittings

Parker Fittings available from: Fluid System Connectors Division Otsego, MI (269) 692-6555 (269) 694-4614 FAX

FSC Product Families:

- Poly-Tite
- Fast & Tite
- TrueSeal™
- Par-Barb[®]
- Hose Barb
- Garden Fitting

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur. Reference Tubing/Fitting Compatibility Chart (pg. B-5)

Notes

- Formula V-1 tubing fully meets all specifications called out by the United States Food and Drug Administration (FDA) for materials in contact with food and drugs for human consumption
- Suggested operating temperature range for service at rated pressures with compatible fluids is -40°F (-40°C) to +150°F (+65°C)



Vinyl Tubing (cont.) Series PV: Clear Vinyl Tubing

Part Number	Tu 0.	be D.	Tube I.D.		Average Wall Thickness		Working Pressure at 73°F /23°C		Std. Coil	We	ight
#				0		<u></u>				lbs	bg C
	inch	mm	inch	mm	inch	mm	psi	bar	feet	lbs./ft.	kg./mtr.
PV21-1	1/8	3.2	.063	1.6	.031	.79	35	2.4	100	.005	.007
PV32-1	.170	4.3	.125	3.2	.025	.64	35	2.4	100	.006	.009
PV42-1	1/4	6.4	.125	3.2	.063	1.6	65	4.5	100	.025	.037
PV43-1	1/4	6.4	.170	4.3	.040	1.2	55	3.8	100	.014	.021
PV403-1	1/4	6.4	.188	4.8	.031	.79	22	1.5	100	.011	.016
PV53-1	5/16	7.9	.188	4.8	.063	1.6	55	3.8	100	.025	.037
PV63-1	3/8	9.5	.188	4.8	.094	2.4	65	4.5	100	.043	.064
PV73-1	7/16	11.1	.188	4.8	.125	3.2	75	5.2	100	.063	.094
PV54-1	5/16	7.9	.250	6.4	.031	.79	20	1.4	100	.014	.021
PV64-1	3/8	9.5	.250	6.4	.064	1.6	55	3.8	100	.032	.048
PV74-1	7/16	11.1	.250	6.4	.094	2.4	60	4.1	100	.052	.077
PV84-1	1/2	12.7	.250	6.4	.125	3.2	70	4.8	100	.076	.113
PV75-1	7/16	11.1	.313	7.9	.063	1.6	50	3.4	100	.038	.057
PV85-1	1/2	12.7	.313	7.9	.094	2.4	60	4.1	100	.062	.092
PV95-1	9/16	14.3	.313	7.9	.125	3.2	70	4.8	100	.088	.131
PV86-1	1/2	12.7	.375	9.5	.063	1.6	45	3.1	100	.044	.065
PV96-1	9/16	14.3	.375	9.5	.094	2.4	50	3.4	100	.071	.106
PV106-1	5/8	15.9	.375	9.5	.125	3.2	60	4.1	100	.101	.150
PV97-1	9/16	14.3	.438	11.1	.063	1.6	40	2.8	100	.050	.074
PV107-1	5/8	15.9	.438	11.1	.094	2.4	45	3.1	100	.080	.119
PV117-1	11/16	17.5	.438	11.1	.125	3.2	50	3.4	100	.115	.171
PV108-1	5/8	15.9	.500	12.7	.063	1.6	30	2.1	100	.057	.085
PV118-1	11/16	17.5	.500	12.7	.094	2.4	40	2.8	100	.089	.132
PV128-1	3/4	19.1	.500	12.7	.125	3.2	45	3.1	100	.126	.187
PV138-1	13/16	20.7	.500	12.7	.156	4.0	60	4.1	100	.167	.248
PV129-1	3/4	19.1	.563	14.3	.094	2.4	40	2.8	100	.099	.147
PV139-1	13/16	20.7	.563	14.3	.125	3.2	45	3.1	100	.138	.205



Inch mm inch mm inch mm inch mm psi bar feet lbs/ft. kg/mtz.	Part Number	Tu O.	be D.	Tube I.D.		W	Average Wall Thickness		king sure F /23°C	Std. Coil	We	ight
PV1310-1 13/16 26.7 .625 15.9 .094 2.4 35 2.4 100 .108 .161 PV1410-1 7/8 22.2 .625 15.9 .125 3.2 40 2.8 100 .151 .225 PV1510-1 15/16 23.8 .625 15.9 .156 4.0 50 3.5 100 .196 .292 PV1411-1 7/8 22.2 .688 17.5 .156 4.0 45 3.1 100 .118 .176 PV1611-1 1 25.4 .688 17.5 .156 4.0 45 3.1 100 .118 .176 PV1612-1 1 25.4 .750 19.1 .156 4.0 35 2.4 100 .176 .262 PV1712-1 1-1/16 27.0 .750 19.1 .188 4.8 50 3.5 100 .228 .339 PV1812-1 1-1/8 28.6	#	(<u></u>						pg c
PV1410-1 7/8 22.2 .625 15.9 .125 3.2 40 2.8 100 .151 .225 PV1510-1 15/16 23.8 .625 15.9 .156 4.0 50 3.5 100 .196 .292 PV1411-1 7/8 22.2 .688 17.5 .094 2.4 30 2.1 100 .118 .176 PV1611-1 1 25.4 .688 17.5 .156 4.0 45 3.1 100 .213 .317 PV1612-1 1 25.4 .760 19.1 .125 3.2 35 2.4 100 .176 .262 PV1712-1 1-1/16 27.0 .750 19.1 .188 4.8 50 3.5 100 .228 .339 PV1812-1 1-1/4 31.8 .750 19.1 .188 4.8 50 3.5 100 .228 .329 PV1814-1 1-1/2 31.8		inch	mm	inch	mm	inch	mm	psi	bar	feet	lbs./ft.	kg./mtr.
PV1510-1 15/16 23.8 .625 15.9 .156 4.0 50 3.5 100 .196 .292 PV1411-1 7/8 22.2 .688 17.5 .094 2.4 30 2.1 100 .118 .176 PV1611-1 1 25.4 .688 17.5 .156 4.0 45 3.1 100 .213 .317 PV1612-1 1 25.4 .750 19.1 .125 3.2 35 2.4 100 .176 .262 PV1712-1 1-1/16 27.0 .750 19.1 .188 4.8 50 3.5 100 .228 .339 PV1812-1 1-1/18 28.6 .750 19.1 .188 4.8 50 3.5 100 .228 .3421 PV2012-1 1-1/4 31.8 .750 19.1 .250 6.4 55 3.8 50 .409 .609 PV1814-1 1-3/8 3	PV1310-1	13/16	26.7	.625	15.9	.094	2.4	35	2.4	100	.108	.161
PV1411-1 7/8 22.2 .688 17.5 .094 2.4 30 2.1 100 .118 .176 PV1611-1 1 25.4 .688 17.5 .156 4.0 45 3.1 100 .213 .317 PV1612-1 1 25.4 .750 19.1 .125 3.2 35 2.4 100 .176 .262 PV1712-1 1-1/16 27.0 .750 19.1 .156 4.0 35 2.4 100 .228 .339 PV1812-1 1-1/8 28.6 .750 19.1 .188 4.8 50 3.5 100 .283 .421 PV2012-1 1-1/4 31.8 .750 19.1 .250 6.4 55 3.8 50 .409 .609 PV1814-1 1-1/8 27.0 .875 22.2 .125 3.2 30 2.1 50 .201 .299 PV1914-1 1-1/4 31.8	PV1410-1	7/8	22.2	.625	15.9	.125	3.2	40	2.8	100	.151	.225
PV1611-1 1 25.4 .688 17.5 .156 4.0 45 3.1 100 .213 .317 PV1612-1 1 25.4 .750 19.1 .125 3.2 35 2.4 100 .176 .262 PV1712-1 1-1/16 27.0 .750 19.1 .156 4.0 35 2.4 100 .228 .339 PV1812-1 1-1/8 28.6 .750 19.1 .188 4.8 50 3.5 100 .283 .421 PV2012-1 1-1/4 31.8 .750 19.1 .250 6.4 55 3.8 50 .409 .609 PV1814-1 1-1/8 27.0 .875 22.2 .125 3.2 30 2.1 50 .201 .299 PV1914-1 1-3/6 30.2 .875 22.2 .188 4.8 45 3.1 50 .321 .478 PV2016-1 1-1/4 31.	PV1510-1	15/16	23.8	.625	15.9	.156	4.0	50	3.5	100	.196	.292
PV1612-1 1 25.4 .750 19.1 .125 3.2 35 2.4 100 .176 .262 PV1712-1 1-1/16 27.0 .750 19.1 .156 4.0 35 2.4 100 .228 .339 PV1812-1 1-1/8 28.6 .750 19.1 .188 4.8 50 3.5 100 .283 .421 PV2012-1 1-1/4 31.8 .750 19.1 .250 6.4 55 3.8 50 .409 .609 PV1814-1 1-1/8 27.0 .875 22.2 .125 3.2 30 2.1 50 .201 .299 PV1914-1 1-3/16 30.2 .875 22.2 .156 4.0 35 2.4 100 .259 .385 PV2014-1 1-1/4 31.8 .875 22.2 .188 4.8 45 3.1 50 .230 .342 PV2016-1 1-5/16 <	PV1411-1	7/8	22.2	.688	17.5	.094	2.4	30	2.1	100	.118	.176
PV1712-1 1-1/16 27.0 .750 19.1 .156 4.0 35 2.4 100 .228 .339 PV1812-1 1-1/8 28.6 .750 19.1 .188 4.8 50 3.5 100 .283 .421 PV2012-1 1-1/4 31.8 .750 19.1 .250 6.4 55 3.8 50 .409 .609 PV1814-1 1-1/8 27.0 .875 22.2 .125 3.2 30 2.1 50 .201 .299 PV1914-1 1-3/16 30.2 .875 22.2 .156 4.0 35 2.4 100 .259 .385 PV2014-1 1-1/4 31.8 .875 22.2 .156 4.0 35 2.4 100 .259 .385 PV2016-1 1-1/4 31.8 1.000 25.4 .125 3.2 25 1.7 50 .230 .342 PV2116-1 1-5/16	PV1611-1	1	25.4	.688	17.5	.156	4.0	45	3.1	100	.213	.317
PV1812-1 1-1/8 28.6 .750 19.1 .188 4.8 50 3.5 100 .283 .421 PV2012-1 1-1/4 31.8 .750 19.1 .250 6.4 55 3.8 50 .409 .609 PV1814-1 1-1/8 27.0 .875 22.2 .125 3.2 30 2.1 50 .201 .299 PV1914-1 1-3/16 30.2 .875 22.2 .156 4.0 35 2.4 100 .259 .385 PV2014-1 1-1/4 31.8 .875 22.2 .188 4.8 45 3.1 50 .321 .478 PV2016-1 1-1/4 31.8 1.000 25.4 .125 3.2 25 1.7 50 .230 .342 PV2116-1 1-5/16 33.4 1.000 25.4 .156 4.0 30 2.1 50 .291 .433 PV2416-1 1-1/2	PV1612-1	1	25.4	.750	19.1	.125	3.2	35	2.4	100	.176	.262
PV2012-1 1-1/4 31.8 .750 19.1 .250 6.4 55 3.8 50 .409 .609 PV1814-1 1-1/8 27.0 .875 22.2 .125 3.2 30 2.1 50 .201 .299 PV1914-1 1-3/16 30.2 .875 22.2 .156 4.0 35 2.4 100 .259 .385 PV2014-1 1-1/4 31.8 .875 22.2 .188 4.8 45 3.1 50 .321 .478 PV2016-1 1-1/4 31.8 1.000 25.4 .125 3.2 25 1.7 50 .230 .342 PV2116-1 1-5/16 33.4 1.000 25.4 .156 4.0 30 2.1 50 .291 .433 PV2216-1 1-3/8 34.9 1.000 25.4 .188 4.8 40 2.8 50 .359 .534 PV2416-1 1-1/2	PV1712-1	1-1/16	27.0	.750	19.1	.156	4.0	35	2.4	100	.228	.339
PV1814-1 1-1/8 27.0 .875 22.2 .125 3.2 30 2.1 50 .201 .299 PV1914-1 1-3/16 30.2 .875 22.2 .156 4.0 35 2.4 100 .259 .385 PV2014-1 1-1/4 31.8 .875 22.2 .188 4.8 45 3.1 50 .321 .478 PV2016-1 1-1/4 31.8 1.000 25.4 .125 3.2 25 1.7 50 .230 .342 PV2116-1 1-5/16 33.4 1.000 25.4 .156 4.0 30 2.1 50 .291 .433 PV2216-1 1-3/8 34.9 1.000 25.4 .188 4.8 40 2.8 50 .359 .534 PV2416-1 1-1/2 38.1 1.000 25.4 .250 6.4 45 3.1 50 .514 .765 PV2420-1 1-1/2	PV1812-1	1-1/8	28.6	.750	19.1	.188	4.8	50	3.5	100	.283	.421
PV1914-1 1-3/16 30.2 .875 22.2 .156 4.0 35 2.4 100 .259 .385 PV2014-1 1-1/4 31.8 .875 22.2 .188 4.8 45 3.1 50 .321 .478 PV2016-1 1-1/4 31.8 1.000 25.4 .125 3.2 25 1.7 50 .230 .342 PV2116-1 1-5/16 33.4 1.000 25.4 .156 4.0 30 2.1 50 .291 .433 PV2216-1 1-3/8 34.9 1.000 25.4 .188 4.8 40 2.8 50 .359 .534 PV2416-1 1-1/2 38.1 1.000 25.4 .250 6.4 45 3.1 50 .514 .765 PV2218-1 1-3/8 34.9 1.125 28.6 .125 3.2 25 1.7 50 .252 .375 PV2420-1 1-1/2	PV2012-1	1-1/4	31.8	.750	19.1	.250	6.4	55	3.8	50	.409	.609
PV2014-1 1-1/4 31.8 .875 22.2 .188 4.8 45 3.1 50 .321 .478 PV2016-1 1-1/4 31.8 1.000 25.4 .125 3.2 25 1.7 50 .230 .342 PV2116-1 1-5/16 33.4 1.000 25.4 .156 4.0 30 2.1 50 .291 .433 PV2216-1 1-3/8 34.9 1.000 25.4 .188 4.8 40 2.8 50 .359 .534 PV2416-1 1-1/2 38.1 1.000 25.4 .250 6.4 45 3.1 50 .514 .765 PV2218-1 1-3/8 34.9 1.125 28.6 .125 3.2 25 1.7 50 .252 .375 PV2420-1 1-1/2 38.1 1.250 31.8 .125 3.2 20 1.4 50 .277 .412 PV2620-1 1-5/8	PV1814-1	1-1/8	27.0	.875	22.2	.125	3.2	30	2.1	50	.201	.299
PV2016-1 1-1/4 31.8 1.000 25.4 .125 3.2 25 1.7 50 .230 .342 PV2116-1 1-5/16 33.4 1.000 25.4 .156 4.0 30 2.1 50 .291 .433 PV2216-1 1-3/8 34.9 1.000 25.4 .188 4.8 40 2.8 50 .359 .534 PV2416-1 1-1/2 38.1 1.000 25.4 .250 6.4 45 3.1 50 .514 .765 PV2218-1 1-3/8 34.9 1.125 28.6 .125 3.2 25 1.7 50 .252 .375 PV2420-1 1-1/2 38.1 1.250 31.8 .125 3.2 20 1.4 50 .277 .412 PV2620-1 1-5/8 41.3 1.250 31.8 .188 4.8 35 2.4 50 .434 .646 PV2820-1 1-3/4	PV1914-1	1-3/16	30.2	.875	22.2	.156	4.0	35	2.4	100	.259	.385
PV2116-1 1-5/16 33.4 1.000 25.4 .156 4.0 30 2.1 50 .291 .433 PV2216-1 1-3/8 34.9 1.000 25.4 .188 4.8 40 2.8 50 .359 .534 PV2416-1 1-1/2 38.1 1.000 25.4 .250 6.4 45 3.1 50 .514 .765 PV2218-1 1-3/8 34.9 1.125 28.6 .125 3.2 25 1.7 50 .252 .375 PV2420-1 1-1/2 38.1 1.250 31.8 .125 3.2 20 1.4 50 .277 .412 PV2620-1 1-5/8 41.3 1.250 31.8 .188 4.8 35 2.4 50 .434 .646 PV2820-1 1-3/4 44.4 1.250 31.8 .250 6.4 45 3.1 50 .510 .759 PV3024-1 2	PV2014-1	1-1/4	31.8	.875	22.2	.188	4.8	45	3.1	50	.321	.478
PV2216-1 1-3/8 34.9 1.000 25.4 .188 4.8 40 2.8 50 .359 .534 PV2416-1 1-1/2 38.1 1.000 25.4 .250 6.4 45 3.1 50 .514 .765 PV2218-1 1-3/8 34.9 1.125 28.6 .125 3.2 25 1.7 50 .252 .375 PV2420-1 1-1/2 38.1 1.250 31.8 .125 3.2 20 1.4 50 .277 .412 PV2620-1 1-5/8 41.3 1.250 31.8 .188 4.8 35 2.4 50 .434 .646 PV2820-1 1-3/4 44.4 1.250 31.8 .250 6.4 45 3.1 50 .604 .899 PV3024-1 1-7/8 47.6 1.500 38.1 .188 4.8 30 2.1 50 .510 .759 PV3628-1 2-1/4	PV2016-1	1-1/4	31.8	1.000	25.4	.125	3.2	25	1.7	50	.230	.342
PV2416-1 1-1/2 38.1 1.000 25.4 .250 6.4 45 3.1 50 .514 .765 PV2218-1 1-3/8 34.9 1.125 28.6 .125 3.2 25 1.7 50 .252 .375 PV2420-1 1-1/2 38.1 1.250 31.8 .125 3.2 20 1.4 50 .277 .412 PV2620-1 1-5/8 41.3 1.250 31.8 .188 4.8 35 2.4 50 .434 .646 PV2820-1 1-3/4 44.4 1.250 31.8 .250 6.4 45 3.1 50 .604 .899 PV3024-1 1-7/8 47.6 1.500 38.1 .188 4.8 30 2.1 50 .510 .759 PV3628-1 2-1/4 57.2 1.750 11.1 .250 6.4 40 2.8 50 .705 1.05	PV2116-1	1-5/16	33.4	1.000	25.4	.156	4.0	30	2.1	50	.291	.433
PV2218-1 1-3/8 34.9 1.125 28.6 .125 3.2 25 1.7 50 .252 .375 PV2420-1 1-1/2 38.1 1.250 31.8 .125 3.2 20 1.4 50 .277 .412 PV2620-1 1-5/8 41.3 1.250 31.8 .188 4.8 35 2.4 50 .434 .646 PV2820-1 1-3/4 44.4 1.250 31.8 .250 6.4 45 3.1 50 .604 .899 PV3024-1 1-7/8 47.6 1.500 38.1 .188 4.8 30 2.1 50 .510 .759 PV3224-1 2 50.8 1.500 38.1 .250 6.4 40 2.8 50 .705 1.05 PV3628-1 2-1/4 57.2 1.750 11.1 .250 6.4 30 2.1 50 .806 1.20	PV2216-1	1-3/8	34.9	1.000	25.4	.188	4.8	40	2.8	50	.359	.534
PV2420-1 1-1/2 38.1 1.250 31.8 .125 3.2 20 1.4 50 .277 .412 PV2620-1 1-5/8 41.3 1.250 31.8 .188 4.8 35 2.4 50 .434 .646 PV2820-1 1-3/4 44.4 1.250 31.8 .250 6.4 45 3.1 50 .604 .899 PV3024-1 1-7/8 47.6 1.500 38.1 .188 4.8 30 2.1 50 .510 .759 PV3224-1 2 50.8 1.500 38.1 .250 6.4 40 2.8 50 .705 1.05 PV3628-1 2-1/4 57.2 1.750 11.1 .250 6.4 30 2.1 50 .806 1.20	PV2416-1	1-1/2	38.1	1.000	25.4	.250	6.4	45	3.1	50	.514	.765
PV2620-1 1-5/8 41.3 1.250 31.8 .188 4.8 35 2.4 50 .434 .646 PV2820-1 1-3/4 44.4 1.250 31.8 .250 6.4 45 3.1 50 .604 .899 PV3024-1 1-7/8 47.6 1.500 38.1 .188 4.8 30 2.1 50 .510 .759 PV3224-1 2 50.8 1.500 38.1 .250 6.4 40 2.8 50 .705 1.05 PV3628-1 2-1/4 57.2 1.750 11.1 .250 6.4 30 2.1 50 .806 1.20	PV2218-1	1-3/8	34.9	1.125	28.6	.125	3.2	25	1.7	50	.252	.375
PV2820-1 1-3/4 44.4 1.250 31.8 .250 6.4 45 3.1 50 .604 .899 PV3024-1 1-7/8 47.6 1.500 38.1 .188 4.8 30 2.1 50 .510 .759 PV3224-1 2 50.8 1.500 38.1 .250 6.4 40 2.8 50 .705 1.05 PV3628-1 2-1/4 57.2 1.750 11.1 .250 6.4 30 2.1 50 .806 1.20	PV2420-1	1-1/2	38.1	1.250	31.8	.125	3.2	20	1.4	50	.277	.412
PV3024-1 1-7/8 47.6 1.500 38.1 .188 4.8 30 2.1 50 .510 .759 PV3224-1 2 50.8 1.500 38.1 .250 6.4 40 2.8 50 .705 1.05 PV3628-1 2-1/4 57.2 1.750 11.1 .250 6.4 30 2.1 50 .806 1.20	PV2620-1	1-5/8	41.3	1.250	31.8	.188	4.8	35	2.4	50	.434	.646
PV3224-1 2 50.8 1.500 38.1 .250 6.4 40 2.8 50 .705 1.05 PV3628-1 2-1/4 57.2 1.750 11.1 .250 6.4 30 2.1 50 .806 1.20	PV2820-1	1-3/4	44.4	1.250	31.8	.250	6.4	45	3.1	50	.604	.899
PV3628-1 2-1/4 57.2 1.750 11.1 .250 6.4 30 2.1 50 .806 1.20	PV3024-1	1-7/8	47.6	1.500	38.1	.188	4.8	30	2.1	50	.510	.759
	PV3224-1	2	50.8	1.500	38.1	.250	6.4	40	2.8	50	.705	1.05
PV4032-1 2-1/2 63.5 2.000 50.8 .250 6.4 35 2.4 50 .906 1.35	PV3628-1	2-1/4	57.2	1.750	11.1	.250	6.4	30	2.1	50	.806	1.20
	PV4032-1	2-1/2	63.5	2.000	50.8	.250	6.4	35	2.4	50	.906	1.35

