

TUBING PROGRAM





**Metal Work** was set up in 1967 for the production of push-in fittings for compressed air systems. The company gradually extended its production and sales structure to become a leader in pneumatic systems for automation. Now the production unit in Concesio has a staff of about 400, while the national and international sales organisation staff number around 450. In 1992 **Metal Work** has obtained the ISO 9001 certification.

To the quality management one, in 2000 we have add the one related to the enviromental management according the ISO 14001. To these **Metal Work** Sp.A. applied the OHSAS 18001 standard in 2007 to guarantee a Management System of Occupational Safety and Health. All the certifications above mentioned have been released by the German certification body DEKRA ITS, accredited by TGA Products are distributed through 38 branches in Italy and abroad, which offer an efficient capillary before - and after-sales service. The product quality and an efficient sales organisation are the basis on which **Metal Work** firmly stands and enable the company to meet all possible requirements in pneumatic systems for automation.

“Our team work together, towards this on common goal: there is nothing we have done yesterday that cannot be improve today.”



## **TAKE A LOOK AT WHAT WE OFFER NOW!**

Metal Work Pneumatic Products, (MWP) has been supplying you with the highest quality polyurethane tubing available in the market for more than sixteen years. We have been expanding our product offering over the past few years and would like to introduce them to you in our new full line tubing catalog! You can now consolidate purchases with MWP and still get the high quality and service that you've come to know.

MWP's tubing products are superior because we use 100% virgin materials for improved performance; never "off spec" or regrind. We take pride in our work and have added the type of products that our customers desire. After reviewing the complete product line, if you do not find what you're looking for, don't hesitate to ask us for it. Our full product capabilities list is found on the back page of this catalog. We welcome your inquiries for custom materials, sizes, colors, and cut lengths. We would also welcome the opportunity to quote your "private label" and custom packaging needs.

**Thank you for the opportunity to earn your business!**

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NSF<sup>®</sup> is a registered trademark of the NATIONAL SANITATION FOUNDATION

### **MWP Private Brand PU Minimum Run Requirements**

<b>Tubing O.D.</b>	<b>Min. Footage Required*,**</b>
1/8"	30,000
5/32", 4mm	15,000
3/16"	30,000
1/4", 6mm	15,000
5/16", 8mm	10,000
3/8", 10mm	10,000
1/2", 12mm,	5,000
9/16"	2,500
5/8", 16mm	2,500
3/4"	2,500
* Same Current Net Pricing	
** One-shipment Only	

<b>Tubing O.D.</b>	<b>Min. Footage Required*,**</b>
1/8"	15,000
5/32", 4mm	7,500
3/16"	15,000
1/4", 6mm	7,500
5/16", 8mm	5,000
3/8", 10mm	5,000
1/2", 12mm	2,500
+ 15% Adder to Current Net Price	
++ Maximum Six Week Lead Time	

### **MWP Private Brand NYLON & PE Minimum Run Requirements**

<b>Tubing O.D.</b>	<b>Min. Footage Required*,**</b>
1/8"	50,000
5/32", 4mm	50,000
3/16"	50,000
1/4", 6mm	50,000
5/16", 8mm	40,000
3/8", 10mm	25,000
1/2", 12mm	14,000
9/16"	2,500
5/8", 16mm	2,500
3/4"	2,500
* Same Current Net Pricing	
** One-shipment Only	

### **LIMITED WARRANTY**

Advanced Technology Products expressly excludes all warranties, guarantees and representations, expressed or implied, including but not limited to warranties of merchantability, material, workmanship,

purpose. Products shall be free from defects in material and workmanship for a period of one (1) year after shipment. If the product purchased is defective in any way during the one (1) year period, please contact ATP for an RGA number to return the product. No unauthorized returns will be accepted. Ship product prepaid to ATP for a full evaluation. If the product is found to be defective, ATP will repair or replace the product at no charge to the customer at ATP's sole discretion.

# NSF 51<sup>®</sup> Polyurethane (Shore A 98)



MWP™ NSF 51<sup>®</sup> polyurethane (PUR) Shore A 98 tubing is made from the highest quality raw materials available. It is ether-based to provide excellent hydrolysis, oil and cold resistance. Surethane™ is strong and flexible and offers superior kink resistance compared to other tubing. It is 5 to 10 times more wear resistant and lighter in weight than any rubber hose.

MWP Surethane™ tubing has an outside diameter made to extremely tight tolerances ideal for use with Technifit push-to-connect fittings, as well as barb-type and compression fittings for simple installation.

### Package Lengths

- A = 100'
- B = 250'
- C = 500'
- D = 1000'
- E = 25 Meters
- F = 100 Meters

### Part Numbering System

**MWPU 18 A BK**

Polyurethane    Tubing O.D.    Package Length    Tubing color  
 Insert color designation part number when

### SPECIFICATIONS

- Strong
- Lightweight
- Flexible
- Abrasion Resistant
- Heat & Cold Resistant
- Chemical Resistant
- Kink Resistant
- NSF 51<sup>®</sup> Certified
- Temperature Range: \* -40°F To +160°F
- Hardness: Shore A 98
- Vacuum Rating: To 28" Hg
- Tolerances: 1/8" - 1/2" O.D. +/- .005
- 9/16" - 3/4" O.D. +/- .006
- RoHS Compliant

### Stock Color Chart: • = Stock, x = Non Stock

PU	BK	(	CB	CG	CR	G	GY	LB	LG	NB	OR	R	Y	W
1/8	•	•	x	x	•	x	•	x	•	x	•	•	•	•
04M/5/32	•	•	x	•	•	•	•	x	•	•	•	•	•	•
3/16	•	•	x	x	x	x	x	x	x	x	•	•	•	•
1/4	•	•	x	•	•	•	•	x	•	•	•	•	•	•
08M/5/16	•	•	x	x	•	•	•	x	•	•	•	•	•	•
3/8	•	•	x	•	•	•	•	x	•	•	•	•	•	•
1/2	•	•	x	•	•	•	•	•	•	x	•	•	•	•
9/16	•	•	x	x	x	x	x	x	x	x	x	x	x	x
5/8	•	•	x	x	x	x	x	x	x	x	x	x	x	x
3/4	•	•	x	x	•	x	x	x	•	x	•	•	•	•
6MM	•	•	x	x	•	•	•	x	•	•	•	•	•	•
10MM	•	•	x	x	•	x	•	x	•	x	•	•	•	•
12MM	•	•	x	x	•	x	•	x	•	x	•	•	•	•
16MM	•	•	x	x	•	x	•	x	•	x	•	•	•	•

BK = Black    C = Clear    CB = Clear Blue    CG = Clear Green    CR = Clear Red  
 G = Green    GY = Gray    LB = Light Blue    LG = Light Green    NB = Navy Blue  
 OR = Orange    R = Red    Y = Yellow    W = White

### Applications

- Pneumatic Tools
- Pneumatic Piping
- Vacuum
- Laboratories
- Robotics
- Motion Control
- Instrumentation
- Agriculture
- Lube Lines
- Painting Systems
- Food & Beverage

\* color green, clear green, yellow, clear yellow Temperature Range: -40°F To +150°F

Custom sizes, colors, lengths are available with minimum quantity. See page 3 for details.

Click on the part number to add the item to the shopping cart.



## ™ NSF 51® Polyurethane (Shore A 98)

### Fractional Sizes

Size	Part number	O.D. (IN)	I.D. (IN)	Wall Thickness (IN)	Bend Radius (IN)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length	Package Weight (lbs)
1/8"	<a href="#">PU18A</a>	.125	.062	.031	.200	240	720	100'	.50
	<a href="#">PU18B</a>	.125	.062	.031	.200	240	720	250'	1.25
	<a href="#">PU18C</a>	.125	.062	.031	.200	240	720	500'	2.50
	<a href="#">PU18D</a>	.125	.062	.031	.200	240	720	1000'	5.00
4mm 5/32"	<a href="#">PU04M/532A</a>	4mm,5/32	.093	.031	.250	200	600	100'	.70
	<a href="#">PU04M/532B</a>	4mm,5/32	.093	.031	.250	200	600	250'	1.75
	<a href="#">PU04M/532C</a>	4mm,5/32	.093	.031	.250	200	600	500'	3.50
	<a href="#">PU04M/532D</a>	4mm,5/32	.093	.031	.250	200	600	1000'	7.00
	<a href="#">PU04M/532E</a>	4mm,5/32	.093	.031	.250	200	600	25M	.57
	<a href="#">PU04M/532F</a>	4mm,5/32	.093	.031	.250	200	600	100M	2.30
3/16"	<a href="#">PU316A</a>	.187	.125	.031	.339	150	450	100'	1.01
	<a href="#">PU316B</a>	.187	.125	.031	.339	150	450	250'	2.53
	<a href="#">PU316C</a>	.187	.125	.031	.339	150	450	500'	5.05
	<a href="#">PU316D</a>	.187	.125	.031	.339	150	450	1000'	10.10
1/4"	<a href="#">PU14A</a>	.250	.156	.047	.476	180	540	100'	1.50
	<a href="#">PU14B</a>	.250	.156	.047	.476	180	540	250'	3.75
	<a href="#">PU14C</a>	.250	.156	.047	.476	180	540	500'	7.50
	<a href="#">PU14D</a>	.250	.156	.047	.476	180	540	1000'	15.00
8mm 5/16"	<a href="#">PU08M/516A</a>	8mm,5/16	.187	.063	.594	175	525	100'	2.60
	<a href="#">PU08M/516B</a>	8mm,5/16	.187	.063	.594	175	525	250'	6.50
	<a href="#">PU08M/516C</a>	8mm,5/16	.187	.063	.594	175	525	500'	13.00
	<a href="#">PU08M/516D</a>	8mm,5/16	.187	.063	.594	175	525	1000'	26.00
	<a href="#">PU08M/516E</a>	8mm,5/16	.187	.063	.594	175	525	25M	2.13
	<a href="#">PU08M/516F</a>	8mm,5/16	.187	.063	.594	175	525	100M	8.53
3/8"	<a href="#">PU38A</a>	.375	.250	.063	1.00	150	450	100'	3.40
	<a href="#">PU38B</a>	.375	.250	.063	1.00	150	450	250'	8.50
	<a href="#">PU38C</a>	.375	.250	.063	1.00	150	450	500'	17.00
	<a href="#">PU38D</a>	.375	.250	.063	1.00	150	450	1000'	34.00
1/2"	<a href="#">PU12A</a>	.500	.328	.086	1.102	150	450	100'	5.60
	<a href="#">PU12B</a>	.500	.328	.086	1.102	150	450	250'	14.90
	<a href="#">PU12C</a>	.500	.328	.086	1.102	150	450	500'	28.05
9/16"	<a href="#">PU916A</a>	.562	.375	.093	1.142	140	420	100'	7.50
	<a href="#">PU916B</a>	.562	.375	.093	1.142	140	420	250'	18.75
5/8"	<a href="#">PU58A</a>	.625	.406	.109	1.375	150	450	100'	9.50
	<a href="#">PU58B</a>	.625	.406	.109	1.375	150	450	250'	23.75
3/4"	<a href="#">PU34A</a>	.750	.500	.125	1.500	140	420	100'	14.90
	<a href="#">PU34B</a>	.750	.500	.125	1.500	140	420	250'	37.25

Polyurethane Metric on page 6

Click on the part number to add the item to the shopping cart.



## NSF 51<sup>®</sup> Polyurethane (Shore A 98)

### Metric Sizes

Size	Part number	O.D. (mm)	I.D. (mm)	Wall Thickness (mm)	Bend Radius (mm)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length	Package Weight (lbs)
6mm	<a href="#">PU06MA_</a>	6.0	4.0	1.000	12	180	540	100'	1.30
	<a href="#">PU06MB_</a>	6.0	4.0	1.000	12	180	540	250'	3.24
	<a href="#">PU06MC_</a>	6.0	4.0	1.000	12	180	540	500'	6.48
	<a href="#">PU06MD_</a>	6.0	4.0	1.000	12	180	540	1000'	13.00
	<a href="#">PU06ME_</a>	6.0	4.0	1.000	12	180	540	25M	1.07
	<a href="#">PU06MF_</a>	6.0	4.0	1.000	12	180	540	100M	4.28
10mm	<a href="#">PU10MA_</a>	10.0	6.5	1.750	25	150	450	100'	3.90
	<a href="#">PU10MB_</a>	10.0	6.5	1.750	25	150	450	250'	9.75
	<a href="#">PU10MC_</a>	10.0	6.5	1.750	25	150	450	500'	19.50
	<a href="#">PU10ME_</a>	10.0	6.5	1.750	25	150	450	25M	3.23
	<a href="#">PU10MF_</a>	10.0	6.5	1.750	25	150	450	100M	12.76
12mm	<a href="#">PU12MA_</a>	12.0	8.0	2.000	28	150	450	100'	5.30
	<a href="#">PU12MB_</a>	12.0	8.0	2.000	28	150	450	250'	13.25
	<a href="#">PU12MC_</a>	12.0	8.0	2.000	28	150	450	500'	26.50
	<a href="#">PU12ME_</a>	12.0	8.0	2.000	28	150	450	25M	4.39
	<a href="#">PU12MF_</a>	12.0	8.0	2.000	28	150	450	100M	17.34
16mm	<a href="#">PU16MA_</a>	16.0	11.0	2.500	30	150	450	100'	9.5
	<a href="#">PU16MB_</a>	16.0	11.0	2.500	30	150	450	250'	23.75
	<a href="#">PU16ME_</a>	16.0	11.0	2.500	30	150	450	25M	7.79
	<a href="#">PU16MF_</a>	16.0	11.0	2.500	30	150	450	100M	31.16

\_ Insert color designation into part number when ordering.

\* 4mm O.D. & 8mm O.D. found on page 5

Custom sizes, colors, lengths are available with minimum quantity. See page 3 for details.

# Nylon 12 Tubing



Nylon tubing is recognized as an industry standard for applications which require higher working pressures and higher heat and/ or chemical resistance than our polyurethane tubing. It is ideal for outdoor use applications because of its superior stress crack resistance.

**NYLON** is strong, lightweight and has a very low moisture absorption rate compared to other nylons. By not absorbing moisture, **NYLON** remains more flexible, which in turn

extends it's service life. **NYLON™** tubing can be used with **Technifit™** push-to-connect fittings and compression fittings for simple installation.

Because of it's semi-rigid properties, Nylon tubing offers a thinner tube wall providing higher flow rates and working pressure.

**Be sure to check out our new Nylon High Pressure Tube offering on page 8!**

### Package Lengths

- A = 100'
- B = 250' (Non-Stock) C = 500'
- D = 1000'
- E = 25 Meters
- F = 100 Meters

### Part Numbering System

**MWN 18 A NA**

Nylon 12  
Tubing O.D.  
Package Length  
Tubing color  
Insert color designation  
part number when

### Stock Color Chart: • = Stock, x = Non Stock

N	BK	B	G	GY	NA	OR	R	S	Y
1/8	•	•	x	x	•	x	•	x	•
5/32	•	•	•	x	•	•	•	x	•
1/4 x .150	•	x	x	x	x	x	x	•	x
1/4	•	•	•	x	•	•	•	x	•
3/8 x .215	•	x	x	x	x	x	x	•	x
3/8	•	•	•	x	•	•	•	x	•
1/2	•	•	•	x	•	•	•	x	•
4mm	•	•	•	x	•	•	•	x	•
6mm	•	•	•	•	•	•	•	x	•
8mm	•	•	•	•	•	•	•	x	•
10mm	•	•	•	x	•	•	•	x	•
12mm	•	•	•	x	•	•	•	x	•
14mm	•	•	x	x	•	x	x	x	x

**BK = Black B = Blue G = Green GY=Gray**  
**NA = Natural OR = Orange R = Red S = Silver Y = Yellow**

Custom sizes, colors, lengths are available with minimum quantity. See page 3 for details.

### Features

- Strong
- Lightweight
- Flexible
- Abrasion Resistant
- Heat Resistant
- Chemical Resistant

### Specifications

- Hardness: Rockwell 78 R
- Shore D 70**
- Temperature Range:  
-60°F To +200°F
- Vacuum Rating: To 28" Hg
- Higher Flow Rates & Working Pressure
- Tolerances:  
1/8" - 1/4" O.D. +/- .005  
3/8" - 1/2" O.D. +/- .006

### Applications

- Pneumatic Tools
- Pneumatic Piping
- Instrumentation
- Lube Lines
- Coolants
- Refrigeration
- Chemical Transfer
- Vacuum
- Process Control
- Fuel Lines
- Paint Supply Lines
- Laboratories



Click on the part number to add the item to the shopping cart.



## Nylon 12 Tubing

### Fractional Sizes

Size	Part number	O.D. (IN)	I.D. (IN)	Wall Thickness (IN)	Bend Radius (IN)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length	Package Weight (lbs)
1/8"	<a href="#">N18A</a>	.125	.080	.022	.375	420	1260	100'	.35
	<a href="#">N18B_*</a>	.125	.080	.022	.375	420	1260	250'	.88
	<a href="#">N18C</a>	.125	.080	.022	.375	420	1260	500'	1.75
	<a href="#">N18D</a>	.125	.080	.022	.375	420	1260	1000'	3.50
4MM 5/32"	<a href="#">N04M/532A</a>	4mm/.156	.106	.025	.500	350	1050	100'	.45
	<a href="#">N4M/532B_*</a>	4mm/.156	.106	.025	.500	350	1050	250'	1.13
	<a href="#">N4M/532C</a>	4mm/.156	.106	.025	.500	350	1050	500'	2.25
	<a href="#">N4M/532D</a>	4mm/.156	.106	.025	.500	350	1050	1000'	4.50
1/4"	<a href="#">N14A</a>	.250	.180	.035	1.250	290	870	100'	1.04
	<a href="#">N14B_*</a>	.250	.180	.035	1.250	290	870	250'	2.60
	<a href="#">N14C</a>	.250	.180	.035	1.250	290	870	500'	5.20
	<a href="#">N14D</a>	.250	.180	.035	1.250	290	870	1000'	10.40
High Pressure 1/4"	<a href="#">N14x.150A</a>	.250	.150	.050	.75	800	2400	100'	1.40
	<a href="#">N14x.150C</a>	.250	.150	.050	.75	800	2400	500'	6.80
High Pressure 3/8"	<a href="#">N38x.215A</a>	.375	.215	.082	1.00	883	2650	100'	3.20
	<a href="#">N38x.215C</a>	.375	.215	.082	1.00	883	2650	500'	16.0
3/8"	<a href="#">N38A</a>	.375	.275	.050	2.000	250	750	100'	2.26
	<a href="#">N38B_*</a>	.375	.275	.050	2.000	250	750	250'	5.65
	<a href="#">N38C</a>	.375	.275	.050	2.000	250	750	500'	11.30
	<a href="#">N38D</a>	.375	.275	.050	2.000	250	750	1000'	22.60
1/2"	<a href="#">N12A</a>	.500	.375	.062	3.50	240	720	100'	3.80
	<a href="#">N12B_*</a>	.500	.375	.062	3.50	240	720	250'	9.50
	<a href="#">N12C</a>	.500	.375	.062	3.50	240	720	500'	19.00

\_ Insert color designation into part number when ordering. \* = Non Stock Packaged Length

### Metric Sizes

Size	Part number	O.D. (mm)	I.D. (mm)	Wall Thickness (mm)	Bend Radius (mm)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length	Package (lbs)
6mm	<a href="#">N06ME</a>	6.0	4.0	1.0	31.8	340	1020	25M	.90
	<a href="#">N06MF</a>	6.0	4.0	1.0	31.8	340	1020	100M	3.60
8mm	<a href="#">N08ME</a>	8.0	6.0	1.0	38	250	750	25M	1.23
	<a href="#">N08MF</a>	8.0	6.0	1.0	38	250	750	100M	4.92
10mm	<a href="#">N10ME</a>	10.0	8.0	1.0	51	225	675	25M	1.56
	<a href="#">N10MF</a>	10.0	8.0	1.0	51	225	675	100M	6.23
12mm	<a href="#">N12ME</a>	12.0	10.0	1.0	63.5	200	600	25M	1.89
	<a href="#">N12MF</a>	12.0	10.0	1.0	63.5	200	600	100M	7.55
14mm	<a href="#">N14ME</a>	14.0	11.0	1.5	100	175	525	25M	2.91
	<a href="#">N14MF</a>	14.0	11.0	1.5	100	175	525	100M	11.64

\_ Insert color designation into part number when ordering.

Custom sizes, colors, lengths are available with minimum quantity. See page 3 for details.

Click on the part number to add the item to the shopping cart.

## D.O.T Air Brake Tubing



Our **Nylon 12 D.O.T. Air Brake Tubing** is ideal for use on vehicles for instrumentation and pneumatic accessories connected to the air brake system. It also has outstanding tensile strength and chemical resistance. It meets SAEJ 844 Type "A" Specifications for use on Air Brake systems.

### Package Lengths

- A = 100'
- B = 250' (Non-Stock)
- C = 500'
- D = 1000'

### Stock Color Chart:

• = Stock, x = Non Stock

N 12	BK	NA
1/8	•	•
5/32	•	•
1/4	•	•
5/16	•	•

**BK = Black NA = Natural**

Part number	O.D. (IN)	I.D. (IN)	Wall Thickness (IN)	Bend Radius (IN)	Minimum Burst Pressure @ 73° F (PSI)	Package Length	Package (lbs)
N12D18A_	.125	.080	.023	.375	1000	100'	.34
N12D18B_*	.125	.080	.023	.375	1000	250'	.85
N12D18C_	.125	.080	.023	.375	1000	500'	1.70
N12D18D	.125	.080	.023	.375	1000	1000'	3.40
N12D532A_	.156	.106	.025	.500	1200	100'	.57
N12D532B_*	.156	.106	.025	.500	1200	250'	1.43
N12D532C_	.156	.106	.025	.500	1200	500'	2.85
N12D532D_	.156	.106	.025	.500	1200	1000'	5.70
N12D1/4A_	.250	.170	.040	1.000	1200	100'	1.21
N12D1/4B_*	.250	.170	.040	1.000	1200	250'	3.03
N12D1/4C_	.250	.170	.040	1.000	1200	500'	6.05
N12D1/4D_	.250	.170	.040	1.000	1200	1000'	1.21
N12D516A_	.3125	.267	.023	1.250	1000	100'	1.57
N12D516B_*	.3125	.267	.023	1.250	1000	250'	3.93
N12D516C_	.3125	.267	.023	1.250	1000	500'	7.85
N12D516D_	.3125	.267	.023	1.250	1000	1000'	15.7

\_ Insert color designation into part number when ordering.

\* = Non Stock Packaged Length

### Part Numbering System

**MWN12D 18 A NA**

Nylon D.O.T.    Tubing O.D.    Package Length    Tubing Color  
Insert color designation part number when

- Strong
- Lightweight
- Flexible
- Abrasion Resistant
- Heat Resistant
- Chemical Resistant

### Specifications

- Hardness: Rockwell 78 R
- Shore D 70
- Temperature Range: -40°F To +200°F
- Vacuum Rating: To 28" Hg
- Meets SAEJ 844 Type "A" Specifications

### Applications

- Air Brake Lines
- Pneumatic Tools
- Pneumatic Piping
- Instrumentation
- Lube Lines
- Coolants
- Refrigeration
- Chemical Transfer
- Vacuum
- Process Control
- Fuel Lines
- Paint Supply Lines

# Value-Tube™ LLDPE Tubing



**Value-Tube™** Linear Low Density Polyethylene Tubing

**Value-Tube™** is made from 100% non-toxic ingredients. It's inert nature and FDA compliant status makes it perfect for food and beverage piping not requiring NSF certification. It is ideal for use in pneumatic, drain piping, lab use and

chemical transfer applications which require an inexpensive tubing.

**Value-Tube™** is highly-resistant to stress cracking from chemicals, ageing and ultraviolet exposure. For use with barb-type, **Technifit™** push-to-connect or compression-style fittings.

## Package Lengths

- A = 100'
- B = 250' (Non-Stock)
- C = 500'
- D = 1000'

## Part Numbering System

**MWPE 14 A NA**

Polyethylene  
Tubing O.D.  
Package Length  
Tubing color  
Insert color designation  
part number when

## Stock Color Chart: • = Stock, x = Non Stock

PE	BK	B	G	NA	P	R	Y
4mm/ 5/32	•	•	•	•	x	•	•
1/4	•	•	•	•	x	•	•
3/8	•	•	•	•	x	•	•
1/2	•	•	•	•	x	•	•
5/8	•	•	•	•	x	•	•
3/4	x	x	x	•	x	x	x
1	x	x	x	•	x	x	x
6mm	•	•	x	•	x	x	x
8mm/ 5/16	•	•	•	•	x	x	•
10mm	•	•	x	•	x	x	x
12mm	•	•	x	•	x	x	x

**BK = Black** **B = Blue** **G = Green** **NA = Natural**  
**OR = Orange** **P = Purple** **R = Red** **Y = Yellow**

## Features

- Chemically Inert
- Chemical Resistant
- Lightweight & Flexible
- Good Dielectric Properties
- Impermeable to Gases
- Meets FDA Requirements

## Specifications

- Temperature Range:  
-50°F To +140°F
- Hardness: Shore A 98A  
Shore D 55D
- Vacuum Rating: To 28" Hg
- Tolerances:  
1/8" - 1/4" O.D. +/- .004  
3/8" - 1/2" O.D. +/- .006

## Applications

- Food & Beverage
- Pneumatic Tools
- Pneumatic Piping
- Electrical Jacketing
- Drain Lines
- Instrumentation
- Chemical Transfer
- Process Control
- Laboratories

Custom sizes, colors, lengths are available with minimum quantity. See page 3 for details.

# Value-Tube™ LLDPE Tubing

## Fractional Sizes

Size	Part number	O.D. (IN)	I.D. (IN)	Wall Thickness (IN)	Bend Radius (IN)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length	Package (lbs)
4MM 5/32"	<a href="#">PE04M/532A</a>	4mm,5/32	.106	.025	1.000	180	540	100'	.60
	<a href="#">PE04M/532B *</a>	4mm,5/32	.106	.025	1.000	180	540	250'	1.50
	<a href="#">PE04M/532C</a>	4mm,5/32	.106	.025	1.000	180	540	500'	3.00
	<a href="#">PE04M/532D</a>	4mm,5/32	.106	.025	1.000	180	540	1000'	6.00
1/4"	<a href="#">PE14A</a>	.250	.170	.040	1.250	150	450	100'	1.20
	<a href="#">PE14B *</a>	.250	.170	.040	1.250	150	450	250'	3.00
	<a href="#">PE14C</a>	.250	.170	.040	1.250	150	450	500'	6.00
	<a href="#">PE14D</a>	.250	.170	.040	1.250	150	450	1000'	12.00
1/4x1/8"	<a href="#">PE1418A</a>	.250	.125	.0625	1.000	350	1050	100'	1.40
	<a href="#">PE1418B *</a>	.250	.125	.0625	1.000	350	1050	250'	3.50
	<a href="#">PE1418C</a>	.250	.125	.0625	1.000	350	1050	500'	7.00
	<a href="#">PE1418D</a>	.250	.125	.0625	1.000	350	1050	1000'	14.00
8MM 5/16"	<a href="#">PE08M/516A</a>	8mm,5/16	.236	.038	1.500	150	450	100'	1.50
	<a href="#">PE08M/516B*</a>	8mm,5/16	.236	.038	1.500	150	450	250'	3.75
	<a href="#">PE08M/516C</a>	8mm,5/16	.236	.038	1.500	150	450	500'	7.50
	<a href="#">PE08M/516D</a>	8mm,5/16	.236	.038	1.500	150	450	1000'	15.00
3/8"	<a href="#">PE38A</a>	.375	.250	.0625	2.000	150	450	100'	2.30
	<a href="#">PE38B *</a>	.375	.250	.0625	2.000	150	450	250'	5.75
	<a href="#">PE38C</a>	.375	.250	.0625	2.000	150	450	500'	11.50
	<a href="#">PE38D</a>	.375	.250	.0625	2.000	150	450	1000'	23.00
1/2"	<a href="#">PE12A</a>	.500	.375	.0625	2.500	125	375	100'	3.40
	<a href="#">PE12B *</a>	.500	.375	.0625	2.500	125	375	250'	8.50
	<a href="#">PE12C</a>	.500	.375	.0625	2.500	125	375	500'	17.00
5/8"	<a href="#">PE58A</a>	.625	.500	.0625	3.000	100	300	100'	5.00
	<a href="#">PE58B *</a>	.625	.500	.0625	3.000	100	300	250'	12.50
	<a href="#">PE58C</a>	.625	.500	.0625	3.000	100	300	500'	25.00
3/4"	<a href="#">PE34A</a>	.750	.625	.0625	4.000	100	300	100'	5.50
1"	<a href="#">PE1A</a>	1.0	.750	.125	4.000	150	225	100'	13.70

\_ Insert color designation into part number when ordering. \* = Non Stock Packaged Length

## Metric Sizes

Size	Part number	O.D. (mm)	I.D. (mm)	Wall Thickness (mm)	Bend Radius (mm)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length	Package (lbs)
6mm	<a href="#">PE06MA</a>	6.0	4.0	1.0	31.8	150	450	100'	1.10
	<a href="#">PE06MB *</a>	6.0	4.0	1.0	31.8	150	450	250'	2.75
	<a href="#">PE06MC</a>	6.0	4.0	1.0	31.8	150	450	500'	5.50
	<a href="#">PE06MD</a>	6.0	4.0	1.0	31.8	150	450	1000'	11.00
10mm	<a href="#">PE10MA</a>	10.0	8.0	1.0	51.0	125	375	100'	2.10
	<a href="#">PE10MB *</a>	10.0	8.0	1.0	51.0	125	375	250'	5.25
	<a href="#">PE10MC</a>	10.0	8.0	1.0	51.0	125	375	500'	10.50
	<a href="#">PE10MD</a>	10.0	8.0	1.0	51.0	125	375	1000'	21.00
12mm	<a href="#">PE12MA</a>	12.0	9.0	1.5	63.5	100	300	100'	2.50
	<a href="#">PE12MB *</a>	12.0	9.0	1.5	63.5	100	300	250'	6.50
	<a href="#">PE12MC</a>	12.0	9.0	1.5	63.5	100	300	500'	13.00

\_ Insert color designation into part number when ordering. \* = Non Stock Packaged Length

# NSF-61<sup>®</sup> LLDPE Tubing



**IMBIBE™** exceeds FDA expectations with its NSF-61 Certification for drinking water applications. Manufactured from 100% non-toxic ingredients, Imbibe is perfect for drinking water, beverage and food applications. With a complete range of sizes, colors and packaged lengths, **IMBIBE™** is the perfect one stop shop tubing option. Include NSF-61 Certified Flowfit Push-to-Connect fittings and complete your assembly needs.

## Package Lengths

- A = 100'
- B = 250' (Non-Stock)
- C = 500'
- D = 1000'

## Part Numbering System

**MWDWPE 14 A NA**

Polyethylene  
 Tubing O.D.  
 Package Length  
 Tubing color  
 Insert color designation  
 part number when

## Stock Color Chart: • = Stock, x = Non Stock

DWPE	BK	B	G	NA	R	W	Y
4mm/ 5/32	•	•	x	•	•	x	x
1/4	•	•	•	•	•	•	•
3/8	•	•	•	•	•	•	•
1/2	•	•	x	•	•	•	x
6mm	•	•	x	•	•	x	x
8mm/5/16	•	•	x	•	•	x	x
10mm	•	•	x	•	•	x	x
12mm	•	•	x	•	•	x	x

**BK = Black B = Blue G = Green NA = Natural**  
**R = Red W = White Y = Yellow**

## Features

- Chemically Inert
- Chemical Resistant
- Lightweight & Flexible
- Good Dielectric Properties
- Impermeable to Gases
- Meets FDA Requirements
- NSF-61<sup>®</sup> Certified

## Specifications

- Temperature Range:  
-50°F To +140°F
- Hardness: Shore A 98A  
Shore D 55D
- Vacuum Rating: To 28" Hg
- Tolerances:  
1/8" - 1/4" O.D. +/- .004  
3/8" - 1/2" O.D. +/- .006

## Applications

- Food & Beverage
- Pneumatic Tools
- Pneumatic Piping
- Electrical Jacketing
- Drain Lines
- Instrumentation
- Chemical Transfer
- Process Control
- Laboratories
- Water Purification
- Water Conditioners
- Ice Makers
- Misting systems

Custom sizes, colors, lengths are available with minimum quantity. See page 3 for details.

# NSF-61<sup>®</sup> LLDPE Tubing

## Fractional Sizes

Size	Part number	O.D. (IN)	I.D. (IN)	Wall Thickness (IN)	Bend Radius (IN)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length	Package (lbs)
4MM 5/32"	<a href="#">DWPE04M/532A</a>	4mm,5/32	.106	.025	1.000	180	540	100'	.60
	DWPE04M/532B_*	4mm,5/32	.106	.025	1.000	180	540	250'	1.50
	<a href="#">DWPE04M/532C</a>	4mm,5/32	.106	.025	1.000	180	540	500'	3.00
	<a href="#">DWPE04M/532D</a>	4mm,5/32	.106	.025	1.000	180	540	1000'	6.00
1/4"	<a href="#">DWPE14A</a>	.250	.170	.040	1.250	150	450	100'	1.20
	DWPE14B_*	.250	.170	.040	1.250	150	450	250'	3.00
	<a href="#">DWPE14C</a>	.250	.170	.040	1.250	150	450	500'	6.00
	<a href="#">DWPE14D</a>	.250	.170	.040	1.250	150	450	1000'	12.00
8MM 5/16"	<a href="#">DWPE08M/5/16A</a>	.8mm,5/16	.236	.038	1.500	150	450	100'	1.50
	DWPE08M/5/16B_*	8mm,5/16	.236	.038	1.500	150	450	250'	3.75
	<a href="#">DWPE08M/5/16C</a>	8mm,5/16	.236	.038	1.500	150	450	500'	7.50
	<a href="#">DWPE08M/5/16D</a>	8mm,5/16	.236	.038	1.500	150	450	1000'	15.00
3/8"	<a href="#">DWPE38A</a>	.375	.250	.062	2.000	150	450	100'	2.30
	DWPE38B_*	.375	.250	.062	2.000	150	450	250'	5.75
	<a href="#">DWPE38C</a>	.375	.250	.062	2.000	150	450	500'	11.50
	<a href="#">DWPE38D</a>	.375	.250	.062	2.000	150	450	1000'	23.00
1/2"	<a href="#">DWPE12A</a>	.500	.375	.062	2.500	125	375	100'	3.40
	DWPE12B_*	.500	.375	.062	2.500	125	375	250'	8.50
	<a href="#">DWPE12C</a>	.500	.375	.062	2.500	125	375	500'	17.00

\_ Insert color designation into part number when ordering. \* = Non Stock Packaged Length

## Metric Sizes

Size	Part number	O.D. (mm)	I.D. (mm)	Wall Thickness (mm)	Bend Radius (mm)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length	Package (lbs)
6mm	<a href="#">DWPE06MA</a>	6.0	4.0	1.0	31.8	150	450	100'	1.10
	DWPE06MB_*	6.0	4.0	1.0	31.8	150	450	250'	2.75
	<a href="#">DWPE06MC</a>	6.0	4.0	1.0	31.8	150	450	500'	5.50
	<a href="#">DWPE06MD</a>	6.0	4.0	1.0	31.8	150	450	1000'	11.00
10mm	<a href="#">DWPE10MA</a>	10.0	8.0	1.0	51.0	125	375	100'	2.10
	DWPE10MB_*	10.0	8.0	1.0	51.0	125	375	250'	5.25
	<a href="#">DWPE10MC</a>	10.0	8.0	1.0	51.0	125	375	500'	10.50
	<a href="#">DWPE10MD</a>	10.0	8.0	1.0	51.0	125	375	1000'	21.00
12mm	<a href="#">DWPE12MA</a>	12.0	9.0	1.5	63.5	100	300	100'	2.50
	DWPE12MB_*	12.0	9.0	1.5	63.5	100	300	250'	6.50
	<a href="#">DWPE12MC</a>	12.0	9.0	1.5	63.5	100	300	500'	13.00

\_ Insert color designation into part number when ordering. \* = Non Stock Packaged Length

Custom sizes, colors, lengths are available with minimum quantity. See page 3 for details.

# PVC Tubing



™ (PVC) is suited for general, low-pressure, industrial applications for the conveyance of liquids and solids of suitable granular size. It is made from a PVC compound that complies with FDA regulations. Although it is primarily intended for low pressure applications, it will withstand the pressures shown.

The clear Vinyl Tubing provides good chemical resistance, is lightweight, flexible and economically priced.

## Features

- Lightweight
- Flexible
- Food Grade
- Clear Color

## Part Numbering System

**PVC 14 38 A**

Polyvinylchloride  
Tubing I.D.  
Tubing O.D.  
Package Length

## Package Lengths

A = 100'

## Colors Available

Clear

## Specifications

- Temperature Range:  
+25°F To +150°F
- Hardness:  
Shore A 75
- Meets FDA Requirements
- NSF 51 Certified to  
100°F(38°C)
- USP Class VI Rated Materials
- RoHS Compliant
- Applications**
- Food & Beverage
- Drain Tubing
- Laboratory Tubing
- Wine Transfer
- Low Pressure Air Line
- Light Vacuum
- Wire Harness

Size	Part number	I.D. (IN)	O.D. (IN)	Wall Thickness (IN)	Bend Radius (IN)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length	Package Weight (lbs)
3/16"	<a href="#">PVC316-14A</a>	.187	.250	.032	1.250	50	150	100'	1.10
	<a href="#">PVC316-516A</a>	.187	.312	.062	1.563	55	165	100'	2.50
1/4"	<a href="#">PVC14-38A</a>	.250	.375	.062	1.875	55	165	100'	3.20
	<a href="#">PVC14-716A</a>	.250	.437	.093	2.187	58	174	100'	5.30
	<a href="#">PVC14-12A</a>	.250	.500	.125	2.500	60	180	100'	7.70
5/16"	<a href="#">PVC516-716A</a>	.312	.437	.062	2.187	50	150	100'	3.90
	<a href="#">PVC516-12A</a>	.312	.500	.094	2.187	55	165	100'	6.30
	<a href="#">PVC516-916A</a>	.312	.562	.125	2.750	60	180	100'	9.00
3/8"	<a href="#">PVC38-12A</a>	.375	.500	.062	2.500	45	135	100'	4.50
	<a href="#">PVC38-916A</a>	.375	.562	.094	2.750	50	150	100'	7.30
	<a href="#">PVC38-58A</a>	.375	.625	.125	3.125	55	165	100'	10.30
7/16"	<a href="#">PVC716-916A</a>	.437	.562	.062	3.125	35	105	100'	5.10
1/2"	<a href="#">PVC12-58A</a>	.500	.625	.062	3.125	30	90	100'	5.80
	<a href="#">PVC12-1116A</a>	.500	.688	.094	3.437	40	120	100'	9.20
	<a href="#">PVC12-34A</a>	.500	.750	.125	3.750	45	135	100'	12.90
5/8"	<a href="#">PVC58-34A</a>	.625	.750	.062	4.375	25	75	100'	7.20
	<a href="#">PVC58-1316A</a>	.625	.812	.094	4.500	35	105	100'	11.20
	<a href="#">PVC58-78A</a>	.625	.875	.125	4.375	40	120	100'	15.50
3/4"	<a href="#">PVC34-1A</a>	.750	1.000	.125	5.000	35	105	100'	18.10
	<a href="#">PVC34-54A</a>	.750	1.250	.250	5.500	45	120	100'	41.50
1"	<a href="#">PVC1-54A</a>	1.000	1.250	.125	6.250	25	75	100'	23.30

\_ Insert color designation into part number when ordering.

Custom sizes, colors, lengths are available with minimum quantity.

# MW PTFE Tubing



**Mercury™** tubing, which is extruded with very tight tolerances, is a good choice for many advanced, high heat applications. It's properties allow exceptional resistance to degeneration of mechanical properties under severe conditions.

**Mercury™** tubing does not support combustion and has very good dielectric properties. **Mercury™ PTFE** is available in tubing, and spiral profiles.

## Package Lengths

A = 100'

## Part Numbering System

**MWPTFE 18 A NA**

Polytetrafluoroethylene  
Tubing O.D.  
Package Length  
Tubing Color

## Colors Available

Natural

## Fractional Sizes

Size	Part number	O.D. (IN)	I.D. (IN)	Wall Thickness (IN)	Bend Radius (IN)	W.P. @ 70° F (PSI)	4:1 Burst Pressure	Package Length	Package Weight (lbs)
1/8"	<a href="#">PTFE18ANA</a>	.125	.063	.031	.39	381	1524	100'	1.14
1/4"	<a href="#">PTFE14-18ANA</a>	.250	.125	.063	1.18	372	1488	100'	2.29
	<a href="#">PTFE14-532ANA</a>	.250	.156	.047	1.97	275	1100	100'	2.02
	<a href="#">PTFE14-316ANA</a>	.250	.188	.031	2.56	174	696	100'	1.75
3/8"	<a href="#">PTFE38ANA</a>	.375	.250	.063	4.33	240	960	100'	5.84
.438"	PTFE438-38ANA	.438	.375	.032	4.50	95	380	100'	6.0
1/2"	<a href="#">PTFE12ANA</a>	.500	.375	.063	6.50	150	600	100'	6.5

## Metric Sizes

Size	Part number	O.D. (mm)	I.D. (mm)	Wall Thickness (mm)	Bend Radius (mm)	W.P. @ 70° F (PSI)	4:1 Burst Pressure	Package Length	Package Weight (lbs)
4mm	<a href="#">PTFE04MANA</a>	4.0	2.5	.75	25	292	1168	100'	1.51
6mm	<a href="#">PTFE06MANA</a>	6.0	4.0	1.0	40	275	1100	100'	2.29
8mm	<a href="#">PTFE08MANA</a>	8.0	6.0	1.0	60	138	552	100'	3.20
10mm	<a href="#">PTFE10MANA</a>	10.0	8.0	1.0	100	112	448	100'	4.13
12mm	<a href="#">PTFE12MANA</a>	12.0	10.0	1.0	100	105	420	100'	6.0

Custom sizes, colors, lengths are available with minimum quantity.

## Features

Chemically Inert  
Low Extractible  
Biocompatible -  
USP Class VI Approved  
Flame Rating: UL 94 V0  
ASTM - D3296  
Meets FDA Requirements  
Easily Cleaned

## Specifications

Temperature Range:  
-454°F To +500°F  
Hardness: Shore D 55  
Tolerance:  
1/8" O.D. +/- .004  
1/4" - 3/8" O.D. +/- .005  
Vacuum Rating: To 28" Hg

## Applications

Aerospace & Aviation  
Electronic  
Chemical Processing  
Automotive & Medical  
Industrial & Mechanical



# FEP Tubing



<sup>TM</sup> FEP tubing is a more durable alternative to PTFE, yet more flexible. It is a semi-clear material with low permeability, plus it is UV resistant, abrasion resistant, and virtually chemically inert. FEP material meets UL94 V0 for flammability and also meets FDA requirements.

### Package Lengths

A = 100'

### Colors Available

Semi-Clear

### Part Numbering System

**MWFEP 18 A**

Fluorinated Ethylene  
Propylene Tubing O.D.  
Package Length

### Fractional Sizes

Size	Part number	O.D. (IN)	I.D. (IN)	Wall Thickness (IN)	Bend Radius (IN)	W.P. @ 70° F (PSI)	4:1 Burst Pressure	Package Length	Package (lbs)
1/8"	<a href="#">FEP18A</a>	.125	.063	.031	.39	410	1640	100'	1.14
1/4"	<a href="#">FEP14-18A</a>	.250	.125	.063	1.18	400	1600	100'	2.29
	<a href="#">FEP14-532A</a>	.250	.156	.047	1.97	300	1200	100'	2.02
	<a href="#">FEP14-316A</a>	.250	.188	.031	2.56	174	696	100'	1.75
3/8"	<a href="#">FEP38A</a>	.375	.250	.063	4.33	240	960	100'	5.84
1/2"	<a href="#">FEP12A</a>	.500	.375	.063	6.50	180	720	100'	6.5

### Metric Sizes

Size	Part number	O.D. (mm)	I.D. (mm)	Wall Thickness (mm)	Bend Radius (mm)	W.P. @ 70° F (PSI)	4:1 Burst Pressure	Package	Package (lbs)
4mm	<a href="#">FEP04MA</a>	4.0	2.5	.75	25	292	1168	100'	1.51
6mm	<a href="#">FEP06MA</a>	6.0	4.0	1.0	40	275	1100	100'	2.29
8mm	<a href="#">FEP08MA</a>	8.0	6.0	1.0	60	180	720	100'	3.20
10mm	<a href="#">FEP10MA</a>	10.0	8.0	1.0	75	133	532	100'	4.13
12mm	<a href="#">FEP12MA</a>	12.0	10.0	1.0	100	120	408	100'	6.00

### Features

- Flexible
- Chemically Inert
- Low Extractible
- Biocompatible -
- USP Class VI Approved
- Flame Rating: UL 94 V0
- ASTM - D3295
- Meets FDA Requirements
- Easily Cleaned

- Temperature Range: -400°F To +400°F
- Hardness: Shore D 55
- Tolerance: 1/8" O.D. +/- .004
- 1/4" - 3/8" O.D. +/- .005
- Vacuum Rating: To 28" Hg

### Applications

- Aerospace & Aviation
- Electronic
- Chemical Processing
- Automotive & Medical
- Industrial & Mechanical

Custom sizes, colors, lengths are available with minimum quantity.

# Spatter Resistant Tubing



**Armor-Weld™** Spatter Resistant, covered polyurethane weld tubing, manufactured by ATP, is specially designed for use in and around welding equipment or other severe-service applications. **Armor-Weld™** is standard, ATP polyurethane tubing covered by an olefin, flame-resistant layer. Its ether-based material gives it

excellent hydrolysis properties making it suitable for use in water piping, as well as pneumatic piping and vacuum applications.

**Armor-Weld™** tubing can be bonded together to create an ideal, color-coded solution for supply and return lines in robotic welding applications. The covering is separate from the inner tube and is easily stripped. After covering is stripped, **Armor-Weld™** can be used with standard Push-To-Connect type fittings.

### Package Lengths

B = 250'  
F = 100 Meters

### Stock Color Chart: • = Stock, x = Non Stock

LE	BK	G	LB	R	Y	W
4mm/5/32	•	x	•	x	•	x
1/4	•	x	•	•	x	x
8mm/5/16	•	•	•	•	•	•
3/8	•	x	•	•	x	x
1/2	•	•	•	x	x	•
6mm	•	•	•	•	•	•
10mm	•	•	•	•	•	•
12mm	•	•	•	•	•	•

**BK = Black** **G = Green** **LB = Light Blue**  
**R = Red** **Y = Yellow** **W = White**

### Fractional Sizes

	Part number	Inner Tube O.D. (IN)	Inner Tube I.D. (IN)	Out Jacket Thickness (IN)	Bend Radius (IN)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length	Package Weight (lbs)
<b>SINGLE</b>	<a href="#">LE532B</a>	.156	.094	.039	.40	200	600	250'	6.1
	<a href="#">LE14B</a>	.250	.156	.039	.59	180	540	250'	8.65
	<a href="#">LE516B</a>	.312	.187	.039	.79	175	525	250'	11.59
	<a href="#">LE38B</a>	.375	.250	.039	.98	150	450	250'	15.0
	<a href="#">LE12B</a>	.500	.328	.039	1.17	150	450	250'	23.2
<b>BONDED</b>	2LE532B_	.156	.094	.039	.40	200	600	250'	12.2
	2LE14B_	.250	.156	.039	.59	180	540	250'	17.3
	2LE516B_	.312	.187	.039	.79	175	525	250'	23.18
	<a href="#">2LE38B</a>	.375	.250	.039	.98	150	450	250'	30.8
	<a href="#">2LE12B</a>	.500	.328	.039	1.17	150	450	250'	46.4

### Part Numbering System

**LE 12M F Y**

LE Tubing  
Tubing O.D.  
Package Length  
Tubing color  
Insert color designation part number when

**2LE 12M F Y**

Bonded LE Tubing  
Tubing O.D.  
Package Length  
Tubing color  
Insert color designation part number when

### Features

- Flame Resistant
  - Weld Spatter Resistant
  - Oil Resistant
  - UV Resistant
  - Kink Resistant
  - Abrasion Resistant
  - Custom Bonding Available
  - Custom Spiral Available
  - Ether-Based Polyurethane
  - Excellent Bend Radius
- ### Specifications
- Working Temperature: -68°F To +140°F
  - Vacuum Rating: To 28" Hg
  - Inside Tube: Shore A 98
  - Outer Jacket Rating: Meets UL94V0 Self Extinguishing Requirements

### Applications

- Robotic Welding
- Pneumatic Tools
- Pneumatic Piping
- Vacuum Laboratories
- Robotics
- Motion Control
- Instrumentation
- Agriculture
- Ship Piping
- Chemical Plant
- Lube Lines
- Painting Systems

# Spatter Resistant Tubing

## Metric Sizes

	Part number	Inner Tube O.D.(mm)	Inner Tube I.D. (mm)	Out Jacket Thickness (mm)	Bend Radius (mm)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length (m)	Package Weight (lbs)
<b>Single</b>	<a href="#">LE04M/532F</a>	4.0	2.5	1.0	10	200	600	100	8.0
	<a href="#">LE06MF</a>	6.0	4.0	1.0	15	180	540	100	10.0
	<a href="#">LE08M/516F</a>	8.0	5.0	1.0	20	175	525	100	15.2
	<a href="#">LE10MF</a>	10.0	6.5	1.0	25	150	450	100	21.6
	<a href="#">LE12MF</a>	12.0	8.0	1.0	30	150	450	100	28.0
<b>Bonded</b>	<a href="#">2LE04M/532F</a>	4.0	2.5	1.0	10	200	600	100	16.0
	<a href="#">2LE06MF</a>	6.0	4.0	1.0	15	180	540	100	20.0
	<a href="#">2LE08M/516F</a>	8.0	5.0	1.0	20	175	525	100	30.4
	<a href="#">2LE10MF</a>	10.0	6.5	1.0	25	150	450	100	43.2
	<a href="#">2LE12MF</a>	12.0	8.0	1.0	30	150	450	100	56.0

*\_ In ert color designation into part number when ordering.*

# MonoShield® Single-Core Weld Tubing



Developed by ATP, MonoShield® Weld tubing is specially designed for use in and around welding equipment or other severe-service applications. MonoShield® is a 95 shore A Ether based, flame-resistant, polyurethane tubing. It's ether-based material gives it excellent hydrolysis properties making it suitable for use in water piping, as well as pneumatic piping and vacuum applications. It is

the only self extinguishing tubing to date that meets the UL94V0 specifications. MonoShield® Weld Tubing can be bonded together to create an ideal, color-coded solution for supply and return lines in robot welding applications. With no outer jacket to peel back, MonoShield® allows for ease and speed of installation when used with standard push-to-connect type fittings. Custom spiraling is available. See reverse side for details.

## Package Lengths

A = 100'  
B = 250'

## Part Numbering System

**MWMS 12M A Y**

Single MS Tubing      Tubing O.D.      Package Length  
Tubing color  
Insert color designation  
part number when

## Stock Color Chart: • = Stock, x = Non Stock

MS	BK	G	LB	R	Y	W
4mm/5/32	x	x	x	x	x	x
1/4	•	x	•	x	x	•
8mm/5/16	•	x	•	x	x	•
3/8	•	x	•	x	x	•
1/2	•	x	•	x	x	•
6mm	•	x	•	x	x	•
10mm	•	x	•	x	x	•
12mm	•	x	•	x	x	•

**BK = Black   G = Green   LB = Light Blue**  
**R = Red   Y = Yellow   W = White**

## Part Numbering System

**MW2MS 12M A Y**

Bonded MS Tubing      Tubing O.D.      Package Length  
Tubing color  
Insert color designation  
part number when

## Features

- Flame Resistant
- Weld Spatter Resistant
- Oil Resistant
- UV Resistant
- Kink Resistant
- Abrasion Resistant
- Custom Bonding Available
- Custom Spiral Available
- Ether-Based Polyurethane
- Excellent Bend Radius
- Silicone-Free
- Shore 95A
- Light Weight

## Specifications

- Temperature Range: -68°F To +140°F
- Vacuum Rating: To 28" Hg
- Meets UL94V0 Self Extinguishing Requirements

## Applications

- Robot Welding
- Spot Welding
- Severe Service
- Supply/Return Lines
- Cooling Water

MonoShield® Tubing Single-Core Weld Tubing sizes on page 20

# MonoShield® Single-Core Weld Tubing

## Fractional Sizes

	Part number	O.D. (IN)	I.D. (IN)	Bend Radius (IN)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length	Package Weight (lbs)
<b>SINGLE</b>	<a href="#">MS04M/532A</a>	4mm,5/32	3/32	0.500	200	600	100'	.60
	<a href="#">MS04M/532B</a>	4mm,5/32	3/32	0.500	200	600	250'	1.5
	<a href="#">MS14A</a>	1/4	5/32	0.625	180	540	100'	1.5
	<a href="#">MS14B</a>	1/4	5/32	0.625	180	540	250'	3.75
	<a href="#">MS08M/516A</a>	8mm,5/16	3/16	0.750	175	525	100'	2.5
	<a href="#">MS08M/516B</a>	8mm,5/16	/16	0.750	175	525	250'	6.25
	<a href="#">MS38A</a>	3/8	1/4	1.000	150	450	100'	3.1
	<a href="#">MS38B</a>	3/8	1/4	1.000	150	450	250'	7.75
	<a href="#">MS12A</a>	1/2	21/64	1.250	150	450	100'	6.1
	<a href="#">MS12B</a>	1/2	21/64	1.250	150	450	250'	15.25
<b>BONDED</b>	<a href="#">2MS04M/532A</a>	4mm,5/32	3/32	0.500	200	600	100'	1.2
	<a href="#">2MS04M/532B</a>	4mm,5/32	3/32	0.500	200	600	250'	3.0
	<a href="#">2MS14A</a>	1/4	5/32	0.625	180	540	100'	3.0
	<a href="#">2MS14B</a>	1/4	5/32	0.625	180	540	250'	7.5
	<a href="#">2MS08M/516A</a>	8mm,5/16	3/16	0.750	175	525	100'	5.0
	<a href="#">2MS08M/516B</a>	8mm,5/16	/16	0.750	175	525	250'	12.5
	<a href="#">2MS38A</a>	3/8	1/4	1.000	150	450	100'	6.2
	<a href="#">2MS38B</a>	3/8	1/4	1.000	150	450	250'	15.5
	<a href="#">2MS12A</a>	1/2	21/64	1.250	150	450	100'	12.2
	<a href="#">2MS12B</a>	1/2	21/64	1.250	150	450	250'	30.5

\_ Insert color designation into part number when ordering.

## Metric Sizes

	Part number	O.D. (mm)	I.D. (mm)	Bend Radius (mm)	W.P. @ 70° F (PSI)	3:1 Burst Pressure	Package Length	Package Weight (lbs)
<b>SINGLE</b>	<a href="#">MS06MA</a>	6	4	16	180	540	100'	1.5
	<a href="#">MS06MB</a>	6	4	16	180	540	250'	3.75
	<a href="#">MS10MA</a>	10	6.5	25	150	450	100'	3.5
	<a href="#">MS10MB</a>	10	6.5	25	150	450	250'	8.75
	<a href="#">MS12MA</a>	12	8	30	150	450	100'	5.1
	<a href="#">MS12MB</a>	12	8	30	150	450	250'	12.75
	<a href="#">MS16MA</a>	16	11	55	110	330	100'	9.0
	<a href="#">MS16MB</a>	16	11	55	110	330	250'	22.5
	<a href="#">2MS06MA</a>	6	4	16	180	600	100'	3.0
	<a href="#">2MS06MB</a>	6	4	16	180	540	250'	7.5
<b>BONDED</b>	<a href="#">2MS10MA</a>	10	6.5	25	150	540	100'	7.0
	<a href="#">2MS10MB</a>	10	6.5	25	150	525	250'	17.75
	<a href="#">2MS12MA</a>	12	8	30	150	525	100'	10.2
	<a href="#">2MS12MB</a>	12	8	30	150	450	250'	13.5
	<a href="#">2MS16MA</a>	16	11	55	110	450	100'	18.0
	<a href="#">2MS16MB</a>	16	11	55	110	450	250'	45.0

\_ Insert color designation into part number when ordering.

**QUICK QUOTE PAGE  
FILL IT OUT AND FAX IT IN  
817-701=4004**

Tube	1	2	3	4	5	6	7	8	9	10
OD										
Color										

Configuration:  Ribbon     Stacked     Special—Please Contact Me

Add Electric:  ATP Standard Wire     Special—Please Specify \_\_\_\_\_

Total Footage Required:  25'     50'     100'     250'     500'     1000'     +1000'

**Spiraled Technibond**

Tube	1	2	3	4	5	6	7	8	9	10
OD										
Color										

Configuration:  Ribbon     Stacked     Pyramid     Special—Please Contact Me

Add Electric:  ATP Standard Wire     Special—Please Specify \_\_\_\_\_

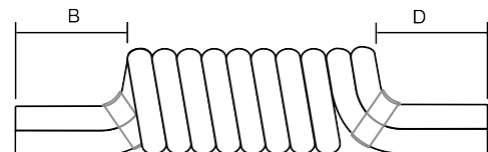
Working Length:

Tail Dimension B:

Tail Dimension D:

Fittings Required:

Quantity:



**Contact Information**

Contact \_\_\_\_\_ E-Mail \_\_\_\_\_

Company Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

## Decimal & Metric Equivalents

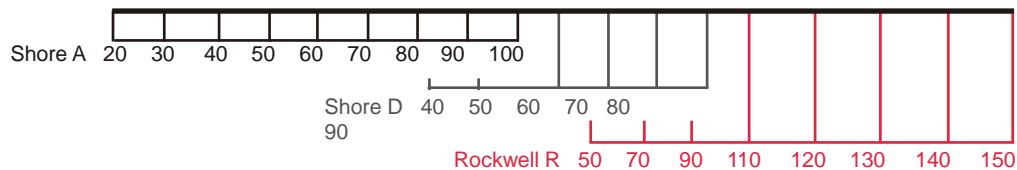
64ths	32nds	16ths	8ths	Decimal	MM
5/64				0.07812	1.864
	3/32			0.09375	2.381
7/64				0.10938	2.778
		1/8		0.12500	3.175
13/64				0.20312	5.195
	7/32			0.21875	5.556
15/64				0.23438	5.953
		1/4		0.25000	6.350
21/64				0.32812	8.334
	11/32			0.34375	8.731
23/64				0.35938	9.128
		3/8		0.37500	9.525
25/64				0.39062	9.922
	13/32			0.40625	10.309
27/64				0.42186	10.716
	7/16			0.43750	11.113
29/64				0.45312	11.509
	15/32			0.46875	11.908
31/64				0.48438	12.303
		1/2		0.50000	12.700

64ths	32nds	16ths	8ths	Decimal	MM
33/64				0.51582	13.097
	17/32			0.53125	13.494
35/64				0.54688	13.891
		9/16		0.56250	14.288
37/64				0.57812	14.684
	19/32			0.59375	15.081
39/64				0.60938	15.478
		5/8		0.62500	15.875
45/64				0.70312	17.859
	23/32			0.71875	18.256
47/64				0.73438	18.653
		3/4		0.75000	19.050
53/64				0.82812	21.034
	27/32			0.84375	21.431
55/64				0.85938	21.823
		7/8		0.87500	22.225
61/64				0.95312	24.209
	31/32			0.96875	24.605
63/64				0.98438	25.003
		1		1.00000	25.400

## Measurement Conversion Table

To Convert	Into	Multiply By	To Convert	Into	Multiply By
Centimeters	Inches	.394	Inches	Centimeters	2.54
	Feet	.0382		Feet	.0833
Meters		.01	Meters	Centimeters	100
	Millimeter	10		Feet	3.281
Feet	Centimeter	30.48		Inches	39.37
	Inches	12.00		Kilometers	.001
	Meters	.3048		Miles	.0006214
	Miles	.0001894		Millimeters	1000
	Yard	.6777		Yards	1.093
Grams	Ounces	.035	<b>Temperature Conversions</b>		
	Pounds	.002	To convert Fahrenheit degrees into Celsius, subtract 32, multiply by 5, and divide by 9.		
	Kilogram	.001	To convert Celsius into Fahrenheit, multiply by 9, divide by 5, and add 32.		

## Hardness Comparison



# Chemical Resistance

	Polyurethane	Nylon12	Polyethylene	PVC	PTFE	Weld Tubing Cover
<b>Acids</b>						
Acetic, 3n	B	E	A	A	A	A
Boric, 4%	B	A	A	A	A	A
Chromic, 3n	D	E	A	A	A	—
Citronic, 3n	B	—	A	A	A	—
Formic, 3n	D	A	A	A	A	A
HC1, 3n	A	E	A	A	A	—
Lactic, 3n	C	B	A	A	A	A
Nitric, 3n	D	E	A	A	A	B
Phosphoric, 3n	D	D	A	A	A	A
Sulfuric, <20%	A	B	A	A	A	A
Sulfuric, >20%	B	C	B	A	A	A
<b>Alkalines</b>						
Ammonia, 3n	A	A	—	A	A	A
Potassium Hydroxide, 3n	A	—	A	A	A	A
Sodium Hydroxide, <20%	A	A	A	A	A	A
Sodium Hydroxide, >20%	C	A	—	A	A	A
<b>Aqueous Solution</b>						
Aluminum Chloride, 10%	B	—	A	A	A	A
Ammonium Chloride, 10%	B	A	A	A	A	A
Bleaching Agent, 40%	A	E	—	—	A	A
Bleaching Agent, 100%	B	E	—	—	A	—
Calcium Chloride, 40%	B	A	A	—	A	—
Caustic Soda, 10%	A	A	—	—	A	—
Ferric Chloride, 10%	B	—	A	A	A	A
Hydrogen Peroxide, 3%	A	A	A	A	A	A
Magnesium Chloride, 30%	B	—	A	A	A	—
Potassium Chloride, 40%	B	A	A	—	A	—
Potassium Dichromate, 10%	B	C	A	—	A	—
Potassium Permanganate, 5%	D	D	A	—	A	—
Sea Water	A	A	A	A	A	—
Sodium Bisulfate, 10%	B	A	A	—	A	—
Sodium Chloride, 10%	B	B	A	—	A	—
Sodium Hypochlorite, PH 13	A	B	A	—	A	A
<b>Fuels</b>						
ASTM Fuel A	A	—	—	B	A	—
ASTM Fuel B	C	—	—	C	A	—
ASTM Fuel C	C	—	—	—	A	—
Diesel Fuel	B	A	—	B	A	D
Gasohol (10-15% Methanol)	D	—	—	—	A	—
High-test (Super) Gasoline	D	A	—	—	A	—
Kerosene	A	V	—	B	A	D
<b>Oils</b>						
ASTM Oil #1	A	—	—	B	A	—
ASTM Oil #2	A	—	—	—	A	—
ASTM Oil #3	A	—	—	B	A	—
Brake Fluid (ATE or ATS)	D	A	—	—	A	—
Gear Box Oil (SAE 90)	A	—	—	—	A	—
Hydraulic Fluid	B	—	—	—	A	—
Hydraulic/Water Emulsion	B	—	—	—	A	—
Mineral Oil	A	A	C	A	A	—
Motor Oil	A	A	B	—	A	—
Paraffin Oil	A	A	—	A	A	—
Power Steering Fluid	B	—	—	—	A	—
Skydrol® 500 Oil	D	—	—	—	A	B

	Polyurethane	Nylon12	Polyethylene	PVC	PTFE	Weld Tubing Cover
<b>Greases</b>						
Calcium Grease	A	—	—	—	A	—
Sodium Grease	A	—	—	—	A	—
Teflon® Grease	A	—	—	—	A	—
<b>Miscellaneous</b>						
Diocetyl Phthalate (DOP)	A	—	C	C	A	—
Ethylene Chloride	B	C	D	—	A	D
Ethylene Glycol/Water 50/50	B	—	—	A	A	A
Household Cleaner	B	—	—	—	A	—
Naptha	A	—	A	B	A	D
Silage (Silo) Juice	B	—	—	—	A	—
Natural Perspiration	A	—	—	—	A	—
Tincture of Iodine	D	—	—	—	A	—
Tricresyl Phosphate	D	—	—	C	A	—
<b>Solvents</b>						
Acetone	D	A	D	C	A	B
Aniline	D	B	B	B	A	—
Benzene	D	A	D	C	A	D
Benzyl Alcohol	E	—	—	—	A	B
Butane	B	A	—	—	A	B
Butyl Acetate	D	A	B	C	A	—
Butyl Alcohol	D	A	A	—	A	—
Carbon Tetrachloride	D	A	D	C	A	D
Chlorobenzene	D	C	D	C	A	D
Chloroform	D	C	D	C	A	D
Cyclohexane	C	A	—	A	A	D
Ethanol	C	—	B	—	A	B
Ether	C	A	—	—	A	B
Ethyl Acetate	D	A	C	C	A	A
Freon 11, 12, 22	C	—	—	—	A	D
Glycerine & Glycol	A	A	B	A	A	A
Heptane	B	A	D	B	A	—
Hexane	B	A	—	B	A	—
Isopropyl Alcohol	C	A	—	—	A	—
Methanol	C	—	B	—	A	A
Methyl Acetate	D	—	—	C	A	—
Methyl Ethyl Ketone	C	A	—	C	A	—
Methyl Glycol	D	—	—	—	A	—
Methylene Chloride	D	E	D	C	A	—
N-Methyl Pyrrolidone	E	—	—	—	A	—
Perchloroethylene	D	—	—	C	A	—
Petroleum	B	A	—	—	A	—
Pyridine	E	A	—	—	A	B
Tetrachloroethylene	D	—	—	C	A	—
Tetrahydrofuran	D	B	D	C	A	B
Toluene	D	A	D	C	A	D
Trichloroethylene	D	C	D	C	A	D
Turpentine (Pine Oil)	B	A	C	B	A	B
Xylene	D	A	—	C	A	D

Teflon® is a registered trademark of the Dupont Corporation.  
Skydrol® is a registered trademark of Monsanto Company.

- A . . . . . Excellent (0-3%)
- B . . . . . Good (4-15%)
- C . . . . . Fair (16-30%)
- D . . . . . Poor (>30%)
- E . . . . . Dissolves

**WARNING:**  
This table is a general guide based on our testing. Although every effort was made to ensure its accuracy, we cannot guarantee your results due to variables in temperature and application. Therefore, no warranty is expressed or implied, and the user assumes all risk and liability.