

#### TUBING

# **4900**

### **FEATURES**

- 105°C rated lead-free PVC tubing
- Excellent general purpose flexible tubing
- Resistant to many chemicals, oils and acids
- Resistant to heat
- Resistant to abrasion
- High dielectric strength
- Wide operating temperature range
- Passes UL VW-1 Flame Test
- Meets EU "End of Life" and "Lead Free" requirements
- Meets UL, CSA and Military specifications



# USES

- Bundling and protecting wire harnesses
- Electrical insulation of wire splices, terminals and connectors
- Protection against chafing
- Ground strap protection

# SPECIFICATIONS

- UL Subject 224 VW-1
- CSAOFT
- Size #24 through Size #1: UL rated for 300V
- Size #5/16 through Size #21/2": UL rated for 600V
- AMS 3631
- ASTM D 922
- MIL-DTL-631D Grade C QPL Approved



#### TUBING

#### **4900**

#### **TECHNICAL DATA**

- Operating Temperature Range: -20°C to 105°C
- Physical / Electrical / Chemical Properties: Specific Gravity: 1.32 Tensile Strength: 2780 psi Ultimate Elongation: 260% Brittleness Temperature: -33°C Flammability: UL Subject 224 VW-1 Volume Resistivity: 1.6 x 10<sup>14</sup> Dielectric Strength: 870 vpm Corrosive Effect: Non-corrosive Fungus Resistance: No growth Superior environmental and UV stability

AWG No. 24 22 20 19 18 17 16 15 14 13 12 11 10 9 8 7 1 6 5 (3/16) 4 3 1/4 2 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	in. .022 .027 .034 .038 .042 047 .053 .059 .066 .076 .085 .095 .095 .106 .118 .133 .148 .186	mm  0.56 0.69 0.86 0.97 1.07 1.19 1.35 1.50 1.68 1.93 2.16 2.41 2.69 3.00 3.38 3.76 4.21 4.72	in. .012 .012 .016 .020 .020 .020 .020 .020 .020	mm           0.30         0.30           0.41         0.41           0.41         0.41           0.41         0.41           0.41         0.41           0.41         0.41           0.41         0.41           0.41         0.41           0.41         0.41           0.41         0.41           0.41         0.41           0.41         0.51           0.51         0.51           0.51         0.51	ft./ Spool 2,500' 2,500' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000'	Total ft./ Box 5,000' 5,000' 4,000'
22 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 (3 / 16) 4 3 1 / 4 3 1 / 4 3 1 / 4 3 1 / 4 3 1 / 10 9 8 7 1 1 1 1 1 1 1 1 1 1 1 1 1	.027 .034 .038 .042 .047 .053 .059 .066 .076 .085 .095 .106 .118 .133 .148 .166	0.69 0.86 0.97 1.07 1.19 1.35 1.50 1.68 1.93 2.16 2.41 2.69 3.00 3.38 3.76 4.21	.012 .016 .016 .016 .016 .016 .016 .016 .016	$\begin{array}{c} 0.30\\ 0.41\\ 0.41\\ 0.41\\ 0.41\\ 0.41\\ 0.41\\ 0.41\\ 0.41\\ 0.41\\ 0.41\\ 0.41\\ 0.41\\ 0.41\\ 0.51\\ 0.51\\ 0.51\\ 0.51\\ 0.51\\ \end{array}$	2,500' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000'	5,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000'
20 19 18 17 16 15 14 13 12 14 13 12 14 13 12 14 13 12 14 13 12 14 10 9 8 7 6 5 (3 / 16) 4 3 1 / 4 3 1 / 1 5 / 16 1 1 1 1 / 4 3 1 / 4 3 1 / 1 5 / 16 1 1 1 1 / 4 3 1 1 / 4 3 1 / 1 1 / 4 3 1 / 1 1 / 4 3 1 / 1 1 / 4 3 1 / 1 1 / 1 1 / 4 3 1 / 1 1 /	.034 .038 .042 047 .053 .059 .066 .076 .085 .095 .106 .118 .133 .148 .166	0.86 0.97 1.07 1.19 1.35 1.50 1.68 1.93 2.16 2.41 2.69 3.00 3.38 3.76 4.21	.016 .016 .016 .016 .016 .016 .016 .016	$\begin{array}{c c} 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.51 \\ 0.51 \\ 0.51 \\ 0.51 \\ 0.51 \\ \end{array}$	1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000'	4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000'
19         18         17         16         15         14         13         12         11         10         9         8         7         6         5 (3 / 16)         4         3         1 / 4         2         1         5 / 16         0         3 / 8         7 / 16         1 / 2	.038 .042 047 .053 .059 .066 .076 .085 .095 .106 .118 .133 .148 .166	0.97 1.07 1.19 1.35 1.50 1.68 1.93 2.16 2.41 2.69 3.00 3.38 3.76 4.21	.016 .016 .016 .016 .016 .016 .016 .016	$\begin{array}{c} 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.51 \\ 0.51 \\ 0.51 \\ 0.51 \\ 0.51 \\ 0.51 \\ \end{array}$	1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000'	4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000'
18         17         16         15         14         13         12         11         10         9         8         7         6         5(3/16)         4         3         1/4         2         1         5/16         0         3/8         7/16         1/2	.042 047 .053 .059 .066 .076 .085 .095 .106 .118 .133 .148 .166	1.07 1.19 1.35 1.50 1.68 1.93 2.16 2.41 2.69 3.00 3.38 3.76 4.21	.016 .016 .016 .016 .016 .016 .016 .016	$\begin{array}{c} 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.51 \\ 0.51 \\ 0.51 \\ 0.51 \\ 0.51 \\ \end{array}$	1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000'	4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000'
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	047 .053 .059 .066 .076 .085 .095 .106 .118 .133 .148 .166	1.19         1.35         1.50         1.68         1.93         2.16         2.41         2.69         3.00         3.38         3.76         4.21	.016 .016 .016 .016 .016 .016 .016 .016	$\begin{array}{c} 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.51 \\ 0.51 \\ 0.51 \\ 0.51 \\ 0.51 \\ 0.51 \\ \end{array}$	1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000'	4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000'
16         15         14         13         12         11         10         9         8         7         6         5 (3 / 16)         4         3         1/4         2         1         5 / 16         0         3/8         7 / 16         1/2	.053 .059 .066 .076 .085 .095 .106 .118 .133 .148 .166	1.35 1.50 1.68 1.93 2.16 2.41 2.69 3.00 3.38 3.76 4.21	.016 .016 .016 .016 .016 .016 .016 .020 .020 .020	$\begin{array}{c} 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.41 \\ 0.51 \\ 0.51 \\ 0.51 \\ 0.51 \\ 0.51 \\ \end{array}$	1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000'	4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000'
15         14         13         12         11         10         9         8         7         6         5 (3 / 16)         4         3         1 / 4         2         1         5 / 16         0         3 / 8         7 / 16         1 / 2	.059 .066 .076 .085 .095 .106 .118 .133 .148 .166	1.50 1.68 1.93 2.16 2.41 2.69 3.00 3.38 3.76 4.21	.016 .016 .016 .016 .016 .016 .016 .020 .020 .020	0.41 0.41 0.41 0.41 0.41 0.41 0.51 0.51 0.51	1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000'	4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000'
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	.066 .076 .085 .095 .106 .118 .133 .148 .166	1.68 1.93 2.16 2.41 2.69 3.00 3.38 3.76 4.21	.016 .016 .016 .016 .016 .020 .020 .020	0.41 0.41 0.41 0.41 0.41 0.51 0.51 0.51	1,000' 1,000' 1,000' 1,000' 1,000' 1,000' 1,000'	4,000' 4,000' 4,000' 4,000' 4,000' 4,000' 4,000'
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	.076 .085 .095 .106 .118 .133 .148 .166	1.93 2.16 2.41 2.69 3.00 3.38 3.76 4.21	.016 .016 .016 .016 .020 .020 .020	0.41 0.41 0.41 0.41 0.51 0.51 0.51	1,000' 1,000' 1,000' 1,000' 1,000' 1,000'	4,000' 4,000' 4,000' 4,000' 4,000' 4,000'
12 11 10 9 8 7 6 5 (3 / 16) 4 3 1 / 4 2 1 5 / 16 0 3 / 8 7 / 16 1 / 2	.085 .095 .106 .118 .133 .148 .166	2.16 2.41 2.69 3.00 3.38 3.76 4.21	.016 .016 .020 .020 .020 .020	0.41 0.41 0.51 0.51 0.51	1,000' 1,000' 1,000' 1,000' 1,000'	4,000' 4,000' 4,000' 4,000' 4,000'
11 10 9 8 7 6 5 (3 / 16) 4 3 1 / 4 2 1 5 / 16 0 3 / 8 7 / 16 1 / 2	.095 .106 .118 .133 .148 .166	2.41 2.69 3.00 3.38 3.76 4.21	.016 .016 .020 .020 .020 .020	0.41 0.41 0.51 0.51 0.51	1,000' 1,000' 1,000' 1,000'	4,000' 4,000' 4,000' 4,000'
10 9 8 7 6 5 (3 / 16) 4 3 1 / 4 2 1 1 5 / 16 0 3 / 8 7 / 16 1 / 2	.106 .118 .133 .148 .166	2.69 3.00 3.38 3.76 4.21	.016 .020 .020 .020	0.41 0.51 0.51 0.51	1,000' 1,000' 1,000'	4,000' 4,000' 4,000'
9 8 7 6 5 (3 / 16) 4 3 1 / 4 2 1 1 5 / 16 0 3 / 8 7 / 16 1 / 2	.118 .133 .148 .166	3.00 3.38 3.76 4.21	.020 .020 .020	0.51 0.51 0.51	1,000' 1,000'	4,000' 4,000'
8 7 6 5 (3 / 16) 4 3 3 1 / 4 2 1 5 / 16 0 3 / 8 7 / 16 1 / 2	.133 .148 .166	3.38 3.76 4.21	.020 .020	0.51 0.51	1,000'	4,000'
7 6 5 (3 / 16) 4 3 1 / 4 2 1 5 / 16 0 3 / 8 7 / 16 1 / 2	.148 .166	3.76 4.21	.020	0.51	1,000'	
6 5 (3 / 16) 4 3 1 / 4 2 1 5 / 16 0 3 / 8 7 / 16 1 / 2	.166	4.21			1 000.	4 0001
5 (3 / 16) 4 3 1 / 4 2 1 5 / 16 0 3 / 8 7 / 16 1 / 2			.020		1,000	4,000'
4 3 1/4 2 1 5/16 0 3/8 7/16 1/2	186			0.51	1,000'	2,000'
3 1/4 2 1 5/16 0 3/8 7/16 1/2		4.72	.020	0.51	1,000'	2,000'
1/4 2 1 5/16 0 3/8 7/16 1/2	.208	5.28	.020	0.51	1,000'	2,000'
2 1 5 / 16 0 3 / 8 7 / 16 1 / 2	.234	5.94	.020	0.51	1,000'	2,000'
5 / 16 0 3 / 8 7 / 16 1 / 2	.250	6.35		0.51	1,000'	2,000'
5 / 16 0 3 / 8 7 / 16 1 / 2	.263 .294	6.68 7.47	.020 .020	0.51 0.51	1,000'	2,000'
0 3 / 8 7 / 16 1 / 2				0.51	1,000'	2,000'
3 / 8 7 / 16 1 / 2	.313 .330	7.94 8.38	.025	0.64	500' 500'	1,000' 1,000'
1 / 2	.375	9.53	.025	0.64	500'	
1 / 2	.438	11.11	.025	0.64	500'	1,000' 1,000'
1/2	.500	12.70	.025	0.64	500'	1,000'
9 / 16	.563	14.29	.025	0.76	250'	500'
5 / 9	.625	15.88	.030	0.76	250'	500'
3/4	.750	19.05	.035	0.89	250'	500'
7/8	.875	22.23	.035	0.89	100'	400'
1"	1.000	25.40	.035	0.89	100'	400'
11/8	1.125	28.58	.035	0.89	100'	400'
11/6	1.250	31.75	.040	1.02	100'	400'
13/8	1.375	34.93	.045	1.14	50'	200'
11/2	1.500	38.10	.045	1.14	50'	200'
13/4	1.750	44.45	.055	1.40	50'	200'
2	2.000	50.80	.060	1.52	50'	200'
21/4	2.250	57.15	.065	1.65	50'	200'
21/2	1.750	63.50	.070	1.78	50'	200'

• Standard Colors: Sizes up to 1 inch: Black, White, Red, Yellow, Clear, Sizes above 1 inch: Black, White, Clear

All information presented is believed to be reliable and is offered only as a guide to product selection. As each application is unique, Insultab can make no warranties as to the suitability of any products for a particular use. Specifications are subject to change.