

583-923 To 996

PTFE SLEEVING

Ptfe sleeving (sometimes called spaghetti tubing) can be used in areas of high temperature for covering wires, connectors, components etc. It offers protection against corrosion/contaminations etc due to vegetable/mineral oils, acids and alkalies, ultra violet light etc. As an insulating material it is excellent and has the benefit of resisting melt off by soldering irons when making terminations. It's resistance to virtually all corrosive chemicals and its dielectice properties favour it for electronic and electrical services.

The tubing is not expanded (that is it is not heat-shrinkable) and therefore the bore diameter must be sufficient to cover the component or wiring system.

The tubing meets BS2848 type 6 and is approved to UL224 - File No E64007

Temperature range: -65°C to +250°C

Colour: Natural

<u>BORE (AWG)</u>	<u>BORE (MM)</u>	<u>WALL THICKNESS (MM)</u>
26	0.46	0.25
24	0.56	0.25
22	0.71 -	0.25 -
20	0.86	0.30
18	1.07	0.30
16	1.35	0.30
15	1.50	0.30
13	1.93	0.30
10	2.69	0.30
9	3.00	0.38

SUMMARY OF PROPERTIES

Extruded Fluoropolymers

The table below lists the generally accepted summary of electrical, mechanical and thermal properties of the four fluoropolymer resins from which ZEUS fabricates its line of tubing, beading, shapes and unique wire insulations.

PROPERTIES	RESINS			
	TFE	FEP	PFA	TEFZEL®
ULTIMATE TENSILE STRENGTH, psi (ASTM D 638)	2,500–4,000 (23°C) 1,500 (250°C)	3,000–4,000 (23°C)	4,000 (23°C) 2,000 (250°C)	6,500–7,500 (23°C)
ULTIMATE ELONGATION, % (ASTM D 638)	225–450 (23°C) 350 (250°C)	300 (23°C)	300 (23°C) 510 (250°C)	100–300 (23°C)
COEFFICIENT OF FRICTION (DYNAMIC)	0.10	0.25	0.20	0.40
FLEXURAL MODULUS, psi x 10 ³ (ASTM D 798)	50 to 90 (23°C) 4 (250°C)	95–105 (23°C)	100 (23°C) 10 (250°C)	200 (23°C)
IMPACT STRENGTH NOTCHED IZOD, FT. LB/IN., (ASTM D 256)	3 (23°C) >6 (77°C) 1.5 (–79°C)	No Break (23°C) 2.9 (–54°C)	No Break (23°C)	No Break (23°C) >20 (–54°C)
CONTINUOUS USE TEMPERATURE, °C	260	204	over 260	150
HEAT DEFLECTION TEMP. 66 psi, °C (ASTM D 648)	122	70	74	104
SPECIFIC GRAVITY (ASTM D 792)	2.11–2.19	2.12–2.17	2.12–2.17	1.70
DIELECTRIC STRENGTH (ASTM D 149) SHORT TERM VOLTS/MIL 10 MILS	>1400	>2000	>2000	>2000
DIELECTRIC CONSTANT (ASTM D 150)	2.05 ± 0.05 from 10 ² to 10 ¹⁰ Hz	2.10 from 10 ² to 10 ⁸ Hz	2.1 from 10 ² to 10 ⁶ Hz	2.6 from 10 ² to 10 ⁶ Hz
MELTING POINT, °C	327 ± 11	253–282	302–310	271

Shrinktek

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TFE TUBING BULLETINS 1.2.3

Electrical specification tubing. AWG sizes: standard wall, thin wall, and lightweight wall.

TFE TUBING is regarded by scientists and engineers as the ultimate in heat resistance, chemical stability, and dielectric properties. Unique concentricity, and close tolerances, as a result of the

extrusion process are absolutely assured. Offered in three different wall thicknesses, TFE TUBING is called upon to meet a wide range of commercial and military requirements. Because

AWG Size	INSIDE DIAMETER (MM.)			WALL DIMENSIONS (MM.)						PACKAGING MTS.
	Min.	Max.	Max.	STANDARD WALL Bulletin 1 MIL. 1-221129 / AMS 3653		THIN WALL Bulletin 2 AMS 3655		LIGHTWEIGHT WALL Bulletin 3 AMS 3654		
				Min.	Tol.	Min.	Tol.	Min.	Tol.	
30	0.25	0.30	0.38	0.23	± 0.05	0.23	± 0.05	0.15	± 0.15	304.80 SPOOLS 304.80 SPOOLS 304.80 SPOOLS
28	0.33	0.33	0.46	0.23	± 0.05	0.23	± 0.05	0.15	± 0.15	
26	0.41	0.46	0.53	0.23	± 0.05	0.23	± 0.05	0.15	± 0.15	
24	0.51	0.56	0.66	0.30	± 0.05	0.25	± 0.08	0.15	± 0.15	304.80 SPOOLS 304.80 SPOOLS 304.80 SPOOLS
23	0.58	0.66	0.74	0.30	± 0.05	0.25	± 0.08	0.15	± 0.15	
22	0.66	0.71	0.81	0.30	± 0.05	0.25	± 0.08	0.15	± 0.15	
21	0.74	0.81	0.89	0.30	± 0.05	0.25	± 0.08	0.15	± 0.15	304.80 SPOOLS 304.80 SPOOLS 304.80 SPOOLS
20	0.81	0.86	0.97	0.41	± 0.08	0.30	± 0.08	0.15	± 0.15	
19	0.91	0.97	1.07	0.41	± 0.08	0.30	± 0.08	0.15	± 0.15	
18	1.02	1.07	1.17	0.41	± 0.08	0.30	± 0.08	0.15	± 0.15	304.80 SPOOLS 304.80 SPOOLS 304.80 SPOOLS
17	1.14	1.19	1.32	0.41	± 0.08	0.30	± 0.08	0.15	± 0.15	
16	1.29	1.35	1.47	0.41	± 0.08	0.30	± 0.08	0.15	± 0.15	
15	1.45	1.50	1.65	0.41	± 0.08	0.30	± 0.08	0.15	± 0.15	304.80 SPOOLS 152.40 SPOOLS 152.40 SPOOLS
14	1.62	1.68	1.83	0.41	± 0.08	0.30	± 0.08	0.20	± 0.15	
13	1.83	1.93	2.06	0.41	± 0.08	0.30	± 0.08	0.20	± 0.15	
12	2.06	2.16	2.31	0.41	± 0.08	0.30	± 0.08	0.20	± 0.15	152.40 SPOOLS 152.40 SPOOLS 152.40 SPOOLS
11	2.31	2.41	2.57	0.41	± 0.08	0.30	± 0.08	0.20	± 0.15	
10	2.59	2.69	2.84	0.41	± 0.08	0.30	± 0.08	0.20	± 0.15	
9	2.89	3.00	3.15	0.51	± 0.10	0.38	± 0.08	0.20	± 0.15	76.20 SPOOLS * *
8	3.28	3.38	3.53	0.51	± 0.10	0.38	± 0.08	0.20	± 0.15	
7	3.66	3.76	3.94	0.51	± 0.10	0.38	± 0.08	0.20	± 0.15	
6	4.11	4.22	4.42	0.51	± 0.10	0.38	± 0.08	0.25	± 0.15	* * *
5	4.62	4.72	4.95	0.51	± 0.10	0.38	± 0.08	0.25	± 0.15	
4	5.18	5.28	5.54	0.51	± 0.10	0.38	± 0.08	0.25	± 0.15	
3	5.81	5.94	6.20	0.51	± 0.10	0.38	± 0.08	0.25	± 0.15	* * *
2	6.55	6.68	6.93	0.51	± 0.10	0.38	± 0.08	0.25	± 0.15	
1	7.34	7.47	7.75	0.51	± 0.10	0.38	± 0.08	0.25	± 0.15	
0	8.25	8.38	8.69	0.51	± 0.10	0.38	± 0.08	0.30	± 0.15	*

APPLICABLE SPECIFICATIONS:
Bulletin 1, Standard Wall, ASIM D 3295
Bulletin 2, Thin Wall, AMS 3655
Bulletin 3, Lightweight Wall, AMS 3654

CUSTOM SPECIFICATIONS AND TOLERANCES QUOTED UPON REQUEST

On all cases of military or commercial specifications, latest revisions apply.
Supplied in natural unless otherwise specified.
Mil. Std. 104 colors on request.

See PACKAGING

TUBING complies with UL 128, has been assigned UL FILE NO. E-64007, and is listed under the UL "RECOGNIZED COMPONENT PRODUCT" listing.