

Reinforced (3 layers) Insulation TCA3 Layer with .0015" Self-Bonding Overcoat

Product Information

Temperature Rating: 155°C	Conductor: Tin Plated Copper, Solid or Stranded (ASTM B-33/ASTM B-286) Bare Copper and other conductors available
Insulation: Modified ETFE w/Proprietary Self-Bonding Overcoat	Size Range: UL: 18 AWG – 40 AWG
Compliances: UL OBT2 File No. E206198 UL 60950-1 (Ed. 2), Annex U. UL 60601-1 RoHS Compliant	Voltage: UL: 1500 V for electronic equipment, UL: 707 V for medical equipment
	Breakdown: Approx. 7000 V
	OD Tolerances: 14- 24 AWG + 0.0015"/-0.001" 25- 40 AWG + 0.001"/-0.001"

Reinforced Insulation Information:

Insulation Type: Fluoropolymer	Thermal: Continuous Operating Temperature, 150°C	UL Flammability Rating: V-0
Dielectric Constant: 2.6	Tensile Strength (psi): 6500	Elongation (%): 150-300
Abrasion Resistance: Excellent	UV Resistance: Excellent	Chemical Resistance: Excellent
Water Resistance: Excellent	Underground Resistance: Excellent	Long Term Stability: Excellent

ETFE is a Fluoropolymer compound with excellent electrical properties, heat resistance, chemical resistance, and abrasion resistance. Commonly used in winding wires, UL AWM wires, and medical applications

Self-Bonding Overcoat Information:

The Self-Bonding Overcoat is a proprietary material intended for bonding the product together and it should not be considered an additional layer of insulation nor should it be used for any additional electrical or mechanical properties.

Insulated Wire Information with 0.0015" Self-Bonding Overcoat:

Part Number	AWG	Conductor OD		Insulated Wire OD w/Self-Bonding Overcoat	
		Inches	MM	Inches	MM
TCA3 18 AWG-SB-1.5	18	0.0403	1.024	0.0523	1.33
TCA3 19 AWG-SB-1.5	19	0.0359	0.912	0.0479	1.22
TCA3 20 AWG-SB-1.5	20	0.0320	0.813	0.0440	1.12
TCA3 21 AWG-SB-1.5	21	0.0285	0.724	0.0405	1.03
TCA3 22 AWG-SB-1.5	22	0.0253	0.643	0.0373	0.95
TCA3 23 AWG-SB-1.5	23	0.0226	0.574	0.0346	0.88
TCA3 24 AWG-SB-1.5	24	0.0201	0.511	0.0321	0.82
TCA3 25 AWG-SB-1.5	25	0.0179	0.455	0.0299	0.76
TCA3 26 AWG-SB-1.5	26	0.0159	0.404	0.0279	0.71
TCA3 27 AWG-SB-1.5	27	0.0142	0.361	0.0262	0.67
TCA3 28 AWG-SB-1.5	28	0.0126	0.320	0.0246	0.62
TCA3 29 AWG-SB-1.5	29	0.0113	0.287	0.0233	0.59
TCA3 30 AWG-SB-1.5	30	0.0100	0.254	0.0220	0.56
TCA3 31 AWG-SB-1.5	31	0.0089	0.226	0.0209	0.53
TCA3 32 AWG-SB-1.5	32	0.0080	0.203	0.0200	0.51
TCA3 33 AWG-SB-1.5	33	0.0071	0.180	0.0191	0.49
TCA3 34 AWG-SB-1.5	34	0.0063	0.160	0.0183	0.46
TCA3 35 AWG-SB-1.5	35	0.0056	0.142	0.0176	0.45
TCA3 36 AWG-SB-1.5	36	0.0050	0.127	0.0170	0.43
TCA3 37 AWG-SB-1.5	37	0.0045	0.114	0.0165	0.42
TCA3 38 AWG-SB-1.5	38	0.0040	0.102	0.0160	0.41
TCA3 39 AWG-SB-1.5	39	0.0035	0.089	0.0155	0.39
TCA3 40 AWG-SB-1.5	40	0.0031	0.079	0.0151	0.38

Bare Core Wire Specifications:

DCR per 10' @ 20°C

AWG	Core Wire Diameter			DC Resistance		
	Min. Dia.	Nom. Dia.	Max. Dia.	Min. Res.*	Nom. Res.	Max. Res.
18	.0399	.0403	.0415	.0617	.0664	.0699
19	.0355	.0359	.0370	.0776	.0837	.0883
20	.0317	.0320	.0330	.0975	.1053	.1108
21	.0282	.0285	.0294	.1229	.1328	.1400
22	.0250	.0253	.0261	.1559	.1685	.1781
23	.0224	.0226	.0233	.1956	.2112	.2219
24	.0199	.0201	.0207	.2478	.2669	.2811
25	.0177	.0179	.0184	.3137	.3366	.3554
26	.0157	.0159	.0164	.3948	.4266	.4517
27	.0141	.0142	.0146	.4982	.5349	.5600
28	.0125	.0126	.0130	.6283	.6793	.7125
29	.0112	.0113	.0116	.7892	.8446	.8875
30	.0099	.0100	.0103	1.0009	1.0785	1.1359
31	.0088	.0089	.0092	1.2546	1.3616	1.4376
32	.0079	.0080	.0083	1.5414	1.6852	1.7838
33	.0070	.0071	.0074	1.9392	2.1395	2.2720
34	.0062	.0063	.0066	2.4378	2.7173	2.8962
35	.0055	.0056	.0059	3.0506	3.4391	3.6803
36	.0049	.0050	.0053	3.7803	4.3140	4.6368
37	.0044	.0045	.0048	4.6089	5.3259	5.7505
38	.0039	.0040	.0043	5.7431	6.7406	7.3195
39	.0034	.0035	.0038	7.3539	8.8041	9.6306
40	.0030	.0031	.0034	9.1860	11.2227	12.3700

*ASTM B33 sets no standard for minimum resistance. This is only an indicator to investigate other aspects such as tin-thickness and tin coverage.