

Supplementary (2 layer) Insulation TCA2

Product Information

Temperature Rating: 155°C

Insulation: Modified ETFE

Compliances: UL OBJT2 File No. E206198

UL/IEC 60950-1 (Ed. 2), Annex U. UL 60601-1

IEC 61558-1

VDE License Nr. 40000223: Class F

System approvals: UL 1446

RXT-2 Class F, TCA Class F

RoHS Compliant

Conductor: Tin Plated Copper, Solid or Stranded (ASTM B-33/ASTM B-286)
Bare Copper and other conductors available

Size Range: UL: 18 AWG – 40 AWG
VDE: 14 AWG – 40 AWG

Voltage: UL: 600 V
VDE: 1000 V

Breakdown: Approx. 4500 V

OD Tolerances: 18- 24 AWG +0.001"/-0.001"
25- 32 AWG +0.001"/-0.001"
33- 40 AWG +0.001"/-0.0005"

TCA2 Products come standard in Blue

Insulation Information:

Insulation Type: Fluoropolymer

Dielectric Constant: 2.6

Abrasion Resistance: Excellent

Chemical Resistance: Excellent

Underground Resistance: Excellent

Thermal: Continuous Operating Temperature, 150°C

Tensile Strength (psi): 6500

Bondability: Poor

Water Resistance: Excellent

Long Term Stability: Excellent

UL Flammability Rating: V-0

Elongation (%): 150-300

UV Resistance: 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

Insulated Wire Information:

Part Number	AWG	Conductor OD		Insulated Wire OD		Weight LB/KFT
		Inches	MM	Inches	MM	
TCA2 18	18	0.0403	1.024	0.0463	1.176	5.22
TCA2 19	19	0.0359	0.912	0.0419	1.064	4.17
TCA2 20	20	0.0320	0.813	0.0380	0.965	3.33
TCA2 21	21	0.0285	0.724	0.0345	0.876	2.68
TCA2 22	22	0.0253	0.643	0.0313	0.795	2.14
TCA2 23	23	0.0226	0.574	0.0286	0.726	1.73
TCA2 24	24	0.0201	0.511	0.0261	0.663	1.38
TCA2 25	25	0.0179	0.455	0.0239	0.607	1.12
TCA2 26	26	0.0159	0.404	0.0219	0.556	0.90
TCA2 27	27	0.0142	0.361	0.0202	0.513	0.73
TCA2 28	28	0.0126	0.320	0.0186	0.472	0.59
TCA2 29	29	0.0113	0.287	0.0173	0.439	0.49
TCA2 30	30	0.0100	0.254	0.0160	0.406	0.39
TCA2 31	31	0.0089	0.226	0.0149	0.378	0.32
TCA2 32	32	0.0080	0.203	0.0140	0.356	0.27
TCA2 33	33	0.0071	0.180	0.0121	0.307	0.23
TCA2 34	34	0.0063	0.160	0.0113	0.287	0.19
TCA2 35	35	0.0056	0.142	0.0106	0.269	0.16
TCA2 36	36	0.0050	0.127	0.0100	0.254	0.13
TCA2 37	37	0.0045	0.114	0.0095	0.241	0.11
TCA2 38	38	0.0040	0.102	0.0090	0.229	0.10
TCA2 39	39	0.0035	0.089	0.0085	0.216	0.08
TCA2 40	40	0.0031	0.079	0.0081	0.206	0.07

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	0.0399	0.0403	0.0415	0.0617	0.0664	0.0699
19	0.0355	0.0359	0.0370	0.0776	0.0837	0.0883
20	0.0317	0.0320	0.0330	0.0975	0.1053	0.1108
21	0.0282	0.0285	0.0294	0.1229	0.1328	0.1400
22	0.0250	0.0253	0.0261	0.1559	0.1685	0.1781
23	0.0224	0.0226	0.0233	0.1956	0.2112	0.2219
24	0.0199	0.0201	0.0207	0.2478	0.2669	0.2811
25	0.0177	0.0179	0.0184	0.3137	0.3366	0.3554
26	0.0157	0.0159	0.0164	0.3948	0.4266	0.4517
27	0.0141	0.0142	0.0146	0.4982	0.5349	0.5600
28	0.0125	0.0126	0.0130	0.6283	0.6793	0.7125
29	0.0112	0.0113	0.0116	0.7892	0.8446	0.8875
30	0.0099	0.0100	0.0103	1.0009	1.0785	1.1359
31	0.0088	0.0089	0.0092	1.2546	1.3616	1.4376
32	0.0079	0.0080	0.0083	1.5414	1.6852	1.7838
33	0.0070	0.0071	0.0074	1.9392	2.1395	2.2720
34	0.0062	0.0063	0.0066	2.4378	2.7173	2.8962
35	0.0055	0.0056	0.0059	3.0506	3.4391	3.6803
36	0.0049	0.0050	0.0053	3.7803	4.3140	4.6368
37	0.0044	0.0045	0.0048	4.6089	5.3259	5.7505
38	0.0039	0.0040	0.0043	5.7431	6.7406	7.3195
39	0.0034	0.0035	0.0038	7.3539	8.8041	9.6306
40	0.0030	0.0031	0.0034	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.