

Single Insulated Wires

Rubadue Wire manufactures several wires with a single layer of insulation. Single insulated wires can be used to meet several design requirements:

- Hook-up or lead wires
- High voltage
- Applications requiring basic isolation
- Leakage or loss reduction
- Increased safety
- High speed winding capable

Single insulated wires can be manufactured in a variety of types, sizes, insulations, ratings, and colors.

Insulation	Size Range	Avg. Wall/ Layer	Ins. Layers	Temp. Rating	Voltage Rating	Page
Tefzel® ETFE	22 - 40 AWG	.0015"	1	155°C	600 V	31
Tefzel® ETFE	18 - 40 AWG	.002"	1	155°C	600 V	32
Tefzel® ETFE	10 - 40AWG	.003"	1	155°C	600 V	33
TCA	22 - 40AWG	.001"	1	155°C	600 V	34
FEP	18 - 40AWG	.002"	1	155°C	600 V	35
FEP	10 - 40AWG	.003"	1	155°C	600 V	36
PFA	28 - 40AWG	.0015"	1	180°C	600 V	37
PFA	28 - 40AWG	.002"	1	180°C	600 V	38
PFA	28 - 40AWG	.003"	1	180°C	600 V	39

DuPont™ Tefzel® ETFE - Fluoropolymer compound with excellent electrical properties, heat resistance, chemical resistance, and abrasion resistance.

TCA - Modified ETFE - designed for more economical/efficient manufacturing. Comes standard in one color, most sizes readily available.

DuPont™ Teflon® FEP - Fluoropolymer compound with exceptional dielectric properties, heat resistance, chemical resistance, and flexibility.

DuPont™ Teflon® PFA - Fluoropolymer compound with superior heat resistance, exceptional dielectric properties, and chemical resistance.

See the Technical Information section for additional information on insulation types and comparative properties.

Single Insulated DuPont™ Tefzel® ETFE .0015"



Product Construction:

Size Range:

UL: 22 AWG - 40 AWG
VDE: 14 AWG - 40 AWG
Not all sizes listed in chart

Conductor:

Tin plated copper
Solid or stranded (ASTM B-33/ASTM B-286)
Bare copper and other conductors available

Insulation:

DuPont™ Tefzel® ETFE

Rating:

Temperature: 155°C
Voltage:
600 V

Applications:

Telecom/Electronic
Basic isolation applications

Compliances:

UL OBJT2 File No. E206198
UL/IEC 60950-1 (Ed. 2), Annex U.
IEC 61558-12-16
VDE License Nr. 136743: Class F
System approvals: UL 1446
RXT-2 Class F
Other systems available upon request
RoHS Compliant

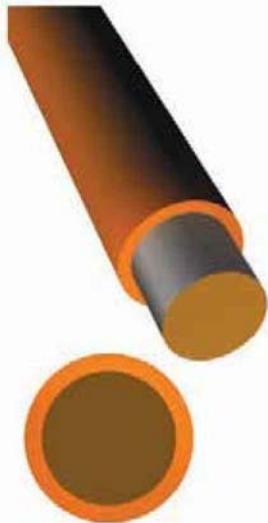
Tensile Strength: 6500 psi
Breakdown: Approx. 2000 V

Single Insulated Wires

PART NUMBER	AWG	CONDUCTOR		NOMINAL O.D.		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
S22A01TX-1.5	22	0.0253	0.643	0.0283	0.719	2.03
S23A01TX-1.5	23	0.0226	0.574	0.0256	0.650	1.63
S24A01TX-1.5	24	0.0201	0.511	0.0231	0.587	1.30
S25A01TX-1.5	25	0.0179	0.455	0.0209	0.531	1.04
S26A01TX-1.5	26	0.0159	0.404	0.0189	0.480	0.83
S27A01TX-1.5	27	0.0142	0.361	0.0172	0.437	0.66
S28A01TX-1.5	28	0.0126	0.320	0.0156	0.396	0.53
S29A01TX-1.5	29	0.0113	0.287	0.0143	0.363	0.43
S30A01TX-1.5	30	0.0100	0.254	0.0130	0.330	0.34
S31A01TX-1.5	31	0.0089	0.226	0.0119	0.302	0.28
S32A01TX-1.5	32	0.0080	0.203	0.0110	0.279	0.23
S33A01TX-1.5	33	0.0071	0.180	0.0101	0.257	0.18
S34A01TX-1.5	34	0.0063	0.160	0.0093	0.236	0.15
S35A01TX-1.5	35	0.0056	0.142	0.0086	0.218	0.12
S36A01TX-1.5	36	0.0050	0.127	0.0080	0.203	0.10
S37A01TX-1.5	37	0.0045	0.114	0.0075	0.191	0.08
S38A01TX-1.5	38	0.0040	0.101	0.0070	0.178	0.07
S39A01TX-1.5	39	0.0035	0.089	0.0065	0.165	0.05
S40A01TX-1.5	40	0.0031	0.079	0.0061	0.155	0.05

Single Insulated DuPont™ Tefzel® ETFE .002"

Single Insulated Wires



Product Construction:

Size Range:

UL: 18 AWG - 40 AWG
VDE: 14 AWG - 40 AWG
Not all sizes listed in chart

Conductor:

Tin plated copper
Solid or stranded (ASTM B-33/ASTM B-286)
Bare copper and other conductors available

Insulation:

DuPont™ Tefzel® ETFE

Rating:

Temperature: 155° C
Voltage:
600 V

Applications:

Telecom/Electronic
Basic isolation applications

Compliances:

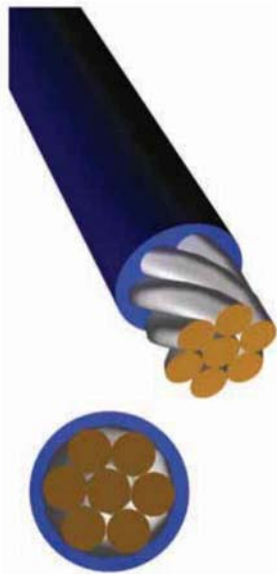
UL OBJT2 File No. E206198
UL/IEC 60950-1 (Ed.2) , Annex U .
IEC 61558-2-16
VDE License Nr. 136743: Class F
System approvals: UL 1446
RXT-2 Class F
Other systems available upon request
RoHS Compliant

Tensile Strength: 6500 psi
Breakdown: Approx. 3000 V

PART NUMBER	AWG	CONDUCTOR		NOMINAL O. D		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
S18A01TX-2	18	0.0403	1.024	0.0443	1.125	5.12
S19A01TX-2	19	0.0359	0.912	0.0399	1.013	4.08
S20A01TX-2	20	0.0320	0.813	0.0360	0.914	3.25
S21A01TX-2	21	0.0285	0.724	0.0325	0.826	2.60
S22A01TX-2	22	0.0253	0.643	0.0293	0.744	2.07
S23A01TX-2	23	0.0226	0.574	0.0266	0.676	1.66
S24A01TX-2	24	0.0201	0.511	0.0241	0.612	1.32
S25A01TX-2	25	0.0179	0.455	0.0219	0.556	1.06
S26A01TX-2	26	0.0159	0.404	0.0199	0.505	0.85
S27A01TX-2	27	0.0142	0.361	0.0182	0.462	0.69
S28A01TX-2	28	0.0126	0.320	0.0166	0.422	0.55
S29A01TX-2	29	0.0113	0.287	0.0153	0.389	0.45
S30A01TX-2	30	0.0100	0.254	0.0140	0.356	0.36
S31A01TX-2	31	0.0089	0.226	0.0129	0.328	0.29
S32A01TX-2	32	0.0080	0.203	0.0120	0.305	0.24
S33A01TX-2	33	0.0071	0.180	0.0111	0.282	0.20
S34A01TX-2	34	0.0063	0.160	0.0103	0.262	0.16
S35A01TX-2	35	0.0056	0.142	0.0096	0.244	0.13
S36A01TX-2	36	0.0050	0.127	0.0090	0.229	0.11
S37A01TX-2	37	0.0045	0.114	0.0085	0.216	0.09
S38A01TX-2	38	0.0040	0.102	0.0080	0.203	0.08
S39A01TX-2	39	0.0035	0.089	0.0075	0.191	0.06
S40A01TX-2	40	0.0031	0.079	0.0071	0.180	0.05



Single Insulated DuPont™ Tefzel® ETFE .003"



Product Construction:

Size Range:

UL: 10 AWG - 40 AWG
VDE: 14 AWG - 40 AWG
Not all sizes listed in chart

Applications:

Electronic
Basic isolation applications
Medical / Dental

Conductor:

Tin plated copper
Solid or stranded (ASTM B-33/ASTM B-286)
Bare copper and other conductors available

Compliances:

UL OBJT2 File No. E206198
UL / IEC 60950-1 (Ed.2), Annex U.
UL 60601-1 (Ed.3), IEC 61558-2-16
VDE License Nr. 136743: Class F
System approvals: UL 1446
RXT-2 Class F
Other systems available upon request
RoHS Compliant

Insulation:

DuPont™ Tefzel® ETFE

Rating:

Temperature: 155°C
Voltage:
600 V

Tensile Strength: 6500 psi
Break down: Approx. 4500 V

Single Insulated Wires

PART NUMBER	AWG	CONDUCTOR		NOMINAL O.D.		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
S10A37TX-3	10(37/26)	0.1070	2.718	0.1130	2.870	29.64
S12A19TX-3	12(19/25)	0.0862	2.189	0.0922	2.342	19.42
S14A01TX-3	14	0.0641	1.628	0.0701	1.781	12.87
S14A19TX-3	14(19/27)	0.0679	1.725	0.0739	1.877	12.29
S16A01TX-3	16	0.0508	1.290	0.0568	1.443	8.18
S18A01TX-3	18	0.0403	1.024	0.0463	1.176	5.22
S20A01TX-3	20	0.0320	0.813	0.0380	0.965	3.33
S21A01TX-3	21	0.0285	0.724	0.0345	0.876	2.68
S22A01TX-3	22	0.0253	0.643	0.0313	0.795	2.14
S23A01TX-3	23	0.0226	0.574	0.0286	0.726	1.73
S24A01TX-3	24	0.0201	0.511	0.0261	0.663	1.38
S25A01TX-3	25	0.0179	0.455	0.0239	0.607	1.12
S26A01TX-3	26	0.0159	0.404	0.0219	0.556	0.90
S27A01TX-3	27	0.0142	0.361	0.0202	0.513	0.73
S28A01TX-3	28	0.0126	0.320	0.0186	0.472	0.59
S29A01TX-3	29	0.0113	0.287	0.0173	0.439	0.49
S30A01TX-3	30	0.0100	0.254	0.0160	0.406	0.39
S31A01TX-3	31	0.0089	0.226	0.0149	0.378	0.32

Single Insulated FEP .002"



Product Construction:

Size Range:

18 AWG - 40 AWG
Not all sizes listed in chart

Conductor:

Tin plated copper
Solid or stranded (ASTM B-33/ASTM B-286)
Bare copper and other conductors available

Insulation:

FEP

Rating:

Temperature: 155°C
Voltage: 600 V

Applications:

Telecom/Electronic
Basic isolation applications

Compliances:

UL OBJT2 File No. E206198
UL 60950-1 (Ed. 2), Annex U
System approvals: UL 1446
RXT-2 Class F
Other systems available upon request
RoHS Compliant

Tensile Strength: 3000 psi
Breakdown: Approx. 3000 V

PART NUMBER	AWG	CONDUCTOR		NOMINAL O.D.		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
S18A01FX-2	18	0.0403	1.024	0.0443	1.125	5.17
S18A19FX-2	18(19/30)	0.0476	1.209	0.0516	1.311	6.17
S20A01FX-2	20	0.0320	0.813	0.0360	0.914	3.29
S20A19FX-2	20(19/32)	0.0385	0.978	0.0425	1.080	3.99
S22A01FX-2	22	0.0253	0.643	0.0293	0.744	2.10
S22A19FX-2	22(19/32)	0.0295	0.749	0.0335	0.851	2.52
S24A01FX-2	24	0.0201	0.511	0.0241	0.612	1.35
S24A19FX-2	24(19/36)	0.0242	0.615	0.0282	0.716	1.63
S25A01FX-2	25	0.0179	0.455	0.0219	0.556	1.18
S26A01FX-2	26	0.0159	0.404	0.0199	0.505	0.89
S27A01FX-2	27	0.0142	0.361	0.0182	0.462	0.71
S28A01FX-2	28	0.0126	0.320	0.0166	0.422	0.57
S29A01FX-2	29	0.0113	0.287	0.0153	0.389	0.47
S30A01FX-2	30	0.0100	0.254	0.0140	0.356	0.38
S31A01FX-2	31	0.0089	0.226	0.0129	0.328	0.31
S32A01FX-2	32	0.0080	0.203	0.012	0.305	0.25
S33A01FX-2	33	0.0071	0.180	0.0111	0.282	0.21
S34A01FX-2	34	0.0063	0.160	0.0103	0.262	0.17
S35A01FX-2	35	0.0056	0.142	0.0096	0.244	0.14
S36A01FX-2	36	0.0050	0.127	0.0090	0.229	0.12
S37A01FX-2	37	0.0045	0.114	0.0085	0.216	0.10
S38A01FX-2	38	0.0040	0.102	0.0080	0.203	0.08
S39A01FX-2	39	0.0035	0.089	0.0075	0.191	0.07
S40A01FX-2	40	0.0031	0.079	0.0071	0.180	0.06

Single Insulated FEP .003"

Single Insulated Wires



Product Construction:

Size Range:

10 AWG - 40 AWG
Not all sizes listed in chart

Conductor:

Tin plated copper
Solid or stranded (ASTM B-33/ASTM B-286)
Bare copper and other conductors available

Insulation:

FEP

Rating:

Temperature: 155°C
Voltage: 600 V

Applications:

Telecom/Electronic
Basic isolation applications

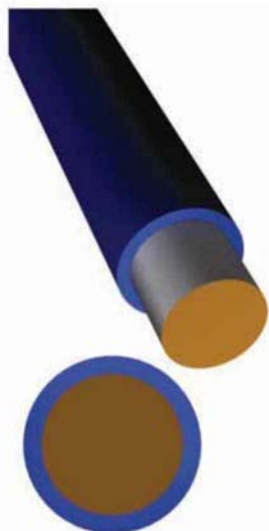
Compliances:

UL OBJT2 File No. E206198
UL 60950-1 (Ed. 2), Annex U
System approvals: UL 1446
RXT-2 Class F
Other systems available upon request
RoHS Compliant
Tensile Strength: 3000 psi
Breakdown: Approx. 4500 V

PART NUMBER	AWG	CONDUCTOR		NOMINAL O.D.		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
S16A01FX-3	16	0.0508	1.290	0.0568	1.443	8.29
S16A19FX-3	16(19/29)	0.0539	1.369	0.0599	1.521	8.00
S18A01FX-3	18	0.0403	1.024	0.0463	1.176	5.31
S18A19FX-3	18(19/30)	0.0476	1.209	0.0536	1.361	6.33
S20A01FX-3	20	0.0320	0.813	0.0380	0.965	3.41
S20A19FX-3	20(19/32)	0.0385	0.978	0.0445	1.130	4.12
S22A01FX-3	22	0.0253	0.643	0.0313	0.795	2.19
S22A19FX-3	22(19/32)	0.0295	0.749	0.0355	0.902	2.62
S24A01FX-3	24	0.0201	0.511	0.0261	0.663	1.43
S24A19FX-3	24(19/36)	0.0242	0.615	0.0302	0.767	1.71
S25A01FX-3	25	0.0179	0.455	0.0239	0.607	1.25
S26A01FX-3	26	0.0190	0.483	0.0250	0.635	0.96
S27A01FX-3	27	0.0142	0.361	0.0202	0.513	0.76
S28A01FX-3	28	0.0126	0.320	0.0186	0.472	0.62
S29A01FX-3	29	0.0113	0.287	0.0173	0.439	0.52
S30A01FX-3	30	0.0100	0.254	0.0160	0.406	0.42
S31A01FX-3	31	0.0089	0.226	0.0149	0.378	0.35
S32A01FX-3	32	0.0080	0.203	0.0140	0.356	0.29
S33A01FX-3	33	0.0071	0.180	0.0131	0.333	0.24
S34A01FX-3	34	0.0063	0.160	0.0123	0.312	0.20
S35A01FX-3	35	0.0056	0.142	0.0116	0.295	0.17
S36A01FX-3	36	0.0050	0.127	0.0110	0.279	0.15
S37A01FX-3	37	0.0045	0.114	0.0105	0.267	0.13
S38A01FX-3	38	0.0040	0.102	0.0100	0.254	0.11
S39A01FX-3	39	0.0035	0.089	0.0095	0.241	0.10
S40A01FX-3	40	0.0031	0.079	0.0091	0.231	0.08



Single Insulated PFA .0015"



Product Construction:

Size Range:

28 AWG - 40 AWG

Conductor:

Tin plated copper

Solid or stranded (ASTM B-33/ASTM B-286)

Bare copper and other conductors available

Insulation:

PFA

Rating:

Temperature: 180°C

Voltage:

600 V for electronic equipment

UL: 425 V for medical equipment

Applications:

Telecom/Electronic

Basic isolation applications

Medical/Dental equipment

High temperature resistance:

Lead free reflow

Compliances:

UL OBJT2 File No. E206198

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

UL 60601-1 (Ed. 3),

VDE License Nr. 6716: Class H

IEC 61558-2-16

RoHS Compliant

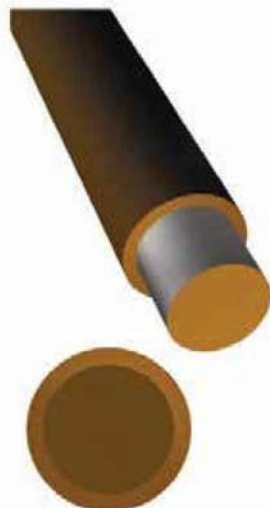
Tensile Strength: 3500 psi

Breakdown: Approx. 3000 V

Insulation Temperature Capacity: 260°C

PART NUMBER	AWG	CONDUCTOR		NOMINAL O.D.		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
S28A01PX-1.5	28	0.0126	0.320	0.0156	0.396	0.54
S29A01PX-1.5	29	0.0113	0.287	0.0143	0.363	0.44
S30A01PX-1.5	30	0.0100	0.254	0.0130	0.330	0.35
S31A01PX-1.5	31	0.0089	0.226	0.0119	0.302	0.29
S32A01PX-1.5	32	0.0080	0.203	0.0110	0.279	0.24
S33A01PX-1.5	33	0.0071	0.180	0.0101	0.257	0.19
S34A01PX-1.5	34	0.0063	0.160	0.0093	0.236	0.16
S35A01PX-1.5	35	0.0056	0.142	0.0086	0.218	0.13
S36A01PX-1.5	36	0.0050	0.127	0.0080	0.203	0.10
S37A01PX-1.5	37	0.0045	0.114	0.0075	0.191	0.09
S38A01PX-1.5	38	0.0040	0.102	0.0070	0.178	0.07
S39A01PX-1.5	39	0.0035	0.089	0.0065	0.165	0.06
S40A01PX-1.5	40	0.0031	0.079	0.0061	0.155	0.05

Single Insulated PFA .002"



Product Construction:

Size Range:

UL: 28 AWG - 40 AWG

Conductor:

Tin plated copper
Solid or stranded (ASTM B-33/ASTM B-286)

Bare copper and other conductors available

Insulation:

PFA

Rating:

Temperature: 180°C

Voltage:

600 V for electronic equipment
UL: 425 V for medical equipment

Applications:

Telecom/Electronic
Basic isolation applications
Medical/Dental equipment
High temperature resistance:
Lead free reflow

Compliances:

UL OBJT2 File No. E206198
UL/IEC 60950-1 (Ed. 2), Annex U.
UL 60601-1 (Ed. 3), IEC 61558-2-16
VDE License Nr. 6716: Class H

RoHS Compliant

Tensile Strength: 3500 psi

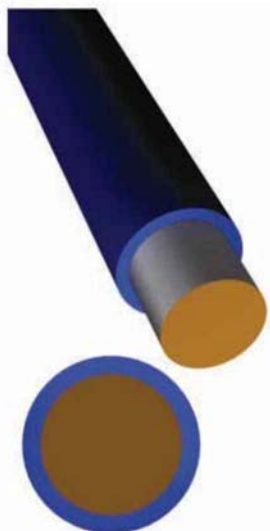
Breakdown: Approx. 4000 V

Insulation Temperature Capacity: 260°C

PART NUMBER	AWG	CONDUCTOR		NOMINAL O.D.		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
S28A01PX-2	28	0.0126	0.320	0.0166	0.422	0.57
S29A01PX-2	29	0.0113	0.287	0.0153	0.389	0.47
S30A01PX-2	30	0.0100	0.254	0.0140	0.356	0.38
S31A01PX-2	31	0.0089	0.226	0.0129	0.328	0.31
S32A01PX-2	32	0.0080	0.203	0.0120	0.305	0.25
S33A01PX-2	33	0.0071	0.180	0.0111	0.282	0.21
S34A01PX-2	34	0.0063	0.160	0.0103	0.262	0.17
S35A01PX-2	35	0.0056	0.142	0.0096	0.244	0.14
S36A01PX-2	36	0.0050	0.127	0.0090	0.229	0.12
S37A01PX-2	37	0.0045	0.114	0.0085	0.216	0.10
S38A01PX-2	38	0.0040	0.102	0.0080	0.203	0.08
S39A01PX-2	39	0.0035	0.089	0.0075	0.191	0.07
S40A01PX-2	40	0.0031	0.079	0.0071	0.180	0.06



Single Insulated PFA .003"



Product Construction:

Size Range:

UL: 28 AWG - 40 AWG

Conductor:

Tin plated copper

Solid or stranded (ASTM B-33/ASTM B-286)

Bare copper and other conductors available

Insulation:

PFA

Rating:

Temperature: 180°C

Voltage:

600 V for electronic equipment

UL: 425 V for medical equipment

Applications:

Telecom/Electronic

Basic isolation applications

Medical/Dental equipment

High temperature resistance:

Lead free reflow

Compliances:

UL OBJT2 File No. E206198

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

UL 60601-1 (Ed. 3), IEC 61558-2-16

VDE License Nr. 6716: Class H

RoHS Compliant

Tensile Strength: 3500 psi

Breakdown: Approx. 6000 V

Insulation Temperature Capacity: 260°C

PART NUMBER	AWG	CONDUCTOR		NOMINAL O.D.		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
S28A01PX-3	28	0.0126	0.320	0.0186	0.472	0.62
S29A01PX-3	29	0.0113	0.287	0.0173	0.439	0.52
S30A01PX-3	30	0.0100	0.254	0.0160	0.406	0.42
S31A01PX-3	31	0.0089	0.226	0.0149	0.378	0.35
S32A01PX-3	32	0.0080	0.203	0.0140	0.356	0.29
S33A01PX-3	33	0.0071	0.180	0.0131	0.333	0.24
S34A01PX-3	34	0.0063	0.160	0.0123	0.312	0.20
S35A01PX-3	35	0.0056	0.142	0.0116	0.295	0.17
S36A01PX-3	36	0.0050	0.127	0.0110	0.279	0.15
S37A01PX-3	37	0.0045	0.114	0.0105	0.267	0.13
S38A01PX-3	38	0.0040	0.102	0.0100	0.254	0.11
S39A01PX-3	39	0.0035	0.089	0.0095	0.241	0.10
S40A01PX-3	40	0.0031	0.079	0.0091	0.231	0.08