

# Single Insulated Wire

## 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.

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**Chemours Tefzel® ETFE:** Fluoropolymer compound with excellent electrical properties, heat resistance, chemical resistance, and abrasion resistance.

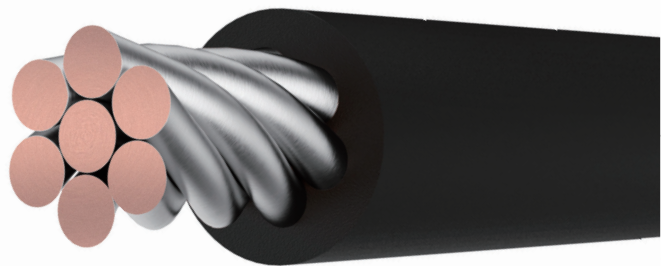
**TCA - MODIFIED ETFE:** Designed for more economical /efficient manufacturing. Comes standard in one color, most sizes readily available.

**CHEMOURS TEFLON® FEP:** Fluoropolymer compound with exceptional dielectric properties, heat resistance, chemical resistance, and flexibility.

**CHEMOURS TEFLON® PFA:** Fluoropolymer compound with superior heat resistance, exceptional dielectric properties, and chemical resistance.

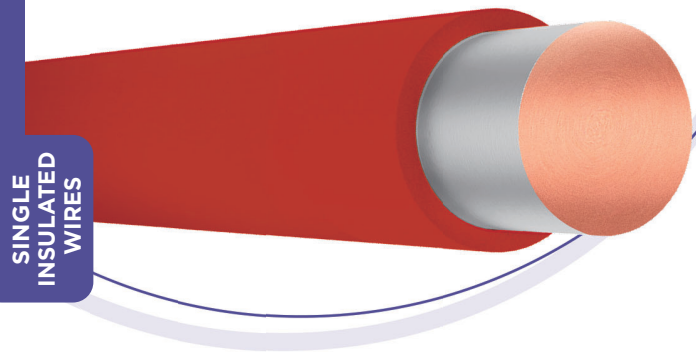
See the Technical Information section for additional information on insulation types and comparative properties.

## Single Insulated FEP .003"



# Single Insulated

Chemours  
**TEFZEL® ETFE .0015"**



## Product Construction:

**SIZE RANGE:** UL: 26 AWG - 40 AWG  
VDE: 26 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

**INSULATIONS:** Chemours Tefzel® ETFE

**RATING: TEMPERATURE:** 155°C | **VOLTAGE:** 600 Vpk

### 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

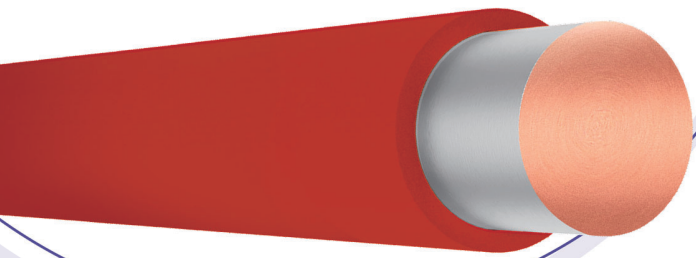
**TENSILE STRENGTH:** 6500 psi

**BREAKDOWN:** Approx. 2000 V

PART NUMBER	AWG	CONDUCTOR		NOMINAL O.D.		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
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

Chemours  
**TEFZEL® ETFE .002"**



## Product Construction:

**SIZE RANGE:** UL: 22 AWG - 40 AWG  
VDE: 22 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

**INSULATIONS:** Chemours Tefzel® ETFE

**RATING:** TEMPERATURE: 155°C | VOLTAGE: 600 Vpk

**APPLICATIONS:**  
Telecom/Electronic  
Basic isolation applications

**COMPLIANCES:**  
UL OBJT2 File No. E206198  
UL/IEC 60950-1 (Ed. 2)am;1, 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

SINGLE  
INSULATED  
WIRES

PART NUMBER	AWG	CONDUCTOR		NOMINAL O.D.		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
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

Chemours  
Tefzel® ETFE .003"

SINGLE  
INSULATED  
WIRES



## Product Construction:

**SIZE RANGE:** UL: 16 AWG - 40 AWG  
VDE: 16 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

**INSULATIONS:** Chemours Tefzel® ETFE

**RATING:** TEMPERATURE: 155°C | VOLTAGE: 600 Vpk

### APPLICATIONS:

Electronic  
Basic isolation applications

### 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
  - TCA Class F
  - Other systems available upon request
- RoHS Compliant

**TENSILE STRENGTH:** 6500 psi

**BREAKDOWN:** Approx. 4500 V

PART NUMBER	AWG	CONDUCTOR		NOMINAL O.D.		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
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

## TCA1



### Product Construction:

**SIZE RANGE:** UL: 26 AWG- 40 AWG  
VDE: 26 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

**INSULATIONS:** Modified ETFE

**RATING: TEMPERATURE:** 155°C | **VOLTAGE:** 600 Vpk

**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. 40000223: 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

TCA1 products come standard in Orange

PART NUMBER	AWG	CONDUCTOR		NOMINAL O.D.		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
TCA1 26 AWG	26	0.0159	0.404	0.0189	0.480	0.83
TCA1 27 AWG	27	0.0142	0.361	0.0172	0.437	0.66
TCA1 28 AWG	28	0.0126	0.320	0.0156	0.396	0.53
TCA1 29 AWG	29	0.0113	0.287	0.0143	0.363	0.43
TCA1 30 AWG	30	0.0100	0.254	0.0130	0.330	0.34
TCA1 31 AWG	31	0.0089	0.226	0.0119	0.302	0.28
TCA1 32 AWG	32	0.0080	0.203	0.0110	0.279	0.23
TCA1 33 AWG	33	0.0071	0.180	0.0101	0.257	0.18
TCA1 34 AWG	34	0.0063	0.160	0.0093	0.236	0.15
TCA1 35 AWG	35	0.0056	0.142	0.0086	0.218	0.12
TCA1 36 AWG	36	0.0050	0.127	0.0080	0.203	0.10
TCA1 37 AWG	37	0.0045	0.114	0.0075	0.191	0.08
TCA1 38 AWG	38	0.0040	0.102	0.0070	0.178	0.07
TCA1 39 AWG	39	0.0035	0.089	0.0065	0.165	0.05
TCA1 40 AWG	40	0.0031	0.079	0.0061	0.155	0.05

SINGLE INSULATED WIRES

# Single Insulated

**FEP .002"**

SINGLE INSULATED WIRES

## Product Construction:

**SIZE RANGE:** 22(19/32) 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

**INSULATIONS:** FEP

**RATING:** **TEMPERATURE:** 155°C | **VOLTAGE:** 600 Vpk

## APPLICATIONS:

Telecom/Electronic  
Basic isolation applications

## COMPLIANCES:

UL OBJT2 File No. E206198  
UL/IEC 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	
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"



## 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

**INSULATIONS:** FEP

**RATING:** TEMPERATURE: 155°C | VOLTAGE: 600 Vpk

## APPLICATIONS:

Telecom/Electronic  
Basic isolation applications

## COMPLIANCES:

UL OBJT2 File No. E206198  
UL/IEC 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

SINGLE  
INSULATED  
WIRES

PART NUMBER	AWG	CONDUCTOR		NOMINAL O.D.		WEIGHT LB/KFT
		INCHES	MM	INCHES	MM	
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"**

SINGLE INSULATED WIRES

## 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

**INSULATIONS:** PFA

**RATING: TEMPERATURE:** 180°C

**VOLTAGE:** 600 Vpk for electronic equipment

**UL:** 425 Vrms for medical equipment (28 - 40 AWG)

## 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. 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:** 26 AWG - 40 AWG

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

**INSULATIONS:** PFA

**RATING: TEMPERATURE:** 180°C

**VOLTAGE:** 600 Vpk for electronic equipment

**UL:** 425 Vrms for medical equipment (28 - 40 AWG)

## 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	
S26A01PX-2	26	0.0159	0.404	0.0199	0.505	0.89
S27A01PX-2	27	0.0142	0.361	0.0182	0.462	0.71
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 WIRES

# Single Insulated

**PFA .003"**

SINGLE INSULATED WIRES



## Product Construction:

**SIZE RANGE:** 22 AWG - 40 AWG

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

**INSULATIONS:** PFA

**RATING: TEMPERATURE:** 180°C

**VOLTAGE:** 600 Vpk for electronic equipment

**UL:** 425 Vrms for medical equipment (28 - 40 AWG)

## 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	
S22A01PX-3	22	0.0253	0.643	0.0313	0.795	2.19
S24A01PX-3	24	0.0201	0.511	0.0261	0.663	1.43
S25A01PX-3	25	0.0179	0.455	0.0239	0.607	1.25
S26A01PX-3	26	0.0159	0.404	0.0219	0.556	0.96
S27A01PX-3	27	0.0142	0.361	0.0202	0.513	0.76
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