



## REFERENCE CHARTS

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# CONTENTS

<b>Bare Overhead Aluminum Conductor</b>	
ACSR .....	1
Aluminum Tie Wire .....	1
AAAC 6201 .....	2
Reel Description .....	3
<b>Covered Overhead Aluminum Conductor - 600 Volt</b>	
Triplex .....	4-5
Quadruplex .....	6-7
Duplex .....	6
Weatherproof .....	8
Reel Description .....	9
<b>Covered Underground Aluminum Conductor - 600 Volt</b>	
Triplex .....	10
Quadruplex .....	11
Duplex .....	11
Reel Description .....	12
<b>Covered Underground Aluminum Conductor - 15kv</b>	
Non Jacket .....	13
Jacket .....	14-17
<b>Covered Underground Aluminum Conductor - 25kv</b>	
Jacket .....	18-19
Reel Description .....	20
<b>Voltage Drop Curves</b> .....	21
<b>Fuse Curves</b> .....	22
<b>Copper Conductor</b>	
Bare .....	23
Weatherproof .....	24
Copperweld .....	25
Transformer Riser Wire .....	25
<b>Guy Strand</b>	
Alumoweld .....	26
Steel .....	27-28
<b>Die Cross Reference</b> .....	29
<b>Inhibitor</b> .....	30
<b>Common Conversion Factors</b> .....	31
<b>Metric Conversions</b> .....	32
<b>Full Load Amps</b> .....	33-34
<b>Power Factor Correction</b> .....	35
<b>Minimum Clearance Live Parts</b> .....	35
<b>Insulator Cross Reference Guide</b> .....	36
<b>Lamp Comparison</b> .....	37
<b>Wood Pole (SYP) Specifications</b> .....	38
<b>Steel Pole Design Data</b> .....	39
<b>Single Phase Pad Mount Transformer Bayonet Fuse</b> .....	40-43
<b>Three Phase Pad Mount Transformer Bayonet Fuse</b> .....	44-47
<b>Maximum Number Conductors in Conduit - 600 volt</b> .....	48
<b>Physical Data AL Conductor Aerial Cable System</b> .....	49-50

## DISCLAIMER

*These reference charts are intended merely as a guide and reference. Brownstown Electric Supply Company, Inc., assumes no responsibility for error, omissions or revisions.*

# ACSR BASE ALUMINUM OVERHEAD CONDUCTOR

CODE WORD	Constants								Standard Packages							
	Size AWG	Str. Al Steel	Weight Per 1000' LB	Feet Per LB	Diam. Inches	Rated Strength LBS	Amps	O.D. Over Armor Rods	240 LB Coil Feet	600lb 30.22 Reel Feet	855lb 36.22 Reel Feet	1770lb 42.28 Reel Feet	2080lb 48.28 Reel Feet	3795lb 60.28 Reel Feet	4160lb 66.28 Reel Feet	7590lb 84.36 Reel Feet
Swanate	4	7/1	67.10	14.90	0.257	2,360	130	0.549	3,580	8,955						
Sparrow	2	6/1	91.30	10.95	0.316	2,850	175	0.588			9,695	19,390				
Sparate	2	7/1	106.70	9.37	0.325	3,540	175	0.597		5,625						
Raven	1/0	6/1	145.30	6.88	0.398	4,380	230	0.732			6,090	12,180				
Quail	2/0	6/1	183.20	5.46	0.447	5,310	265	0.781			4,830	9,660				
Pigeon	3/0	6/1	230.80	4.33	0.502	6,620	310	0.836			3,835	7,670				
Penguin	4/0	6/1	291.10	3.44	0.563	8,350	350	0.927			3,040	6,080				
Wax Wing	266.8	18/1	289.50	3.45	0.609	6,880	430	0.973					7,185			
Partridge	266.8	26/7	367.30	2.72	0.642	11,300	440	1.006						10,330		
Merlin	336.4	18/1	365.20	2.74	0.684	8,680	500	1.092					5,695		11,390	
Linnett	336.4	26/7	462.50	2.16	0.720	14,100	510	1.129						8,205		
Chickadee	397.5	18/1	431.00	2.32	0.743	9,940	576	1.151					4,815		9,630	
Ibis	397.5	26/7	546.00	1.83	0.783	16,300	587	1.283						6,935		13,870
Pelican	477	18/1	518.00	1.93	0.814	11,800	625	1.314					4,015		8,030	
Hawk	477	26/7	656.00	1.52	0.858	19,500	640	1.358						5,785		11,570
Osprey	556.5	18/1	604.10	1.66	0.879	13,700	690	1.379					3,445		6,890	
Dove	556.5	26/7	766.00	1.31	0.927	22,600	710	1.427						4,955		9,910
Drake	795.0	26/7	1094.00	0.91	1.108	31,500	890	1.728						3,470		6,940

Ampacity for Conductor Temperature Rise of 40 degrees C over 40 degrees C Ambient with a 2ft/S Crosswind and an Emissivity Factor of .05 without Sun.

SOLID BARE SOFT ALUMINUM TIE WIRE																
SIZE	Wgt per 100'	Feet Per LB	Feet Per 50lb Coil	Feet Per 25lb Spool												
6	24.2	41.23	2,066	1,033												
4	38.4	38.40	1,302	651												
2	61.1	16.36	818	409												

# AAAC - 6201

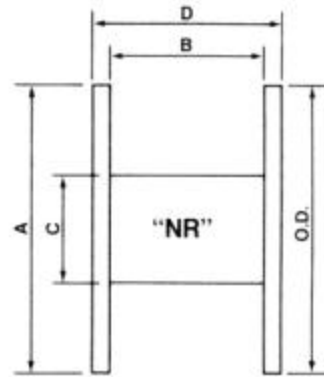
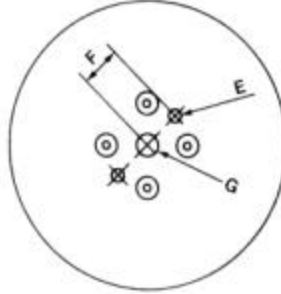
## BARE ALUMINUM OVERHEAD CONDUCTOR

CODE WORD	Constants									Standard Packages					
	Size AWG	Size C Mils	Amps	Strand	O.D.	Rated Strength LBS	Weight Per 1000' LB	Feet Per LB	O.D. Over Armor Rods	700lb 36.22 Reel Feet	1400lb 42.28 Reel Feet	1900lb 48.28 Reel Feet	3700lb 66.32 Reel Feet	3800lb 66.32 Reel Feet	7400lb 84.45 Reel Feet
Alton	4	48690	135	7	0.250	1,760	45.7	21.88	0.474	15,315	30,630				
Ames	2	77470	180	7	0.316	2,800	72.7	13.76	0.584	9,630	19,260				
Azuza	1/0	123300	240	7	0.398	4,460	115.7	8.64	0.660	6,050	12,100				
Anaheim	2/0	155400	280	7	0.447	5,390	145.9	6.89	0.706	4,800	9,600				
Amherst	3/0	195700	325	7	0.502	6,790	183.7	5.44	0.798	3,810	7,620				
Alliance	4/0	246900	380	7	0.563	8,560	231.8	4.31	0.856	3,020	6,040				
Butte	266.8	312800	445	19	0.642	11,000	293.6	3.41	0.950			6,470		12,940	
Canton	336.4	394500	515	19	0.721	13,300	370.3	2.70	1.030			5,130		10,260	
Cairo	397.5	465400	570	19	0.783	15,600	436.9	2.29	1.132			4,350		8,700	
Darien	477	559500	645	19	0.858	18,800	525.2	1.90	1.293			3,620		7,240	
Elgin	556.5	652400	710	19	0.927	21,900	612.4	1.63	1.356			3,105		6,210	
Flint	636	740800	775	37	0.991	24,400	695.4	1.44	1.418				5,320		10,640
Greeley	795	927200	890	37	1.108	30,500	870.4	1.15	1.646				4,250		8,500

Ampacity for Conductor Temperature Rise of 40 degrees C over 40 degrees C Ambient with a 2ft/S Crosswind and an Emissivity Factor of .05 without Sun.

# REELS FOR BARE ALUMINUM ELECTRICAL CONDUCTORS

## Nonreturnable Reels



## NR -- Nonreturnable Reel for Bare Conductor

Reel Designation	Nominal Dimensions, Inches								Approx Weight, LBS	
	Outside Diameter with Fibre Wrap O.D.	Flange Diameter A	Inside Traverse B	Drum Diameter C	Overall Width D	Drive Pin Hole Size E	Location Radius F	Arbor Hole Diameter G	Bare Reel	With Fibreboard Wrapping
NR 30.22	30	30	22	18	25 1/2	1 1/2	7	3	55	60
NR 36.22	36	36	22	18	25 1/2	1 1/2	7	3	75	80
NR 38.22	38	38	22	20	25 1/2	1 1/2	7	3	80	85
NR 42.28	42	42	28	21	31 1/2	1 1/2	7	3	100	105
NR 48.28	48	48	28	24	32 1/2	1 1/2	7	3	185	190
NR 60.28	60	60	28	28	32 1/2	1 1/2	10	3	275	285
NR 66.28	66	66	28	30	33	1 1/2	10	3	345	355

Reel weight can vary by as much as + or - 10% depending on construction material.

### NOTES:

- Prefix NR denotes NONRETURNABLE REEL FOR BARE CONDUCTOR.
- Bare conductor is shipped on non-returnable reels designed to the Aluminum Association standard. Reels are constructed to withstand the rigors of normal shipping, handling and stringing operations but are not designed to withstand the forces required for braking during tension stringing.
- Each non-returnable reel will be tagged with two shipping tags. One weather-protected tag is attached to the lagging; the second is fastened to the outside of reel flange. All essential information such as product identification, item description (conductor type & size), order number, length and gross, tare and weight, will appear legibly on the tags.
- Reels of 42 inches and 48 inches have steel bushed arbor holes unless reel material is southern yellow pine. For reels constructed of yellow pine, no bushings are required. Reels of 60 inches and larger will have steel arbor bushings.
- On standard nonreturnable reels, the conductor is protected by heavy fibreboard wrapping secured with steel banding.
- Wood lagging is nonstandard and is available on special request only. Lags add 3 inches to the outside diameter of reel.

# COVERED OVERHEAD TRIPLEX 600 VOLT POLY ALUMINUM

CODE WORD	Phase Conductor		Bare Neutral Messenger		AMP	Weight Per 1000'		Feet Per LB		Standard Packages		
	Size AWG	Insul Thick Mills	Size AWG	Rated Strength LBS		Poly		Poly		Coils FT	Reel FT	Reel Size
<b>ACSR FULL NEUTRAL MESSENGER</b>												
Voluta	6	45	6-6/1	1190	80	113.1		8.84		500	2,200	30.18
Periwinkle	4	45	4-6/1	1860	110	172.0		5.81		500	1,500	30.18
Conch	2	45	2-6/1	2850	150	261.0		3.83		500	1,800	36.24
Neritina	1/0	60	1/0-6/1	4380	200	419.0		2.39		500	1,200	36.24
Runcina	2/0	60	2/0-6/1	5310	225	519.0		1.93			1,500	42.26
Mursia	3/0	60	3/0-6/1	6620	260	638.0		1.57			1,300	42.26
Zuzara	4/0	60	4/0-6/1	8350	305	792.0		1.26			1,000	42.26
<b>ACSR REDUCED NEUTRAL MESSENGER</b>												
Cockle	2	45	4-6/1	1860	150	227		4.41		500	1,800	36.24
Janthina	1/0	45	2-6/1	2850	200	365		2.74		500	1,200	36.24
Cavolina	2/0	60	1-6/1	3550	225	451		2.22			1,500	42.26
Aega	3/0	60	1/0-6/1	4350	260	552		1.81			1,300	42.26
Cerapus	4/0	60	2/0-6/1	5310	300	684		1.46			1,000	42.26

Ampacity for Conductor Temperature Rise of 40 degrees C over 35 degrees C over 40 degrees Ambient.

# COVERED OVERHEAD TRIPLEX 600 VOLT XLP ALUMINUM

CODE WORD	Phase Conductor		Bare Neutral Messenger		AMP	Weight Per 1000'		Feet Per LB		Standard Packages		
	Size AWG	Insul Thick Mils	Size AWG	Rated Strength LBS			XLP		XLP	Coils FT	Reel FT	Reel Size
<b>ACSR FULL NEUTRAL MESSENGER</b>												
Voluta-XLP	6	45	6-6/1	1190	90		116.2		8.61	500	2,500	30.18
Periwinkle-XLP	4	45	4-6/1	1860	125		176.0		5.68	500	1,500	30.18
Conch-XLP	2	45	2-6/1	2850	145		267.0		3.75	500	1,800	36.24
Neritina-XLP	1/0	60	1/0-6/1	4380	190		430.0		2.33	500	1,200	36.24
Runcina-XLP	2/0	60	2/0-6/1	5310	220		530.0		1.89		1,500	42.26
Mursia-XLP	3/0	60	3/0-6/1	6620	260		650.0		1.54		1,300	42.26
Zuzara-XLP	4/0	60	4/0-6/1	8350	300		806.0		1.24		1,000	42.26
<b>ACSR REDUCED NEUTRAL MESSENGER</b>												
Cockle-XLP	2	45	4-6/1	1860	170		233		4.29	500	1,800	36.24
Janthina-XLP	1/0	45	2-6/1	2850	225		376		2.66	500	1,800	36.24
Cavolina-XLP	2/0	45	1-6/1	3550	265		462		2.16		1,500	42.26
Aega-XLP	3/0	60	1/0-6/1	4350	305		565		1.77		1,300	42.26
Cerapus-XLP	4/0	60	2/0-6/1	5310	355		699		1.43		1,000	42.26

Ampacity for Conductor Temperature Rise of 40 degrees C over 35 degrees C over 40 degrees Ambient.

# COVERED OVERHEAD QUADRUPLIX 600 VOLT POLY ALUMINUM

CODE WORD	Phase Conductor		Bare Neutral Messenger		AMP	Weight Per 1000'		Feet Per LB		Standard Packages		
	Size AWG	Insul Thick Mils	Size AWG	Rated Strength LBS		Poly		Poly		Coils FT	Reel FT	Reel Size
<b>ACSR FULL NEUTRAL MESSENGER</b>												
Hackney	4-7	45	4-6/1	1860	100	229		4.37		500	1,700	36.24
Palomino	2-7	45	2-6/1	2850	130	346		2.89		500	1,800	42.26
Costena	1/0-19	60	1/0-6/1	4380	180	551		1.81			1,200	42.26
Grullo	2/0-19	60	2/0-6/1	5310	200	680		1.47			1,500	50.32
Suffolk	3/0-19	60	3/0-6/1	6620	235	841		1.19			1,300	50.32
Appaloosa	4/0-19	60	4/0-6/1	8350	275	1042		0.96			1,100	50.32
<b>COVERED OVERHEAD DUPLEX 600 VOLT POLY ALUMINUM</b>												
Shepherd	6-7	45	6-6/1	1190	80	75		15.38		500	3,300	30.18

Ampacity for Conductor Temperature Rise of 40 degrees C over 35 degrees C over 40 degrees Ambient.



# COVERED OVERHEAD QUADRUPLIX 600 VOLT XLP ALUMINUM

CODE WORD	Phase Conductor		Bare Neutral Messenger		AMP	Weight Per 1000'		Feet Per LB		Standard Packages		
	Size AWG	Insul Thick Mils	Size AWG	Rated Strength LBS			XLP		XLP	Coils FT	Reel FT	Reel Size
<b>ACSR FULL NEUTRAL MESSENGER</b>												
Hackney-XLP	4-7	45	4-6/1	1860	100		115		4.24	500	1,700	36.24
Palomino-XLP	2-7	45	2-6/1	2850	135		155		2.82	500	1,800	42.26
Costena-XLP	1/0-19	60	1/0-6/1	4380	180		210		1.77		1,200	42.26
Grunlo-XLP	2/0-19	60	2/0-6/1	5310	205		245		1.43		1,500	50.32
Suffolk-XLP	3/0-19	60	3/0-6/1	6620	235		280		1.16		1,300	50.32
Appaloosa-XLP	4/0-19	60	4/0-6/1	8350	275		325		0.94		1,100	50.32

Ampacity for Conductor Temperature Rise of 40 degrees C over 35 degrees C over 40 degrees Ambient.

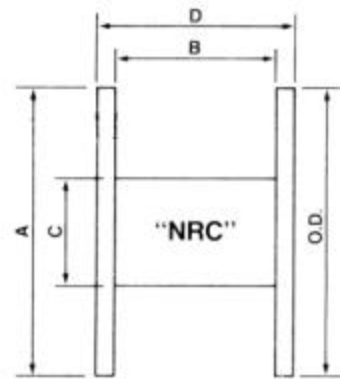
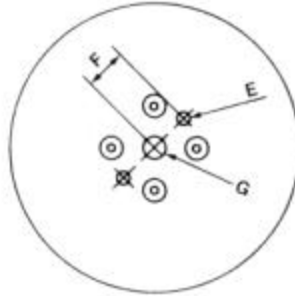
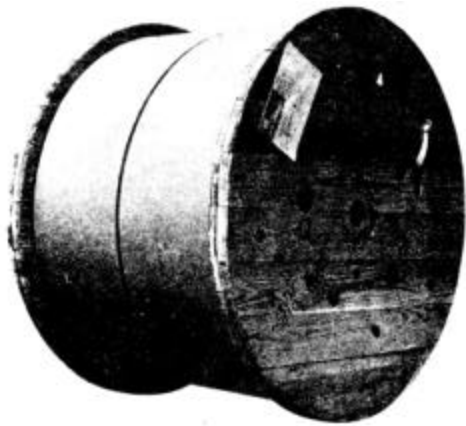
# Polyethylene Weatherproof Line Conductor Aluminum

CODE WORD	Size AWG or MCM	Stranding	Covering Thick. (MILS)	DIAMETERS		Rated Strength LBS	Amps	Normal Wgt Per 1000 FT		STANDARD PACKAGE		
				BARE (MILS)	COVERED (MILS)			HD POLY	CONV POLY	COIL FEET	Reels	
											FEET	SIZE
<b>SOLID ALUMINUM CONDUCTORS</b>												
Apple	6	Solid	31	162.0	224	445	100	33.2	31.8	4,000		
Pear	4	Solid	31	204.3	266	708	135	49.7	47.6	2,400		
Cherry	2	Solid	47	257.6	352	1102	180	82.8	79.3	2,000		
<b>STRANDED ALUMINUM CONDUCTORS</b>												
Plum	6	7	31	180	242	506	105	33.2	32.9	4,000		
Apricot	4	7	31	228	290	793	140	49.7	49.4	2,500		
Peach	2	7	47	287	381	1215	185	82.8	82.2	1,500		
Quince	1/0	7	62	362	486	1791	240	133.5	132.4	1,000	4,700	36.24
Orange	2/0	7	62	406	530	2259	280	162.9	161.7		3,750	36.24
Fig	3/0	7	62	456	580	2736	320	199.5	198.2		4,400	40.24
Olive	4/0	7	62	512	636	3447	370	245.2	243.7		3,500	40.24
Pomegranate	4/0	19	62	512	636	3618	370	245.2	243.7		3,800	40.24
Mulberry	266.8	19	62	575	699	4473	430	302.2	300.5		3,000	40.24
Anona	336.4	19	62	645	769	5535	495	373.2	371.4		2,400	40.24
Molles	397.5	19	78	702	858	6399	550	452.8	450.4		2,000	40.24
Huckleberry	477.0	37	78	771	927	7821	610	534.5	531.8		3,300	50.42
Paw Paw	556.5	37	78	833	989	8946	670	615.4	612.5		2,800	50.42
Persimmon	795.0	61	94	997	1185	11790	810	880.5	876.4		2,200	50.42
<b>ACSR CONDUCTORS</b>												
Walnut	6	6/1	31	198	260	1130	105	47.8	47.6	2,700		
Butternut	4	6/1	31	250	312	1767	140	72.6	72.2	2,200		
Hickory	4	7/1	31	257	319	2242	140	82.6	82.1	2,000		
Pignut	2	6/1	47	316	410	2707	180	119.9	119.0	1,200		
Beech	2	7/1	47	325	419	3458	180	135.9	135.0	1,200		
Almond	1/0	6/1	62	398	522	4161	225	192.3	190.8		4,000	36.24
Pecan	2/0	6/1	62	447	571	5044	260	236.8	235.2		3,200	36.24
Filbert	3/0	6/1	62	502	626	6289	295	292.3	290.3		3,800	40.24
Buckeye	4/0	6/1	62	563	687	7932	345	361.3	359.1		3,000	40.24
Mockernut	336.4	18/1	62	684	808	8246	492	444.3	441.9		2,000	40.24
<b>6201 ALLOY CONDUCTORS</b>												
Hornbeam	4	7	31	243	305	1584	140	56.8	56.5		5,100	30.22
Linden	2	7	47	306	400	2520	185	94.4	93.7		6,400	36.24
Oilnut	1/0	7	62	386	510	4014	250	152.1	150.9		4,000	36.24
Waterash	2/0	7	62	434	558	4851	290	186.2	184.9		3,200	36.24
Shellbark	3/0	7	62	487	611	6111	330	228.3	226.9		3,800	40.24
Planetree	4/0	7	62	546	670	7704	385	281.1	279.6		3,000	40.24

Ampacity: Based on 25 degrees C ambient temp.; 75 degrees C conductor temp.; conductivity, EC-61%, 5005-53.5%, 6201-52.5%, ACSR AI-61% & Steel 8%; 2 ft/sec wind, in sun.

# REELS FOR COVERED OVERHEAD ALUMINUM ELECTRICAL CONDUCTORS

## Nonreturnable Reels for Covered Line Wire and Multiplex Cables



### NRC -- Nonreturnable Reel for Covered Conductor

Reel Designation	Nominal Dimensions, Inches								Approx Weight, LBS	
	Outside Diameter with Fibre Wrap O.D.	Flange Diameter A	Inside Traverse B	Drum Diameter C	Overall Width D	Drive Pin Hole Size E	Location Radius F	Arbor Hole Diameter G	Bare Reel	With Fibreboard Wrapping
NRC 30.18	30	30	18	12	21	1 1/2	4 1/2	3	36	39
NRC 32.24	32	32	24	14	27	1 1/2	4 1/2	3	55	55
NRC 36.24	36	36	24	17	27	1 1/2	6	3	79	83
NRC 40.24	40	40	24	17	27	1 1/2	6	3	93	97
NRC 42.26	42	42	26	18	30	1 1/2	6	3	99	104
NRC 45.28	45	45	28	21	32 1/2	1 1/2	8 1/2	3	128	134
NRC 50.32	50	50	32	24	37	1 1/2	10	3	214	226
NRC 58.32	58	58	32	28	37	1 1/2	10	3	270	282
NRC 66.36	66	66	36	36	41	1 1/2	10	3	420	432
NRC 30.15	30	30	15	12	18	1 1/2	4 1/2	3	38	40
NRC 66.36	66	66	36	28	41	1 1/2	10	3	391	403

Reel weight can vary by as much as + or - 10% depending on construction material.

#### NOTES:

- Prefix NRC denotes NONRETURNABLE REEL FOR COVERED CONDUCTOR.
- Covered or multiplex conductor is shipped on non-returnable reels designed to the Aluminum Association standard and National Electric Manufacturers Assoc. Reels are constructed to withstand the rigors of normal shipping, handling and stringing operations but are not designed to withstand the forces required for braking during tension.
- Each non-returnable reel will be tagged with two shipping tags. One weather-protected tag is attached to the lagging; the second is fastened to the outside of reel flange. All essential information such as product identification, item description (conductor type & size), order number, length and gross, tare and weight, will appear legibly on the tags.
- Reels of 42 inches and 48 inches have steel bushed arbor holes unless reel material is southern yellow pine. For reels constructed of yellow pine, no bushings are required. Reels of 60 inches and larger will have steel arbor bushings.
- On standard nonreturnable reels, the conductor is protected by heavy fibreboard wrapping secured with steel banding.
- Wood lagging is nonstandard and is available on special request only. Lags add 3 inches to the outside diameter of reel.

# URD 600 Volt Triplex XLP Aluminum

CODE WORD	Conductors				Insulation Thickness Inches		Weight PER 1000 Feet	Feet Per LB	Ampacity		STANDARD PACKAGE		
	PHASE		NEUTRAL		Phase	Neutral			Direct Burial	IN Conduit	Feet	Reel Size	O.D. Inches
	Size AWG	Strand	Size AWG	Strand									
<b>REDUCED NEUTRAL</b>													
Stephens	2	7	4	7	0.060	0.060	275	3.64	168	122	1,000	32.24	0.88
Brenau	1/0	19	2	7	0.080	0.060	420	2.38	220	164	1,000	36.24	1.13
Converse	2/0	19	1	19	0.080	0.080	520	1.92	250	184	1,000	40.24	1.22
Hollins	3/0	19	1/0	19	0.080	0.080	642	1.56	284	208	1,000	42.26	1.29
Sweetbriar	4/0	19	2/0	19	0.080	0.080	760	1.32	324	247	1,000	42.26	1.47
Pratt	250	37	3/0	19	0.095	0.080	938	1.07	345	265	1,000	50.32	1.57
Wesleyan	350	37	4/0	19	0.095	0.080	1195	0.84	420	324	1,000	50.32	1.85
Rider	500	37	350	37	0.095	0.095	1723	0.58	510	407	1,000	58.32	2.12
<b>FULL NEUTRAL</b>													
Ramapo	2	7	2	7	0.060	0.060	305	3.28	168	122	1,000	32.24	0.90
Bergen	1/0	19	1/0	19	0.080	0.080	480	2.08	220	164	1,000	40.24	1.16
Hunter	2/0	19	2/0	19	0.080	0.080	580	1.72	250	184	1,000	40.24	1.27
Rockland	3/0	19	3/0	19	0.080	0.080	715	1.40	284	208	1,000	42.26	1.34
Monmouth	4/0	19	4/0	19	0.080	0.080	850	1.18	324	247	1,000	45.28	1.49

Ampacity: Based on 25 degrees C ambient temp.; 75 degrees C conductor temp.;  
conductivity, EC-61%, 5005-53.5%, 6201-52.5%, ACSR AI-61% & Steel 8%; 2 ft/sec wind, in sun.

## URD 600 Volt Quadruplex XLP Aluminum

CODE WORD	Conductors				Insulation Thickness Inches		Weight PER 1000 Feet	Feet Per LB	Ampacity		STANDARD PACKAGE		
	PHASE		NEUTRAL		Phase	Neutral			Direct Burial	IN Conduit	Feet	Reel Size	O.D. Inches
	Size AWG	Strand	Size AWG	Strand									
<b>REDUCED NEUTRAL</b>													
Dyke	2	7	4	7	0.060	0.060	382	2.62	155	115	1,000	40.24	1.11
Notre Dame	1/0	19	2	7	0.080	0.060	590	1.69	200	150	1,000	40.24	1.42
Syracuse	2/0	19	1	19	0.080	0.080	721	1.39	225	170	1,000	42.26	1.54
Swarthmore	3/0	19	1/0	19	0.080	0.080	869	1.15	250	195	1,000	42.26	1.67
Wake Forest	4/0	19	2/0	19	0.080	0.080	1052	0.95	290	225	1,000	50.32	1.82
Rust	250	27	3/0	19	0.095	0.080	1297	0.77	319	255	1,000	50.32	2.04
Slippery Rock	350	37	4/0	19	0.095	0.080	1658	0.60	385	308	1,000	58.32	2.31
More House	500	37	300	37	0.095	0.095	2313	0.43	467	373	1,000	58.32	2.61
<b>FULL NEUTRAL</b>													
Wittenburg	2	7	2	7	0.060	0.060	413	2.42	155	115	1,000	40.24	1.19
Purdue	1/0	19	1/0	19	0.080	0.080	649	1.54	200	150	1,000	40.24	1.53
Lafayette	2/0	19	2/0	19	0.080	0.080	780	1.28	225	170	1,000	42.26	1.66
Davidson	3/0	19	3/0	19	0.080	0.080	963	1.04	250	195	1,000	42.26	1.79
Earlham	4/0	19	4/0	19	0.080	0.080	1142	0.88	291	225	1,000	50.32	1.95

## Duplex 600 Volt Secondary UD

CODE WORD	Phase Conductors			Neutral			Dimensions		Weight Per 1000 Feet (lbs)	Ampacity	
	Size AWG or KCM	Strand	Insul Thick	Size AWG or KCM	Strand	Insul Thick	Single Phs Cond	Complete Cable		Direct Burial	In Ducts
<b>DUPLEX WITH YELLOW EXTRUDED STRIPE NEUTRAL</b>											
Bard	8	7	60	8	7	60	262	524	76	70	55
Clafflin	6	7	60	6	7	60	299	598	104	95	70
Delgado	4	7	60	4	7	60	345	690	138	125	90

# Reels for Underground Aluminum Conductors

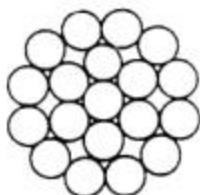
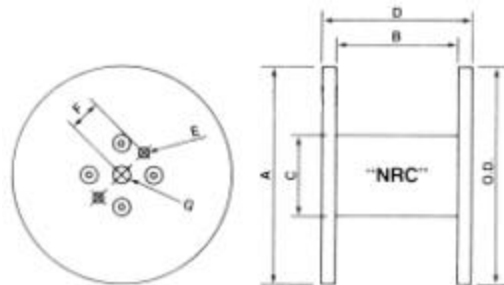
## Secondary Distribution Cable

Reel Designation	NEMA Code NO	Nominal Dimensions, Inches								Approximate Tare Pounds	
		Outside Diameter with Fibrewrap O.D.	Flange Diameter A	Inside Traverse B	Drum Diameter C	Overall Width D	Pin Hole Size E	Location Radius F	Arbor Hole Diam G	Bare Reel	With Fibre Wrapping
		NRC 24.12	2412	24	24	12	10	14	1.5		
NRC 24.18	2418	24	24	18	10	20	1.5	3.5	3	23	26
NRC 27.18	2718	27	27	18	12	20.5	1.5	4.5	3	25	27
NRC 30.18	3018	30	30	18	12	21	1.5	4.5	3	36	39
NRC 32.24	3224	32	32	24	14	27	1.5	4.5	3	51	55
NRC 36.24	3624	36	36	24	17	27	1.5	6	3	79	83
NRC 40.24	4024	40	40	24	17	27	1.5	6	3	93	97
NRC 42.26	4226	42	42	26	18	30	1.5	6	3	99	104
NRC 45.28	4528	45	45	28	21	32.5	1.5	8.5	3	128	134
NRC 50.32	5032	50	50	32	24	37	1.5	10	3	214	226
NRC 58.32	5832	58	58	32	28	37	1.5	10	3	270	282
NRC 66.36	6636	66	66	36	36	41	1.5	10	3	420	432
NRC 72.36	7236	72	72	36	36	41	1.5	10	3	537	549

Reel weight can vary by as much as + or - 10% depending on construction material.

### NOTES:

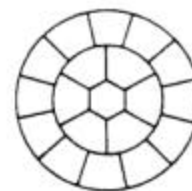
1. Prefix NRC denotes NONRETURNABLE REEL FOR COVERED CONDUCTOR.
2. Covered conductor is shipped on non-returnable reels designed to the Aluminum Association standards. Reels are constructed to withstand the rigors of normal shipping, handling, and payoff operations.
3. Each non-returnable reel will be tagged with two shipping tags. One is weather-protected tag and securely attached to the outside of reel flange; the second is stapled on the inside of flange. All essential information such as product identification, item item description (conductor type & size), order number, length and gross, tare and net weight will appear legibly on tags.
4. Reels of 50 inches will have steel bushing unless reel material is yellow pine. For reels constructed of yellow pine, no bushings are required.
5. Reels 58 inches and larger will have arbor support plates.
6. On standard nonreturnable reels, the conductor is protected by heavy fibreboard wrapping secured with steel banding.
7. Wood lagging is nonstandard and is available on special request only. Lags add 3 inches to the outside diameter of reel.



Regular Stranded



Compressed Stranded



Compact

# 175 XLP TR 15kv URD (Without Jacket)

## Aluminum

FULL CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
2	Solid	14	10	0.878	0.670	356	2.81	170	115	2,500	45.28
2	7	14	10	0.903	0.695	370	2.70	170	115	2,500	45.28
1/0	Solid	14	16	0.943	0.735	494	2.02	230	155	2,500	45.28
1/0	19	14	16	0.978	0.770	510	1.96	230	155	2,500	45.28
2/0	19	12	13	1.057	0.815	616	1.62	270	185	2,500	50.32
3/0	19	12	16	1.107	0.865	730	1.37	295	210	2,500	50.32
4/0	19	12	20	1.162	0.920	875	1.14	335	240	2,500	50.32

ONE THIRD CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
1/0	Solid	14	6	0.943	0.735	356	2.81	230	165	2,500	45.28
1/0	19	14	6	0.978	0.770	373	2.68	230	165	2,500	45.28
2/0	19	14	7	1.023	0.815	434	2.30	250	190	2,500	50.32
3/0	19	14	9	1.073	0.865	510	1.96	280	215	2,500	50.32
4/0	19	14	11	1.128	0.920	598	1.67	320	245	2,500	50.32
250	37	14	13	1.188	0.980	684	1.46	345	270	2,500	50.32
350	37	12	11	1.362	1.080	913	1.10	405	325	2,500	58.32
500	37	12	16	1.492	1.210	1207	0.83	460	385	1,500	58.32
750	61	10	15	1.724	1.400	1685	0.59	515	475	1,500	66.36
1000	61	10	20	1.909	1.545	2210	0.45	565	540	1,000	66.36

# 175 XLP TR 15kv URD (With Jacket)

## Aluminum

FULL CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
2	Solid	14	10	0.978	0.670	477	2.10	170	115	2,500	45.28
2	7	14	10	1.003	0.695	487	2.05	170	115	2,500	45.28
1/0	Solid	14	16	1.043	0.735	615	1.63	230	155	2,500	45.28
1/0	19	14	16	1.078	0.770	632	1.58	230	155	2,500	45.28
2/0	19	12	13	1.157	0.815	760	1.32	270	185	2,500	50.32
3/0	19	12	16	1.207	0.865	874	1.14	295	210	2,500	50.32
4/0	19	12	20	1.262	0.920	1032	0.97	335	240	2,500	50.32

ONE THIRD CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
1/0	Solid	14	6	1.043	0.735	460	2.17	230	165	2,500	45.28
2/0	19	14	7	1.123	0.815	575	1.74	250	109	2,500	50.32
3/0	19	14	9	1.173	0.865	655	1.53	280	215	2,500	50.32
4/0	19	14	11	1.228	0.920	759	1.32	320	245	2,500	50.32
250	37	14	13	1.228	0.980	889	1.12	345	270	2,500	50.32
350	37	12	11	1.462	1.080	1175	0.95	405	325	2,500	58.32
500	37	12	16	1.562	1.210	1498	0.67	460	385	1,500	58.32
750	61	10	15	1.884	1.400	2067	0.49	515	475	1,500	66.36
1000	61	10	20	2.069	1.545	2516	0.40	565	540	1,000	66.36



## 220 XLP TR 15kv URD (With Jacket) Aluminum

FULL CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
2	Solid	14	10	1.068	0.760	537	1.87	170	115	2,500	45.28
2	7	14	10	1.093	0.785	549	1.82	170	115	2,500	45.28
1/0	Solid	14	16	1.133	0.825	680	1.47	230	155	2,500	45.28
1/0	19	14	16	1.168	0.860	697	1.43	230	155	2,500	45.28
2/0	19	12	13	1.247	0.905	830	1.21	270	185	2,500	50.32
3/0	19	12	16	1.297	0.955	946	1.06	295	210	2,500	50.32
4/0	19	12	20	1.352	1.010	1148	0.87	335	240	2,500	50.32

ONE THIRD CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
1/0	Solid	14	6	1.033	0.825	562	1.78	230	165	2,500	45.28
2/0	19	14	7	1.113	0.905	643	1.56	250	109	2,500	50.32
3/0	19	14	9	1.163	0.955	725	1.38	280	215	2,500	50.32
4/0	19	14	11	1.218	1.010	842	1.19	320	245	2,500	50.32
250	37	14	13	1.318	1.070	1013	0.99	345	270	2,500	50.32
350	37	12	11	1.452	1.170	1266	0.79	405	325	2,500	58.32
500	37	12	16	1.582	1.300	1597	0.63	460	385	1,500	58.32
750	61	10	15	1.814	1.490	2230	0.45	515	475	1,500	66.36
1000	61	10	20	1.999	1.635	2718	0.37	565	540	1,000	66.36

# 175 EPR 15kv URD (With Jacket) Aluminum

FULL CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
2	Solid	14	10	0.970	0.670	513	1.94	165	120	2,500	45.28
2	7	14	10	1.000	0.695	536	1.86	165	120	2,500	45.28
1/0	Solid	14	16	1.040	0.735	657	1.52	215	160	2,500	45.28
1/0	19	14	16	1.070	0.770	688	1.45	215	160	2,500	45.28
2/0	19	12	13	1.150	0.815	820	1.21	250	185	2,500	50.32
3/0	19	12	16	1.200	0.865	939	1.06	280	210	2,500	50.32
4/0	19	12	20	1.300	0.920	1138	0.87	320	235	2,500	58.32

ONE THIRD CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
1/0	19	14	6	1.070	0.735	572	1.74	200	160	2,500	45.28
2/0	19	14	7	1.120	0.815	636	1.57	225	185	2,500	45.28
3/0	19	14	9	1.170	0.865	722	1.38	260	210	2,500	58.32
4/0	19	14	11	1.230	0.920	822	1.21	290	235	2,500	58.32
250	37	14	13	1.280	0.980	918	1.08	320	260	2,500	58.32
350	37	14	18	1.410	1.080	1166	0.85	385	310	2,500	58.32
500	37	12	16	1.570	1.210	1513	0.66	460	375	1,500	58.32
750	61	10	15	1.870	1.400	2152	0.46	555	465	1,500	58.32
1000	61	10	20	2.060	1.545	2711	0.36	670	520	1,000	58.32

## 220 EPR 15kv URD (With Jacket) Aluminum

FULL CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
2	Solid	14	10	1.060	0.760	591	1.69	165	120	2,500	45.28
2	7	14	10	1.090	0.785	615	1.62	165	120	2,500	45.28
1/0	Solid	14	16	1.130	0.825	740	1.35	185	160	2,500	45.28
1/0	19	14	16	1.170	0.860	774	1.29	185	160	2,500	45.28
2/0	19	12	13	1.240	0.905	912	1.09	240	185	2,500	50.32
3/0	19	12	16	1.290	0.955	1036	0.96	270	210	2,500	50.32
4/0	19	12	20	1.390	1.010	1241	0.80	310	235	2,500	58.32

ONE THIRD CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
1/0	19	14	6	1.170	0.825	658	1.51	200	160	2,500	45.28
2/0	19	14	7	1.210	0.905	726	1.37	230	185	2,500	45.28
3/0	19	14	9	1.260	0.955	816	1.22	260	210	2,500	45.28
4/0	19	14	11	1.320	1.010	921	1.08	290	235	2,500	58.32
250	37	14	13	1.400	1.070	1052	0.95	320	260	2,500	58.32
350	37	14	18	1.500	1.170	1280	0.78	380	310	2,500	58.32
500	37	12	16	1.730	1.300	1709	0.58	455	375	1,500	58.32
750	61	10	15	1.960	1.490	2301	0.43	555	465	1,500	58.32
1000	61	10	20	2.150	1.635	2875	0.34	645	520	1,500	58.32

## 260 25kv XLP TR URD (With Jacket) Aluminum

FULL CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
1	Solid	14	13	1.178	0.870	671	1.49	195	145	2,500	45.28
1	19	14	13	1.208	0.900	687	1.45	195	145	2,500	45.28
1/0	Solid	14	16	1.217	0.905	748	1.33	220	165	2,500	45.28
1/0	19	14	16	1.250	0.940	767	1.30	220	165	2,500	45.28
2/0	19	12	13	1.327	0.989	905	1.10	240	180	2,500	50.38
3/0	19	12	16	1.417	1.035	1065	0.93	275	205	2,500	58.32
4/0	19	12	20	1.472	1.090	1241	0.80	310	235	2,500	58.32

ONE THIRD CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
1/0	Solid	14	6	1.217	0.905	631	1.58	220	165	2,500	45.28
1/0	19	14	6	1.250	0.940	650	1.53	220	165	2,500	45.28
2/0	19	14	7	1.293	0.985	715	1.39	250	180	2,500	50.38
3/0	19	14	9	1.383	1.035	842	1.18	275	205	2,500	58.32
4/0	19	14	11	1.438	1.090	966	1.03	310	240	2,500	58.32
250	37	14	13	1.508	1.160	1117	0.89	335	260	2,500	58.32
350	37	12	11	1.702	1.260	1380	0.72	395	325	2,500	58.32
500	37	12	16	1.832	1.390	1721	0.58	445	390	1,500	58.32
750	61	10	15	2.104	1.580	2373	0.42	515	475	1,500	58.32
1000	61	10	20	2.249	1.725	2870	0.34	560	525	1,500	58.32

## 260 EPR 25kv URD (With Jacket) Aluminum

FULL CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
1	19	14	13	1.210	0.870	772	1.29	195	145	2,500	45.28
1/0	19	14	16	1.250	0.905	857	1.16	220	165	2,500	45.28
2/0	19	12	13	1.330	0.989	1001	0.99	250	180	2,500	50.38
3/0	19	12	16	1.400	1.035	1157	0.86	275	205	2,500	50.38
4/0	19	10	13	1.500	1.090	1372	0.72	310	235	2,500	58.32
250	37	10	16	1.560	1.160	1546	0.64	335	260	2,500	58.32
350	37	10	20	1.730	1.260	1916	0.52	405	325	2,500	58.32

ONE THIRD CONCENTRIC NEUTRAL											
ALUMINUM CONDUCTOR		COPPER NEUTRAL		CONSTANTS				AMPACITY		STANDARD PACKAGE	
Size AWG	Strand	Size AWG	Number of Wires	Overall Diameter	Diameter Over Insulation	Weight Per 100 ft	Feet Per LB	Direct Burial	IN Conduit	Feet	Reel Size
1	19	14	6	1.210	0.870	691	1.44	195	145	2,500	45.28
1/0	19	14	6	1.250	0.905	741	1.34	200	165	2,500	45.28
2/0	19	14	7	1.290	0.989	812	1.23	230	180	2,500	50.38
3/0	19	14	9	1.370	1.035	935	1.06	260	205	2,500	58.32
4/0	19	14	11	1.430	1.090	1046	0.95	290	240	2,500	58.32
250	37	14	13	1.480	1.160	1152	0.86	315	260	2,500	58.32
350	37	14	18	1.590	1.260	1388	0.72	375	325	2,500	58.32
500	37	12	16	1.810	1.390	1832	0.54	450	390	1,500	58.32
750	61	10	15	2.080	1.580	2501	0.39	550	475	1,500	58.32
1000	61	10	20	2.230	1.725	3027	0.33	640	525	1,500	58.32

# Reels for Underground Aluminum Conductors

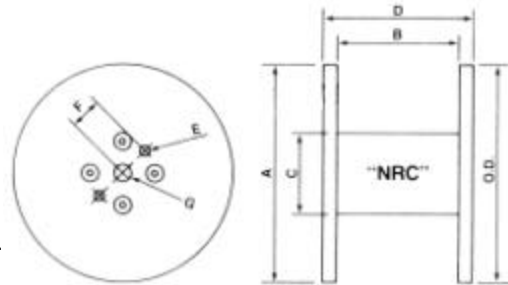
## Primary Distribution Cable

Reel Designation	NEMA Code NO	Nominal Dimensions, Inches								Approximate Tare Pounds	
		Outside Diameter with Fibrewrap O.D.	Flange Diameter A	Inside Traverse B	Drum Diameter C	Overall Width D	Pin Hole Size E	Location Radius F	Arbor Hole Diam G	Bare Reel	With Fibre Wrapping
		NRC 24.12	2412	24	24	12	10	14	1.5		
NRC 24.18	2418	24	24	18	10	20	1.5	3.5	3	23	26
NRC 27.18	2718	27	27	18	12	20.5	1.5	4.5	3	25	27
NRC 30.18	3018	30	30	18	12	21	1.5	4.5	3	36	39
NRC 32.24	3224	32	32	24	14	27	1.5	4.5	3	51	55
NRC 36.24	3624	36	36	24	17	27	1.5	6	3	79	83
NRC 40.24	4024	40	40	24	17	27	1.5	6	3	93	97
NRC 42.26	4226	42	42	26	18	30	1.5	6	3	99	104
NRC 45.28	4528	45	45	28	21	32.5	1.5	8.5	3	128	134
NRC 50.32	5032	50	50	32	24	37	1.5	10	3	214	226
NRC 58.32	5832	58	58	32	28	37	1.5	10	3	270	282
NRC 66.36	6636	66	66	36	36	41	1.5	10	3	420	432
NRC 72.36	7236	72	72	36	36	41	1.5	10	3	537	549

Reel weight can vary by as much as + or - 10% depending on construction material.

### NOTES:

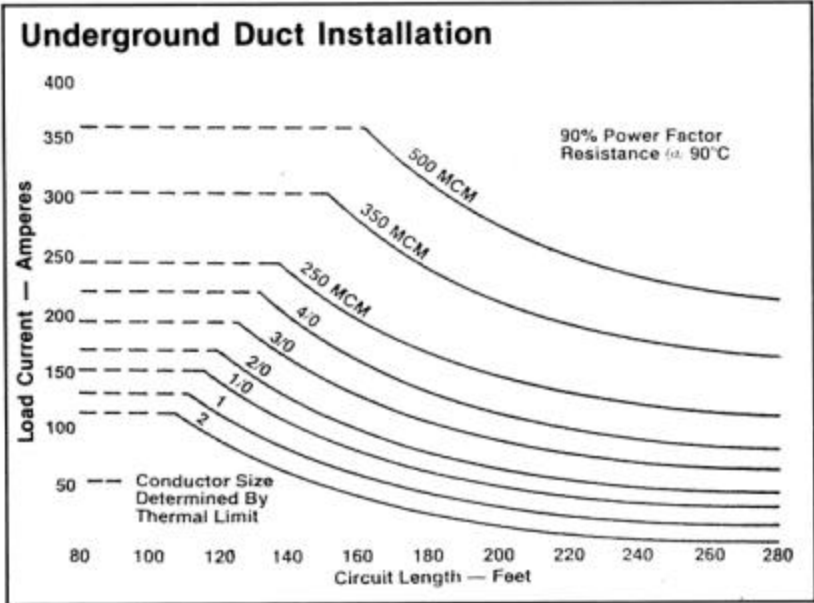
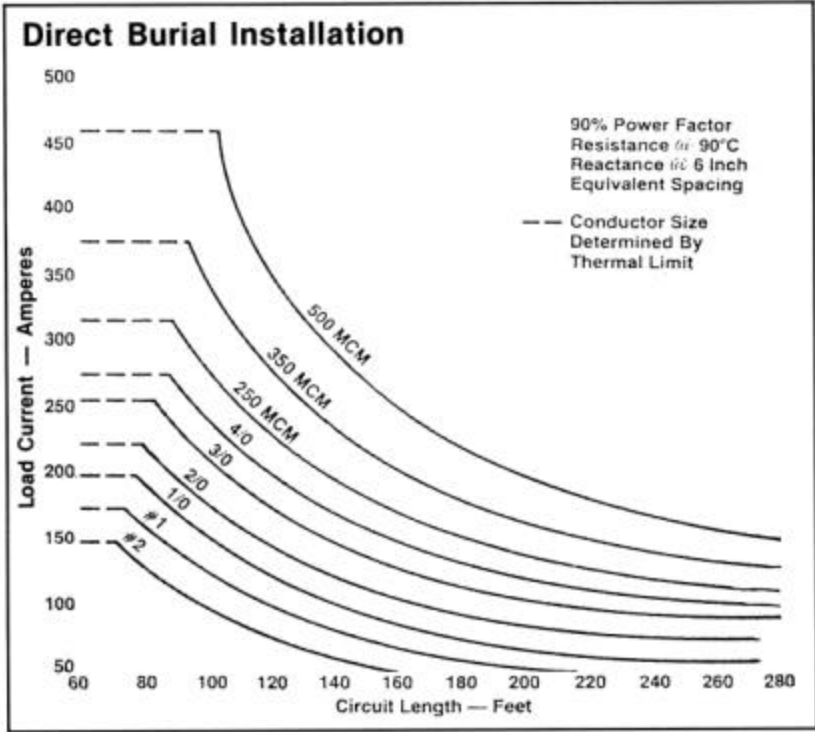
1. Prefix NRC denotes NONRETURNABLE REEL FOR COVERED AND INSULATED CONDUCTOR.
2. Covered conductor is shipped on non-returnable reels designed to the Aluminum Association standards. Reels are constructed to withstand the rigors of normal shipping, handling, and payoff operations.
3. Each non-returnable reel will be tagged with two shipping tags. One is weather-protected tag and securely attached to the outside of reel reel flange; the second is stapled on the inside of flange. All essential information such as product identification, item item description (conductor type & size), order number, length and gross, tare and net weight will appear legibly on tags.
4. Reels of 50 inches will have steel bushing unless reel material is yellow pine. For reels constructed of yellow pine, no bushings are required.
5. Reels 58 inches and larger will have arbor support plates.
6. On standard nonreturnable reels, the conductor is protected by heavy fibreboard wrapping secured with steel banding.
7. Wood lagging is nonstandard and is available on special request only. Lags add 3 inches to the outside diameter of reel.



**Secondary  
Distribution  
Cable**

# VOLTAGE DROP CURVES

Load current vs. circuit length, single phase 120/240 volt system, 3 percent voltage drop, secondary aluminum conductors, minimum sizes



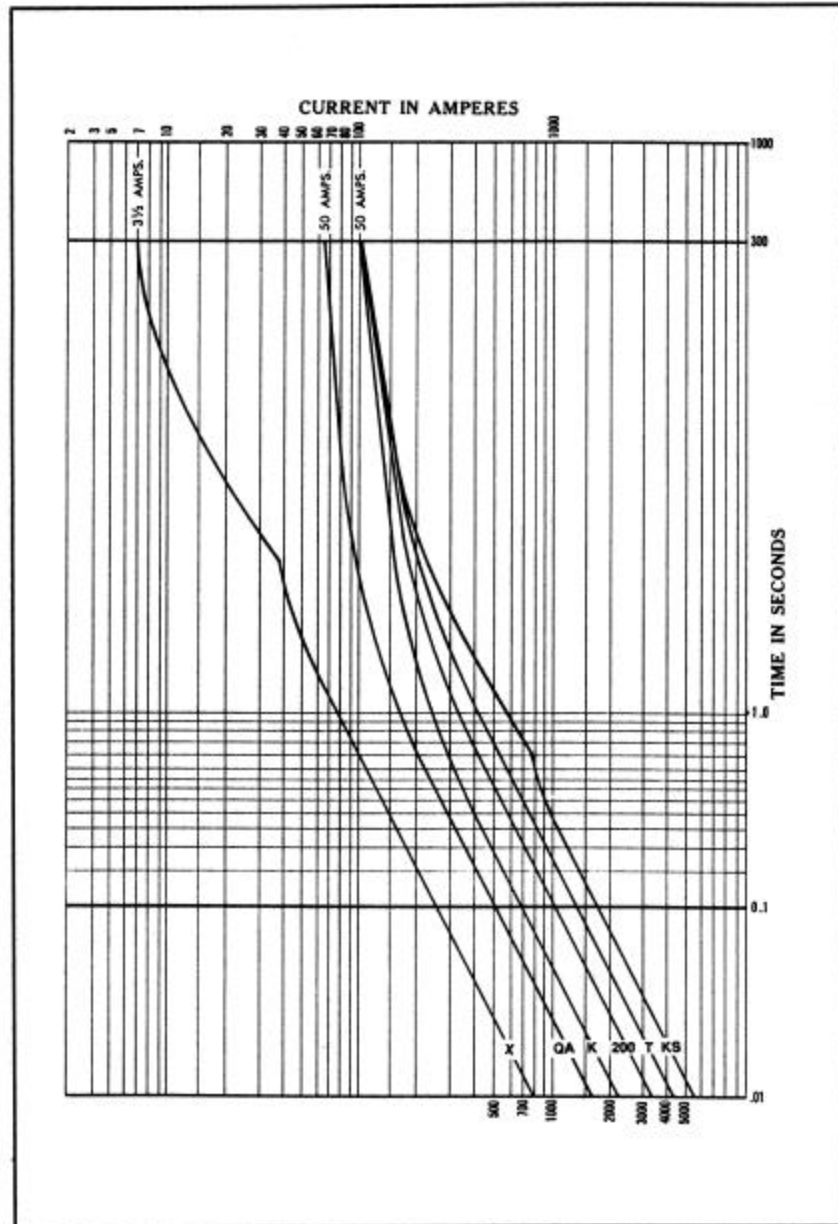
## For Kearney Protection Products

Electrical Equipment such as transformers, switches, relays and conductors are exposed to various levels of current during normal operation. Generally, electrical devices can withstand high currents for a short period of time and low current for longer periods of time without thermal or mechanical damage. The ability to withstand various levels of current for various periods of time is referred to as time-current characteristics. Coordination of power systems involves the selection of fuse links to protect equipment with various time-current characteristics while coordinating with reclosers, circuit breakers, sectionalizers, relays and other fuses. Kearney offers six types of fuse links with a wide range of time-current

The speed ratio of all fuse link sizes 100 amperes and below is the ratio between the current that melts the fuse in 0.1 second to the current that melts the fuse in 300 seconds. The higher the ratio, the slower the speed of melting. For fuses rated above 100 amperes, the speed ratio is between the melting currents at 0.1 second and 600 seconds.

# POPULAR FUSE CURVES

## Comparative Melting Speed Ratio Chart



This chart compares the six speed ratios available with standard Kearney fuse link types which are fully adaptable to various coordination needs.

Designation	SPEED RATIO				
	Single Element			Dual Element	
Type	Fast	Medium	Slow	Very Slow	Extra Slow
Speed Ratio	6-8	7-11	10-13	20	32



# BARE COPPER WIRE

Size (AWG or KCM)	Stranding	Feet Per LB	Weight Per 1000 ft (LBS)	Diameter (mils)		Hard Drawn	Medium Hard Drawn	Soft Drawn	Ampacity
				Individual Wires	Complete Wires	Min. Ultimate Strength (LBS)	Min. Ultimate Strength (LBS)	Min. Ultimate Strength (LBS)	
<b>STRANDED</b>									
8	7	19.61	51.0	48.6	146	777	610	499	95
6	7	12.33	81.1	61.2	184	1,228	959	794	130
4	7	7.76	128.9	77.2	232	1,938	1,505	1,320	170
3	7	6.15	162.5	86.7	260	2,433	1,885	1,670	200
2	3	4.92	202.9		320	3,044	2,298		220
2	7	4.88	204.9	97.4	292	3,050	2,360	2,110	230
1/0	7	3.07	325.8	122.8	368	4,752	3,705	3,221	310
2/0	7	2.43	410.9	137.9	414	5,926	4,640	4,062	355
2/0	19	2.43	410.9	83.7	419	6,690	4,765	4,024	355
3/0	7	1.93	518.1	154.8	464	7,366	5,812	5,118	410
4/0	7	1.53	653.3	173.9	522	9,154	7,278	6,459	480
4/0	19	1.53	653.3	105.5	528	9,617	7,479	6,453	480
250	19	1.30	771.9	114.7	574	11,360	8,836	7,672	530
250	37	1.30	771.9	82.2	575	11,600	8,952	7,940	530
300	19	1.08	926.3	125.7	629	13,510	10,530	9,160	590
350	19	0.93	1081.0	135.7	678	15,590	12,200	10,680	650
400	19	0.81	1235.0	145.1	726	17,810	13,950	12,200	710
500	37	0.65	1544.0	116.2	813	22,510	17,550	15,240	810
600	37	0.54	1853.0	127.3	891	27,020	21,060	18,300	910
750	67	0.43	2316.0	110.9	998	34,090	26,510	22,890	1,040
1000	61	0.32	3088.0	128.0	1152	45,030	35,100	30,500	1,240
Ampacity based on 75 degree C conductor temperature; 35 degree C ambient; 2 ft/sec wind in sun.									

<b>SOLID</b>							
Size (AWG or KCM)	Weight Per 1000 ft (LBS)	Diameter (mils)	Feet Per LB	Hard Drawn	Medium Hard Drawn	Soft Drawn	Ampacity
				Min. Ultimate Strength (LBS)	Min. Ultimate Strength (LBS)	Min. Ultimate Strength (LBS)	
8	50.0	128.5	20.00	826.0	643.9	479.8	95
7	63.0	144.3	15.87	1030.0	806.6	605.0	105
6	79.4	162.0	12.59	1280.0	1010.0	962.9	125
5	100.2	181.9	9.98	1591.0	1265.0	961.9	145
4	126.3	204.3	7.92	1970.0	1584.0	1213.0	170
3	159.3	229.4	6.28	2439.0	1984.0	1530.0	195
2	200.9	257.6	4.98	3003.0	2450.0	1929.0	225

## Weather-Resistant Stranded Copper

Size AWG OR MCM	Stranding	Cover Thickness (MLS)	Nominal O.D. Coverd (Mils)	POLY		XLP		Ampacity
				Nominal weight Per 1000 ft	Feet Per LB	Nominal weight Per 1000 ft	Feet Per LB	
100	61	94	1306	3232	0.31	3256	0.31	615
750	61	94	1156	2442	0.41	2464	0.41	535
500	37	78	945	1630	0.61	1644	0.61	430
350	19	62	782	1137	0.88	1147	0.87	350
300	19	62	734	979	1.02	988	1.01	320
250	19	62	680	820	1.22	829	1.21	290
4/0	7	62	630	698	1.43	706	1.42	260
3/0	7	62	574	558	1.79	565	1.77	225
2/0	7	62	526	447	2.24	454	2.20	195
1/0	7	62	481	359	2.79	365	2.74	170
2	7	47	377	225	4.44	228	4.39	130
4	7	31	287	139	7.19	141	7.09	95
6	7	31	240	89	11.24	91	10.99	75

## Weather-Resistant Solid Copper

Size AWG OR MCM	Cover Thickness	Cover Thickness (MLS)	POLY	
			Feet Per LB	Nominal weight Per 1000 ft
2	47	352	4.57	219
3	47	323	5.68	176
4	31	266	7.35	136
6	31	224	11.49	87
8	31	191	17.86	56

XLP		Ampacity
Nominal weight Per 1000 ft	Feet Per LB	
222	4.50	130
178	5.62	130
137	7.30	95
88	11.36	75
57	17.54	60

# TRANSFORMER RISER WIRE

Size (AWG)	Stranding	Converting Thickness (mils)	Diameter (mils)		Weight Per 1000 ft. (lbs)
			Bare	Covered	
<b>COPPER</b>					
8	Solid	110	128.5	348.5	83
6	Solid	110	162.0	382.0	117
4	Solid	110	204.3	424.3	170

## - APPLICATIONS -

Used as unisulated transformer risers at voltages up to and including 13.2kV. Although not treated as an insulation, the covering on transformer riser wire does reduce faults due to atmospheric conditions, shorts caused by excessive vibrations, and faulting caused by objects crossing the leads.

## - CONSTRUCTION -

Conductors are solid soft copper. The covering is high molecular weight polyethylene, black.

# Bare Copperweld

Designation	O.D.	Strand	Breaking Load LBS	Weight Per 1000 ft	Feet Per LB	Ampacity	Reel LB
3 #12	0.174	3	2236	54.80	18.248	85	600
9 1/2 D	0.174	3	2236	54.80	18.248	85	600
8A	0.199	3	2233	74.27	13.460	100	600
6A	0.230	3	2585	101.60	9.842	140	600
4A	0.290	3	3938	161.50	6.191	180	600
2A	0.366	3	5876	256.80	3.894	240	600

## Alumoweld Type M Strand for Guy and Messenger

Designation	O.D.	Strand	Breaking Load LBS	Weight Per 1000 ft	Feet Per LB	STANDARD PACKAGE		AWG Size
						Coil	Reel	
4M3	0.220	3X .102	4,000	70	14.29	500	5,000	3-#10
5M3	0.247	3X .114	5,700	89	11.24	500	5,000	3-#9
6M	0.242	7X .081	6,000	104	9.62	500	5,000	7-#12
7M3	0.277	3X .128	7,200	112	8.93	500	5,000	3-#8
8M	0.272	7X .091	8,000	131	7.63	500	5,000	7-#11
10M	0.306	7X .102	10,000	165	6.06	500	5,000	7-#10
12.5M	0.343	7X .114	12,500	208	4.81	500	5,000	7-#9
14M	0.363	7X .121	14,000	232	4.31	500	5,000	
16M	0.386	7X .128	16,000	262	3.82	500	5,000	7-#8
18M	0.417	7X .139	18,000	306	3.27	500	5,000	
20M	0.444	7X .148	20,000	347	2.88	500	5,000	
25M	0.519	7X .173	25,000	475	2.11	500	5,000	

# Steel Strand For Guy and Messenger

Strand Dia. In Inches	O.D.	Strength in LBS	Weight Per 1000 ft	Feet Per LB	Standard Package			
					Coil		Reel	
					Feet	Feet		Feet
<b>Siemens-Martin Grade 7 Wire</b>								
1/4	0.2500	3,150	121	8.26	250	500		5,000
9/32	0.2812	4,250	164	6.10	250	500		5,000
5/16	0.3125	5,350	205	4.88	250	500		5,000
3/8	0.3750	6,950	273	3.66	250	500		5,000
7/16	0.4375	9,350	399	2.51		500		5,000
1/2	0.5000	12,100	517	1.93		500		5,000
<b>High Strength 7 Wire</b>								
1/4	0.2500	4,750	121	8.26	250	500		5,000
9/32	0.2812	6,400	164	6.10	250	500		5,000
5/16	0.3125	8,000	205	4.88	250	500		5,000
3/8	0.3750	10,800	273	3.66	250	500		5,000
7/16	0.4375	14,500	399	2.51		500		5,000
1/2	0.5000	18,800	517	1.93		500		5,000
<b>Extra High Strength Grade 7 Wire</b>								
1/4	0.2500	6,650	121	8.26	250	500		5,000
9/32	0.2812	8,950	164	6.10	250	500		5,000
5/16	0.3125	11,200	205	4.88	250	500		5,000
3/8	0.3750	15,400	273	3.66	250	500		5,000
7/16	0.4375	20,800	399	2.51		500		5,000
1/2	0.5000	26,900	517	1.93		500		5,000

# Steel Strand For Guy and Messenger

Strand Dia. In Inches	O.D.	Strength in LBS	Weight Per 1000 ft	Feet Per LB	Standard Package			
					Coil		Reel	
					Feet	Feet	Feet	Feet
Specification or Utilities Grade 7 Wire								
9/32	0.2812	4,600	164	6.10		500		5,000
5/16	0.3125	6,000	205	4.88		500		5,000
3/8	0.3750	11,500	273	3.66		500		5,000
7/16	0.4375	18,000	399	2.51		500		5,000
1/2	0.5000	25,000	517	1.93		500		5,000
Utilities Grade 3 Wire								
1/4	0.2500	4,500	116	8.62			2,500	5,000
5/16	0.3215	6,500	170	5.88			2,500	5,000
3/8	0.3750	8,500	220	4.55			2,500	5,000

# Compression Die Cross Reference

Kearney	Burndy	Anderson	Homac	Blackburn	Alcoa
B	B	B	B	B	
K	K	K	K	K	
T	T	T	T	T	
D	D3		D	DBL	
O	O		O	OJB	
H	N		N	N	
R	KR				
5/8	U243 UBG	HT41G HT41DM	TU 52 54H	5/8	B24EA
510	U237	HT41DF	TLTN	BY39	
635	U245	HT41DP	TWTY	BY41	9AH
737	U247	HT41DT	TV		10AH
747	U245	HT41DM	TU 52	BY43	
781	U30RT		66H		B39EA
840	U249 U31RT	HT41DW	TX 71H 76H	B49EA	11AH B49EA
3/8	U237 U2CRT		TLTN 33		
1/2	U239 U25RT	HT41DH	TQ 42H 45		B17EA
5/8-1	U243 U28RT	HT41DM	TU 54		8AH B30EA
11/16	U29RT		60 62		
3/4	U245	HT41DP		B61EA	
29/32	U247	HT41DT	TV TH		
1-2	U249 U34R	HT41DW	87H		12AH
1 1/8 - 2	U2451 U655 U32ART	HT41HM	94H 96H	B80EA	13AH
1 5/16	327 U34ART	HT41FX	106H	B20AH 14AH	14AH
1 1/2	U608		125H		6024AH

# Kearney

## INHIBITOR - CONTACT AID

<b>TYPE</b>	<b>CAT NUMBER</b>	<b>RECOMMENDED USAGE</b>
<b>Kearnalex</b> (petroleum based) <b>WITH GRIT</b> (Al. Oxide)	<b>30584-21</b> 8 oz. Bottle	Compression connections, taps, or splices. <b>Examples:</b> Squeezons, tension sleeves, non-tension sleeves.  <b>Note:</b> Inhibitor with grit should not be applied to any threaded components because the grit may cause seizing. Inhibitor with grit may also prohibit complete contact on flat surfaces.
<b>Kearnalex</b> (petroleum based) <b>WITHOUT GRIT</b>	<b>30584-22</b> 8 oz. Bottle	Bolted Connectors Flat-Pad Connections <b>Examples:</b> Split bolts, parallel groove clamps, bus bar connections and terminals.
<b>Kearnalex</b> (synthetic) <b>WITH GRIT</b> (Al. Oxide)	<b>30584-25</b> 8 oz. Bottle	Kearnalex is available in a non-petroleum (synthetic) formula where there is a concern for compatibility with rubber products. Usage is the same as above.
<b>Kearnalex</b> (synthetic) <b>WITHOUT GRIT</b>	<b>30584-30</b> 8 oz. Bottle	Usage is the same as above.



# Common Conversion Factors

<u>To Convert</u>	<u>Into</u>	<u>Multiply By</u>
Centigrade	Fahrenheit	(Degree C x 1.8) + 32
Centimeters	Inches	0.3937
Centimeters	Millimeters	10
Circular Mills	Square Inches	$7.854 \times 10^{-7}$
Circular Mills	Square Millimeters	$5.067 \times 10^{-4}$
Fahrenheit	Centigrade	(Degree F -32) x 0.556
Horsepower	Kilowatts	0.7457
Horsepower	Watts	745.7
Inches	Centimeters	2.54
Inches	Millimeters	25.4
Inches	Mils	1,000
Kilowatts	Horsepower	1.341
Kilowatts	Watts	1,000
Millimeters	Centimeters	0.1
Millimeters	Inches	0.03937
Millimeters	Mils	39.37
Mils	Centimeters	$2.54 \times 10^{-3}$
Mils	Inches	0.001
Mils	Millimeters	$2.54 \times 10^{-4}$
Square Inches	Circular Mills	$1.273 \times 10^{-6}$
Square Inches	Square Millimeters	645.2
Square Millimeters	Circular Mills	1,973
Square Millimeters	Square Inches	$1.55 \times 10^{-3}$
Watts	Horsepower	$1.341 \times 10^{-3}$
Watts	Kilowatts	0.001

# METRIC CONVERSIONS

Degrees Fahrenheit to Degrees Centigrade

F	C	F	C	F	C	F	C
-40	-40.00	30	-1.11	80	26.67	250	121.11
-38	-38.89	31	-0.56	81	27.22	255	123.89
-36	-37.78	32	0.00	82	27.78	260	126.67
-34	-36.67	33	0.56	83	28.33	265	129.44
-32	-35.56	34	1.11	84	28.89	270	132.22
-30	-34.44	35	1.67	85	29.44	275	135.00
-28	-33.33	36	2.22	86	30.00	280	137.78
-26	-32.22	37	2.78	87	30.56	285	140.55
-24	-31.11	38	3.33	88	31.11	290	143.33
-22	-30.00	39	3.89	89	31.67	295	146.11
-20	-28.89	40	4.44	90	32.22	300	148.89
-18	-27.78	41	5.00	91	32.78	305	151.67
-16	-26.67	42	5.56	92	33.33	310	154.44
-14	-25.56	43	6.11	93	33.89	315	157.22
-12	-24.44	44	6.67	94	34.44	320	160.00
-10	-23.33	45	7.22	95	35.00	325	162.78
-8	-22.22	46	7.78	96	35.56	330	165.56
-6	-21.11	47	8.33	97	36.11	335	168.33
-4	-20.00	48	8.89	98	36.67	340	171.11
-2	-18.89	49	9.44	99	37.22	345	173.89
0	-17.78	50	10.00	100	37.78	350	176.67
1	-17.22	51	10.56	105	40.55	355	179.44
2	-16.67	52	11.11	110	43.33	360	182.22
3	-16.11	53	11.67	115	46.11	365	185.00
4	-15.56	54	12.22	120	48.89	370	187.78
5	-15.00	55	12.78	125	51.67	375	190.55
6	-14.44	56	13.33	130	54.44	380	193.33
7	-13.89	57	13.89	135	57.22	385	196.11
8	-13.33	58	14.44	140	60.00	390	198.89
9	-12.77	59	15.00	145	62.78	395	201.67
10	-12.22	60	15.56	150	65.56	400	204.44
11	-11.67	61	16.11	155	68.33	405	207.22
12	-11.11	62	16.67	160	71.11	410	210.00
13	-10.56	63	17.22	165	73.89	415	212.78
14	-10.00	64	17.78	170	76.67	420	215.56
15	-9.44	65	18.33	175	79.44	425	218.33
16	-8.89	66	18.89	180	82.22	430	221.11
17	-8.33	67	19.44	185	85.00	435	223.89
18	-7.78	68	20.00	190	87.78	440	226.67
19	-7.22	69	20.56	195	90.55	445	229.44
20	-6.67	70	21.11	200	93.33	450	232.22
21	-6.11	71	21.67	205	96.11	455	235.00
22	-5.56	72	22.22	210	98.89	460	237.78
23	-5.00	73	22.78	215	101.67	465	240.55
24	-4.44	74	23.33	220	104.44	470	243.33
25	-3.89	75	23.89	225	107.22	475	246.11
26	-3.33	76	24.44	230	110.00	480	248.89
27	-2.78	77	25.00	235	112.78	485	251.67
28	-2.22	78	25.56	240	115.56	490	254.44
29	-1.67	79	26.11	245	118.33	495	257.22

Degrees Fahrenheit to Degrees Centigrade

C	F	C	F	C	F	C	F
-40	-40.0	5	41.0	40	104.0	175	347.0
-38	-36.4	6	42.8	41	105.8	180	356.0
-36	-32.8	7	44.6	42	107.6	185	365.0
-34	-29.2	8	46.4	43	109.4	190	374.0
-32	-25.6	9	48.2	44	111.2	195	383.0
-30	-22.0	10	50.0	45	113.0	200	392.0
-28	-18.4	11	51.8	46	114.8	205	401.0
-26	-14.8	12	53.6	47	116.6	210	410.0
-24	-11.2	13	55.4	48	118.4	215	419.0
-22	-7.6	14	57.2	49	120.2	220	428.0
-20	-4.0	15	59.0	50	122.0	225	437.0
-19	-2.2	16	60.8	55	131.0	230	446.0
-18	-0.4	17	62.6	60	140.0	235	455.0
-17	1.4	18	64.4	65	149.0	240	464.0
-16	3.2	19	66.2	70	158.0	245	473.0
-15	5.0	20	68.0	75	167.0	250	482.0
-14	6.8	21	69.8	80	176.0	255	491.0
-13	8.6	22	71.6	85	185.0	260	500.0
-12	10.4	23	73.4	90	194.0	265	509.0
-11	12.2	24	75.2	95	203.0	270	518.0
-10	14.0	25	77.0	100	212.0	275	527.0
-9	15.8	26	78.8	105	221.0	280	536.0
-8	17.6	27	80.6	110	230.0	285	545.0
-7	19.4	28	82.4	115	239.0	290	554.0
-6	21.2	29	84.2	120	248.0	295	563.0
-5	23.0	30	86.0	125	257.0	300	572.0
-4	24.8	31	87.8	130	266.0	305	581.0
-3	26.6	32	89.6	135	275.0	310	590.0
-2	28.4	33	91.4	140	284.0	315	599.0
-1	30.2	34	93.2	145	293.0	320	608.0
0	32.0	35	95.0	150	302.0	325	617.0
1	33.8	36	96.8	155	311.0	330	626.0
2	35.6	37	98.6	160	320.0	335	635.0
3	37.4	38	100.4	165	329.0	340	644.0
4	39.2	39	102.2	170	338.0	345	653.0

# Single-Phase Transformer Full-Load Currents in Amperes

KVA Rating	Rated Line Voltage					
	120	240	480	600	2400	4160
1 1/2	12.50	6.25	3.12	2.50	0.62	0.36
3	25.00	12.50	6.25	5.00	1.25	0.72
5	41.67	20.83	10.42	8.33	2.08	1.20
7 1/2	62.50	31.25	15.63	12.50	3.12	1.80
10	83.33	41.67	20.83	16.67	4.17	2.40
15	125.00	62.50	31.25	25.00	6.25	3.60
25	208.30	104.20	52.10	41.67	10.42	6.01
37 1/2	312.50	156.30	78.10	62.50	15.63	9.01
50	416.70	208.30	104.20	83.30	20.83	12.02
75	625.00	312.50	156.30	125.00	31.25	18.03
100	833.00	416.70	208.30	166.70	41.67	24.04
150	1250.00	625.00	312.50	250.00	62.50	36.06
167	1392.00	696.00	348.00	278.50	69.60	40.15
200	1667.00	833.00	416.70	333.30	83.34	48.10
250	2083.00	1042.00	521.00	416.70	104.20	60.10
333	2775.00	1388.00	694.00	555.00	138.80	80.00
500	4167.00	2083.00	1042.00	833.00	208.30	120.20

KVA Rating	Rated Line Voltage				
	4800	7200	7620	12000	13200
1 1/2	0.31	0.21	0.20	0.12	0.11
3	0.62	0.42	0.39	0.25	0.23
5	1.04	0.69	0.66	0.42	0.38
7 1/2	1.56	1.04	0.98	0.62	0.57
10	2.08	1.39	1.31	0.83	0.76
15	3.12	2.08	1.97	1.25	1.14
25	5.21	3.47	3.28	2.08	1.89
37 1/2	7.81	5.21	4.92	3.12	2.84
50	10.42	6.94	6.56	4.17	3.79
75	15.63	10.42	9.84	6.25	5.68
100	20.83	13.89	13.12	8.33	7.57
150	31.25	20.83	19.68	12.50	11.36
167	34.80	23.20	21.93	13.92	12.68
200	41.67	27.78	26.24	16.67	15.14
250	52.10	34.73	32.81	20.83	18.94
333	69.40	46.30	43.70	27.75	25.23
500	104.20	69.40	65.60	41.67	37.88

KVA Rating	Rated Line Voltage				
	14400	22900	34400	43800	67000
1 1/2	0.10	0.06	0.04	0.03	0.02
3	0.21	0.13	0.09	0.07	0.04
5	0.35	0.22	0.14	0.11	0.07
7 1/2	0.52	0.33	0.22	0.17	0.11
10	0.69	0.44	0.29	0.23	0.15
15	1.04	0.65	0.44	0.34	0.22
25	1.74	1.09	0.73	0.57	0.37
37 1/2	2.60	1.64	1.09	0.86	0.56
50	3.47	2.18	1.45	1.14	0.75
75	5.21	3.27	2.18	1.71	1.12
100	6.95	4.37	2.91	2.28	1.49
150	10.42	6.55	4.36	3.42	2.24
167	11.60	7.29	4.85	3.81	2.49
200	13.89	8.73	5.81	4.57	2.98
250	17.37	10.91	7.27	5.71	3.73
333	23.15	14.54	9.68	7.60	4.97
500	34.70	21.83	14.53	11.42	7.46

## Three-Phase Transformer Full-Load Currents in Amperes

KVA Rating	Rated Line Voltage					
	120	208	240	480	600	2400
15	72.12	41.64	36.09	18.04	14.43	3.61
22.5	108.26	62.46	54.13	27.06	21.65	5.41
30	144.34	83.27	72.17	36.09	28.87	7.22
45	216.51	124.91	108.26	54.13	43.30	10.83
75	360.85	208.19	180.43	90.21	72.17	18.04
100	481.14	277.58	240.57	120.28	96.23	24.06
112.5	541.28	312.28	270.64	135.32	108.26	27.06
150	721.71	416.37	360.85	180.43	144.34	36.09
200	962.28	555.16	481.14	240.57	192.46	48.11
225	1082.56	624.56	541.28	270.64	216.51	54.13
300	1443.42	832.74	721.71	360.85	288.68	72.17
500	2405.70	1387.90	1202.85	601.42	481.14	120.28
750	3608.55	2081.85	1804.27	902.14	721.71	180.43
1000	4811.39	2775.80	2405.70	1202.85	962.28	240.57
1500	7217.09	4163.71	3608.55	1804.27	1443.42	360.85

KVA Rating	Rated Line Voltage					
	4160	4800	7200	8320	12000	12470
15	2.08	1.80	1.20	1.04	0.72	0.69
22.5	3.12	2.71	1.80	1.56	1.08	1.04
30	4.16	3.61	2.41	2.08	1.44	1.39
45	6.25	5.41	3.61	3.12	2.17	2.08
75	10.41	9.02	6.01	5.20	3.61	3.47
100	13.88	12.03	8.02	6.94	4.81	4.63
112.5	15.61	13.53	9.02	7.81	5.41	5.21
150	20.82	18.04	12.03	10.41	7.22	6.95
200	27.76	24.06	16.04	13.88	9.62	9.26
225	31.23	27.06	18.04	15.61	10.83	10.42
300	41.64	36.09	24.06	20.82	14.43	13.89
500	69.40	60.14	40.09	34.70	24.06	23.15
750	104.09	90.21	60.14	52.05	36.09	34.73
1000	138.79	120.28	80.19	69.04	48.11	46.30
1500	208.19	180.43	120.28	104.09	72.17	69.45
2000	277.58	240.57	160.38	137.79	96.23	92.60
2500	346.98	300.71	200.47	173.49	120.28	115.75
3750	520.46	451.07	300.71	260.23	180.43	173.63
5000	693.95	601.42	400.95	346.98	240.75	231.50

KVA Rating	Rated Line Voltage					
	13200	14400	22900	34400	43800	67000
15	0.66	0.60	0.38	0.25	0.20	0.13
22.5	0.98	0.90	0.57	0.38	0.30	0.19
30	1.31	1.20	0.78	0.50	0.40	0.26
45	1.97	1.80	1.13	0.76	0.59	0.39
75	3.28	3.01	1.89	1.26	0.99	0.65
100	4.37	4.01	2.52	1.68	1.32	0.86
112.5	4.92	4.51	2.84	1.89	1.48	0.97
150	6.56	6.01	3.78	2.52	1.98	1.29
200	8.75	8.02	5.04	3.36	2.64	1.72
225	9.84	9.02	5.67	3.78	2.97	1.94
300	13.12	12.03	7.56	5.04	3.95	2.59
500	21.87	20.05	12.61	8.39	6.59	4.31
750	32.80	30.07	18.91	12.59	9.89	6.46
1000	43.74	40.09	25.21	16.78	13.18	8.62
1500	65.61	60.14	37.82	25.18	19.77	12.93
2000	87.48	80.19	50.43	33.57	26.36	17.23
2500	109.35	100.24	63.03	41.96	32.95	21.54
3750	164.02	150.36	94.55	62.94	49.43	32.32
5000	218.70	200.47	126.06	83.92	65.91	43.09

## Power-Factor Correction

Table values x KW Load = KVA of capacitors needed to correct from existing to desired power factor.

Existing Power Factor %	CORRECTED POWER FACTOR					
	100%	95%	90%	85%	80%	75%
50	1.732	1.403	1.247	1.112	0.982	0.850
52	1.643	1.314	1.158	1.023	0.893	0.761
54	1.558	1.229	1.073	0.938	0.808	0.676
55	1.518	1.189	1.033	0.898	0.768	0.636
56	1.479	1.150	0.994	0.859	0.729	0.597
57	1.404	1.075	0.919	0.784	0.654	0.522
60	1.333	1.004	0.848	0.713	0.583	0.451
62	1.265	0.936	0.780	0.645	0.515	0.383
64	1.201	0.872	0.716	0.581	0.451	0.319
65	1.168	0.839	0.683	0.548	0.418	0.286
66	1.139	0.810	0.654	0.519	0.389	0.257
68	1.078	0.749	0.593	0.458	0.328	0.196
70	1.020	0.691	0.535	0.400	0.270	0.138
72	0.964	0.635	0.479	0.344	0.214	0.082
74	0.909	0.580	0.424	0.289	0.159	0.027
75	0.882	0.553	0.397	0.262	0.132	
76	0.855	0.526	0.370	0.235	0.105	
78	0.802	0.473	0.317	0.182	0.052	
80	0.750	0.421	0.265	0.130		
82	0.698	0.369	0.213	0.078		
84	0.646	0.317	0.161			
85	0.620	0.291	0.135			
86	0.594	0.265	0.109			
88	0.540	0.211	0.005			
90	0.485	0.156				
92	0.426	0.097				
94	0.363	0.034				
95	0.329					

## Minimum Clearance of Live Parts

Nominal Voltage Rating KV	IMPULSE WITHSTAND B.I.L. KV		MINIMUM CLEARANCE OF LIVE PARTS INCHES			
			PHASE-TO-PHASE		PHASE-TO-GROUND	
	Indoors	Outdoors	Indoors	Outdoors	Indoors	Outdoors
2.4-4.16	60	95	4.5	7	3.0	6
7.2	75	95	5.5	7	4.0	6
13.8	95	110	7.5	12	5.0	7
14.4	110	110	9.0	12	6.5	7
23	125	150	10.5	15	7.5	10
34.5	150	150	12.5	15	9.5	10
	200	200	18.0	18	13.0	13
56		200		18		13
		250		21		17
59		250		21		17
		350		31		25
115		550		53		42
138		550		53		42
		650		63		50
161		350		63		50
		750		72		58
230		750		72		58
		900		89		71
		1050		105		83

**Typical Program:** With a load of 500 KW at 70% power factor; it is desired to find the KVA of capacitors required to correct the power factor to 85%.

**Solution:** From the table select the multiplying factor 0.400 corresponding to the existing 70%, and the corrected 85% power factor.  $0.400 \times 500 = 200$  KVA of capacitors required.

**For SI Units:** One Inch = 25.4 Millimeters

The values given are the minimum clearance for rigid parts and bare conductors under favorable service conditions. They shall be increased for conductor movement or under unfavorable service conditions, or wherever space limitations permit. The selection of the associated impulse withstand voltage for a particular system voltage is determined by the characteristics of the surge protective equipment.

# INSULATOR CROSS REFERENCE GUIDE

SUSPENSION AND DEAD-END INSULATORS								
ANSI Class No.	Porcelain Products	Ohio Brass	NGK (Locke)	Lapp	Joslyn (Pinco)	A.B. Chance	Victor	Knox
52-1	86012	32433	16583	6605G	L1510	C907-1001	804	86012
52-1	86046			6605H		C907-1211	804-40	86046
52-2	87512	32435			L600		801	87512
52-3	81022	32440	205840	8200	L2060	C907-1003	900	81022
52-4	81012	32439	205580	8100	L2070	C907-1004	800	81012
52-9	20034	47399		6815G	74002	C907-1209	877	20034
52-9	20046					C907-1210	877-40	20046
52-9	84300	42399	16044	6815	L1814	C907-1009	817	84300
	20122							20122
	20166					C907-1704		20166
	84166					C907-1604		84166
TIE-TOP LINE POST INSULATORS AND STUDS								
ANSI Class No.	Porcelain Products	Ohio Brass		Lapp		A.B. Chance	Victor	
	5015	37600		4315X		C903-1710		
	5020	43400		4320X		C903-1711		
	5025							
	5027	43401		4327X		C903-1712		
	5035			4335X				
	5045							
	5115			4315-PX		C903-1910		
	5120			4320-PX		C903-1911	2120	
57-1	5125	37610		9325X		C903-1813	2025	
	5127	47101		4327-PX		C903-1912	2127	
57-2	5135	37620		9335X		C903-1814	62055	
57-3	5145	41640		9345X		C903-1815	62056	
Studs	Studs			Studs		Studs	Studs	
	6500	87563		301613		C903-9507	72090	
	6502	87573		301614		C903-9508	72088	
	6510	87564		11612A		C903-9514	72091	
	6512	87574		10187A		C903-9517	72087	
PINTYPE INSULATORS								
ANSI Class No.	Porcelain Products	Ohio Brass	NGK (Locke)	Joslyn (Pinco)	A.B. Chance	McGraw Edison	Victor	Knox
55-1	237	29207		L62	C905-1001		4	237
55-1	237-S				C905-1301			237-S
55-2	253	12847		L223	C905-1002	NP8D7	8	253
55-2	253-S			L223R	C905-1302	NP8D8	8R	253-S
55-3	261			L63	C905-1003	NP9D7	5	261
55-3	261-S	38148		L63R	C905-1303	NP9D8	5R	261-S
55-4	366			L2064	C905-1004	NP21D7	6	366
55-4	366-S	38149		L2064R	C905-1304	NP21D8	6R	366-S
55-5	380			L367	C905-1005	NP22D7	9	380
55-5	380-S	38151		L367R	C905-1305	NP22D8	9R	380-S
55-6	386-ST				C905-1306	NP23D8	11R	386-ST
56-1	1027-S	38246		L1123R	C906-1311		27R	1027-S
56-2	2033-S	38222		L72R	C906-1302		133R	2033-S
56-3	2045-S	38223		L75R	C906-1303		245R	2045-S
GUY STRAIN INSULATORS								
ANSI Class No.	Porcelain Products	Ohio Brass	NGK (Locke)	Joslyn (Pinco)	A.B. Chance	McGraw Edison	Victor	Knox
54-1	502	31502		L502	C909-1041		502	502
54-2	504	31504		L504	C909-1042		504	504
54-3	506	31506		L506	C909-1043		506	506
54-4	708	31352		L539	C909-1044		556	708
SPOOL INSULATORS								
53-1	5112	36139		J98	C909-1031		2011	303
53-2	5101	36361		J151	C909-1032		2012	310
53-3	5104			J97	C909-1033		2013	320
53-4	5119	38911		J0101	C909-1034		2026	306
53-5	5116	36140		J0613	C909-1035		2014	307
	5107			J150	C909-1931			300
	5102			J105	C909-1932			304

# LAMP COMPARISON

	Quartz Incandescent	Mercury Vapor	Low Pressure Sodium	Metal Halide	High Pressure Sodium
Efficiency	Poor 20 LPW	Fair 56 LPW	Best 183 LPW	Good 100 LPW	Better 125 LPW
Mean Life	Low 2K Hrs	High 24K Hrs	Medium 18K Hrs	High 20K Hrs	High 24K Hrs
Lumen Maintenance	High 97%	Poor 57%	High 100% (+9)	Medium 80%	High 90%
Color	Good	Poor Good	Poor Monochrome	Excellent	Acceptable
System C.U.	Good	Good	Fair	Good	Good
Hot Restart	Instant	10 Minutes	1 Minute	15 Minutes	1 Minute
Warm-Up	Instant	10 Minutes	10 Minutes	10 Minutes	5 Minutes

## Typical Lamp Types

*with Watts, Initial Lamp Lumens, and Light Loss Factors*

Lamp Type	Watts	Lumens	LLF.	Rated Average Life
High Pressure Sodium	35	2250	0.81	16,000
	50	4000	0.81	24,000
	70	6300	0.81	24,000
	100	9500	0.81	24,000
	150	16000	0.81	24,000
	200	22000	0.81	16,000
	250	28500	0.81	24,000
	310	37000	0.81	24,000
	400	50000	0.81	24,000
	1000	140000	0.81	24,000
Metal Halide	175	14000	0.70	7,500
	250	20500	0.74	10,000
	400	36000	0.70	20,000
	1000	110000	0.72	12,000
	1500	155000	0.82	3,000
Mercury Vapor	100	4100	0.76	24,000
	175	7900	0.84	24,000
	250	12100	0.78	24,000
	400	21000	0.80	24,000
	1000	57500	0.76	24,000
Mercury Vapor Deluxe	100	4400	0.70	24,000
	175	8500	0.80	24,000
	250	13000	0.74	24,000
	400	23000	0.74	24,000
	1000	63000	0.70	24,000

## Recommended Minimum Mounting Heights for Various Lamps

High Pressure Sodium	Mercury Vapor Lamp	Metal Halide Lamp	Min. Mounting Height (ft)
50W	100W		8.0
70W			12.0
100W	175W		15.0
150W		175W	18.0
200W	400W		20.0
250W			25.0
310W		400W	30.0
400W	1000W		35.0
1000W		1000W	50.0

## Maintenance Factors

If maintained footcandle level is desired, multiply the area coverage per fixture by the maintenance factor.

Maintenance factor is determined by multiplying the lamp lumen depreciation factor (LLD) by the luminaire dirt depreciation factor (LDD). The lamp lumen depreciation factor is usually the mean value of the lamp. The luminaire dirt depreciation factor range is described in the illuminating Engineering Society Handbook. A.9 dirt factor is commonly used.

# WOOD POLES (SYP)

LENGTH	CLASS	CUBES	CCA	WEIGHTS	
				PENTA	CREOSOTE
25	4	10.0	707	606	657
25	5	8.6	602	516	559
25	6	7.5	525	450	488
25	7	6.4	448	384	416
30	1	20.4	1428	1224	1326
30	2	17.8	1246	1068	1157
30	3	15.4	1078	924	1001
30	4	13.3	931	798	865
30	5	11.6	812	696	754
30	6	10.1	707	606	657
30	7	8.6	602	516	559
30	9	6.4	448	384	416
35	1	26.2	1834	1572	1703
35	2	22.8	1596	1368	1482
35	3	19.7	1379	1182	1281
35	4	17.1	1197	1026	1112
35	5	14.8	1036	888	962
35	6	12.8	896	768	832
35	7	11.1	777	666	722
40	1	32.6	2282	1956	2119
40	2	28.2	1974	1692	1833
40	3	24.5	1715	1470	1593
40	4	21.2	1484	1272	1378
40	5	18.4	1288	1104	1196
40	6	15.9	1113	954	1034
45	1	39.3	2751	2358	2555
45	2	34.1	2387	2046	2217
45	3	29.5	2065	1770	1918
45	4	25.6	1792	1536	1664
45	5	22.2	1554	1332	1443
50	1	46.6	3262	2796	3029
50	2	40.4	2828	2424	2626
50	3	35.0	2450	2100	2275
50	4	30.4	2128	1824	1976
55	1	54.3	3801	3258	3530
55	2	47.1	3297	2826	3062
55	3	40.8	2856	2448	2652
55	4	35.4	2478	2124	2301
60	1	62.6	4382	3756	4069
60	2	54.2	3794	3252	3523
60	3	47.0	3290	2820	3055
60	4	40.7	2849	2442	2646
65	1	71.1	4977	4266	4622
65	2	61.6	4312	3696	4004
65	3	53.4	3738	3204	3471
65	4	46.4	3248	2784	3016
70	1	80.1	5607	4806	5207
70	2	69.5	4865	4170	4518
70	3	60.2	4214	3612	3913
70	4	52.2	3654	3132	3393
75	1	89.5	6265	5370	5818
75	2	77.7	5439	4662	5051
75	3	67.3	4711	4038	4375
75	4	58.3	4081	3498	3700
80	1	99.3	6951	5958	6455
80	2	86.1	6027	5166	5597
80	3	74.6	5222	4476	4849
80	4	64.7	4529	3882	4206
85	1	109.6	7672	6576	7124
85	2	94.9	6643	5694	6169
85	3	82.3	5761	4938	5350
90	1	120.1	8407	7206	7807
90	2	104.0	7280	6240	6760
90	3	90.2	6314	5412	5863
95	1	131.0	9170	7860	8515
95	2	113.5	7945	6810	7378
95	3	98.4	6888	5904	6396

**Cube requirement for Truckloads**

With Unloader = 800 Cubes

Without Unloader = 850 Cubes



# STEEL POLE DESIGN DATA

I/USI Catalog No	Pole Length (feet)	NESC Grade "B"/CSA Grade "1" Pole Class	Top Dia (in.)	Butt Dia. (in.)	Pole Taper Rate (1 In)	Steel Thickness (in.)	Distance From Butt to GL (in.)	Outside Dia. At GL (in.)	Horizontal Load 2 Feet From Top (lbs)	Distance From GL To 2 Feet From Top (ft)	Bending Moment @ GL (in-kips)	Specified Min. Steel Yield Stress Fy (ksi)	Specified Min. Steel Ultimate Stress Fu (ksi)	Calculated Bending Stress @ GL (ksi)	Vertical Load, Pu (kips)	Galv Metal Wgt. (lbs)	Truck Load Qty
25G5	25	5	5.25	9.40	72.29	0.100	4.5	8.65	1187.5	18.5	263.63	50	65	45.85	71.4	238	195
30G5	30	5	5.25	10.23	72.29	0.100	5.0	9.40	1187.5	23.0	327.75	50	65	48.25	55.9	302	108
35G5	35	5	5.25	11.06	72.29	0.100	5.5	10.14	1187.5	27.5	391.88	50	65	49.54	45.9	371	102
40G5	40	5	5.25	11.89	72.29	0.100	6.0	10.89	1187.5	32.0	456.00	50	65	49.78	36.4	445	86
45GX5	45	5	5.25	12.72	72.29	0.100	6.5	11.64	1187.5	36.5	520.13	50	65	49.77	28.9	525	70
<b>50GX5</b>	50	5	6.08	14.07	72.29	.100/.120	7.0	12.91	1187.5	41.0	584.25	50/55	65/70	38.42	37.3	716	52
<b>55GX5</b>	55	5	5.25	14.07	72.29	.100/.120	7.5	12.83	1187.5	45.5	648.38	50/55	65/70	42.64	24.2	752	52
<b>60GX5</b>	60	5	6.08	15.62	72.29	.100/.120	8.0	14.33	1187.5	50.0	712.50	50/55	65/70	37.87	29.8	930	36
<b>65GX5</b>	65	5	5.25	15.62	72.29	.100/.120	8.5	14.25	1187.5	54.5	776.63	50/55	65/70	41.28	20.8	966	36
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25A4	25	4	5.25	9.39	72.40	0.120	4.5	8.65	1500	18.5	333.00	55	70	47.33	89.2	258	180
30A4	30	4	5.25	10.22	72.40	0.120	5.0	9.39	1500	23.0	414.00	55	70	49.82	60.6	327	108
35A4	35	4	5.25	11.05	72.40	0.120	5.5	10.14	1500	27.5	495.00	55	70	51.08	56.5	402	102
40A4	40	4	5.25	11.88	72.40	0.120	6.0	10.89	1500	32.0	576.00	55	70	51.53	44.7	484	86
45AX4	45	4	5.25	12.71	72.40	0.120	6.5	11.63	1500	36.5	657.00	55	70	51.54	35.5	570	70
<b>50AX4</b>	50	4	6.08	14.00	72.40	0.120	7.0	12.85	1500	41.0	738.00	55	70	47.42	41.6	756	52
<b>55AX4</b>	55	4	5.25	14.00	72.40	0.120	7.5	12.76	1500	45.5	819.00	55	70	53.37	26.5	796	52
<b>60AX4</b>	60	4	6.08	15.62	72.40	0.120	8.0	14.31	1500	50.0	900.00	55	70	46.63	33.6	970	36
<b>65AX4</b>	65	4	5.25	15.62	72.40	0.120	8.5	14.23	1500	54.5	981.00	55	70	51.40	22.1	1010	36
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25S3	25	3	5.25	10.16	61.09	0.120	4.5	9.28	1875.0	18.5	416.25	55	70	52.62	96.6	272	172
30S3	30	3	5.25	11.14	61.09	0.120	5.0	10.16	1875.0	23.0	517.50	55	70	54.47	77.4	347	102
35S3	35	3	5.25	12.13	61.09	0.120	5.5	11.05	1875.0	27.5	618.75	55	70	55.00	62.5	429	81
40S3	40	3	5.25	13.11	61.09	0.120	6.0	11.93	1875.0	32.0	720.00	55	70	54.76	49.2	519	70
45SX3	45	3	5.25	14.09	61.09	0.120	6.5	12.81	1875.0	36.5	821.25	55	70	54.14	41.4	615	65
<b>50SX3</b>	50	3	6.23	15.62	61.09	.120/.125	7.0	14.29	1875.0	41.0	922.50	55	70	46.90	48.5	836	44
<b>55SX3</b>	55	3	5.25	15.62	61.09	.120/.125	7.5	14.20	1875.0	45.5	1023.75	55	70	52.64	31.6	876	44
<b>60SP3</b>	60	3	6.07	15.62	72.29	0.152	8.0	14.29	1875.0	50.0	1125.00	55	70	47.17	40.3	1213	38
<b>65SP3</b>	65	3	5.25	15.62	72.29	0.152	8.5	14.21	1875.0	54.5	1226.25	55	70	51.98	26.7	1264	37
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40EX2	40	2	6.22	14.03	61.53	0.133	6.0	12.86	2312.5	32.0	888.00	65	80	52.55	77.11	631	65
45EX2	45	2	5.25	14.03	61.53	0.133	6.5	12.76	2312.5	36.5	1012.88	65	80	60.82	45.54	675	65
<b>50EX2</b>	50	2	6.22	15.62	61.53	0.133	7.0	14.26	2312.5	41.0	1137.75	65	80	54.60	55.36	907	44
<b>55EX2</b>	55	2	5.25	15.62	61.53	0.133	7.5	14.16	2312.5	45.5	1262.63	65	80	61.45	35.17	951	44
<b>60EP2</b>	60	2	6.08	15.62	72.33	0.162	8.0	14.29	2312.5	50.0	1387.50	65	80	54.61	43.21	1290	34
<b>65EP2</b>	65	2	5.25	15.62	72.33	0.162	8.5	14.21	2312.5	54.5	1512.38	65	80	60.23	28.43	1343	34
<b>70XP2</b>	70	2	6.44	15.62	87.54	0.162	9.0	14.39	2312.5	59.0	1637.25	65	80	63.59	33.71	1518	26
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40XP1	40	1	7.13	12.61	87.54	0.162	6.0	11.79	2812.5	32.0	1080.00	65	80	61.06	93.8	743	62
<b>45EX1</b>	45	1	7.20	15.62	61.58	0.133	6.5	14.35	2812.5	36.5	1231.90	65	80	57.27	89.8	855	44
<b>50EP1</b>	50	1	6.44	14.32	72.27	0.162	7.0	13.15	2812.5	41.0	1383.75	65	80	62.89	64.3	1043	39
<b>55EP1</b>	55	1	6.41	15.12	72.27	0.162	7.5	13.88	2812.5	45.5	1535.63	65	80	62.65	54.0	1179	38
<b>60XP1</b>	60	1	7.81	15.62	87.54	0.162	8.0	14.52	2812.5	50.0	1687.50	65	80	62.29	60.4	1385	26

1. (ksi).
2. Weights are galvanized. All steel meets or exceeds ASTM A607 specifications.
3. Groundline assumed to be at (10% x pole length plus 2 feet) from pole bottom.
4. Pole catalog #'s in normal print indicate single-piece poles (i.e., 25G5).
5. Pole catalog #'s in boldface, italicized print indicate two-piece poles (i.e., **50SX3**).
6. Data separated by "/" (i.e., .100/.120), refers to top section / bottom section of pole.
7. The above information is intended for illustrative purposes only, and is subject to change.

# Single Phase Pad Mount Transformer 2400 Volt

KVA Rating	Manufacturer Name	Bayonet Fuse Catalog Number	Fuse Type (see below)	Amperage Rating
<b>25 KVA</b>	Kearney	124080-25	A	25 amp
	Cooper	4038108C09	B	25 amp
	Cooper	4000358C10	C	25 amp
	Cooper	4000353C10	D	25 amp
<b>37.5 KVA</b>	Kearney	124080-30	A	30 amp
	Cooper	4038108C11	B	40 amp
	Cooper	4000358C12	C	50 amp
	Cooper	4000353C12	D	40 amp
<b>50 KVA</b>	Kearney	124080-35	A	35 amp
	Cooper	4038108C12	B	50 amp
	Cooper	4000358C12	C	50 amp
	Cooper	4000353C12	D	40 amp
<b>75 KVA</b>	Kearney	124080-35	A	35 amp
	Cooper	4000358C14	C	65 amp
	Cooper	4000353C14	D	65 amp
<b>100 KVA</b>	Cooper	4000358C14	C	65 amp
	Cooper	4000353C14	D	65 amp
<b>167 KVA</b>	Cooper	4000358C18	C	140 amp
	Cooper	4000353C17	D	140 amp

Fuse Type	Fuse Description
<b>A</b>	Kearney Dual Element Bay-o-net Fuse
<b>B</b>	Cooper Dual Element Bay-o-net Fuse
<b>C</b>	Cooper Dual Sensing Bay-o-net Fuse
<b>D</b>	Cooper Current Sensing Bay-o-net

# Single Phase Pad Mount Transformer 7200 Volt

KVA Rating	Manufacturer Name	Bayonet Fuse Catalog Number	Fuse Type (see below)	Amperage Rating
25 KVA	Kearney	124080-5	A	5 amp
	Cooper	4038108C04	B	6 amp
	Cooper	4000358C05	C	8 amp
	Cooper	4000353C06	D	10 amp
37.5 KVA	Kearney	124080-8	A	8 amp
	Cooper	4038108C06	B	12 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C06	D	10 amp
50 KVA	Kearney	124080-12	A	12 amp
	Cooper	4038108C07	B	15 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C08	D	15 amp
75 KVA	Kearney	124080-15	A	15 amp
	Cooper	4038108C09	B	25 amp
	Cooper	4000358C10	C	25 amp
	Cooper	4000353C10	D	25 amp
100 KVA	Kearney	124080-25	A	25 amp
	Cooper	4038108C09	B	25 amp
	Cooper	4000358C10	C	25 amp
	Cooper	4000353C10	D	25 amp
167 KVA	Kearney	124080-30	A	30 amp
	Cooper	4038108C12	B	50 amp
	Cooper	4000358C12	C	50 amp
	Cooper	4000353C12	D	40 amp

Fuse Type	Fuse Description
<b>A</b>	Kearney Dual Element Bay-o-net Fuse
<b>B</b>	Cooper Dual Element Bay-o-net Fuse
<b>C</b>	Cooper Dual Sensing Bay-o-net Fuse
<b>D</b>	Cooper Current Sensing Bay-o-net

# Single Phase Pad Mount Transformer

## 7200 Volt - 7970 Volt

KVA Rating	Manufacturer Name	Bayonet Fuse Catalog Number	Fuse Type (see below)	Amperage Rating
25 KVA	Kearney	124080-5	A	5 amp
	Cooper	4038108C04	B	6 amp
	Cooper	4000358C05	C	8 amp
	Cooper	4000353C04	D	6 amp
37.5 KVA	Kearney	124080-8	A	8 amp
	Cooper	4038108C06	B	12 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C06	D	10 amp
50 KVA	Kearney	124080-12	A	12 amp
	Cooper	4038108C07	B	15 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C08	D	15 amp
75 KVA	Kearney	124080-15	A	15 amp
	Cooper	4038108C09	B	25 amp
	Cooper	4000358C10	C	25 amp
	Cooper	4000353C08	D	15 amp
100 KVA	Kearney	124080-25	A	25 amp
	Cooper	4038108C09	B	25 amp
	Cooper	4000358C10	C	25 amp
	Cooper	4000353C10	D	25 amp
167 KVA	Kearney	124080-30	A	30 amp
	Cooper	4038108C12	B	50 amp
	Cooper	4000358C12	C	50 amp
	Cooper	4000353C12	D	40 amp

Fuse Type	Fuse Description
<b>A</b>	Kearney Dual Element Bay-o-net Fuse
<b>B</b>	Cooper Dual Element Bay-o-net Fuse
<b>C</b>	Cooper Dual Sensing Bay-o-net Fuse
<b>D</b>	Cooper Current Sensing Bay-o-net

# Single Phase Pad Mount Transformer 14400 Volt

KVA Rating	Manufacturer Name	Bayonet Fuse Catalog Number	Fuse Type (see below)	Amperage Rating
25 KVA	Kearney	124080-5	A	5 amp
	Cooper	4038108C03	B	5 amp
	Cooper	4000358C03	C	3 amp
	Cooper	4000353C04	D	6 amp
37.5 KVA	Kearney	124080-5	A	5 amp
	Cooper	4038108C04	B	6 amp
	Cooper	4000358C05	C	8 amp
	Cooper	4000353C04	D	6 amp
50 KVA	Kearney	124080-6	A	6 amp
	Cooper	4038108C05	B	8 amp
	Cooper	4000358C05	C	8 amp
	Cooper	4000353C06	D	10 amp
75 KVA	Kearney	124080-8	A	8 amp
	Cooper	4038108C06	B	12 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C06	D	10 amp
100 KVA	Kearney	124080-12	A	12 amp
	Cooper	4038108C07	B	15 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C08	D	15 amp
167 KVA	Kearney	124080-25	A	25 amp
	Cooper	4038108C09	B	25 amp
	Cooper	4000358C10	C	25 amp
	Cooper	4000353C10	D	25 amp

Fuse Type	Fuse Description
<b>A</b>	Kearney Dual Element Bay-o-net Fuse
<b>B</b>	Cooper Dual Element Bay-o-net Fuse
<b>C</b>	Cooper Dual Sensing Bay-o-net Fuse
<b>D</b>	Cooper Current Sensing Bay-o-net

# Three Phase Pad Mount Transformer

## 4160 Volt

KVA Rating	Manufacturer Name	Bayonet Fuse Catalog Number	Fuse Type (see below)	Amperage Rating
<b>45 KVA</b>	Kearney	124080-12	A	12 amp
	Cooper	4038108C07	B	15 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C08	D	15 amp
<b>75 KVA</b>	Kearney	124080-25	A	25 amp
	Cooper	4038108C09	B	25 amp
	Cooper	4000358C10	C	25 amp
	Cooper	4000353C10	D	25 amp
<b>112.5 KVA</b>	Kearney	124080-30	A	30 amp
	Cooper	4038108C11	B	40 amp
	Cooper	4000358C12	C	50 amp
	Cooper	4000353C10	D	25 amp
<b>150 KVA</b>	Kearney	124080-35	A	35 amp
	Cooper	4038108C12	B	50 amp
	Cooper	4000358C12	C	50 amp
	Cooper	4000353C12	D	40 amp
<b>225 KVA</b>	Kearney	124080-35	A	35 amp
	Cooper	4038108C14	C	65 amp
	Cooper	4000358C14	E	65 amp
<b>300 KVA</b>	Cooper	4000358C14	C	65 amp
	Cooper	4000353C14	D	65 amp
	Cooper	4038361C03CB	E	135 amp
<b>500 KVA</b>	Cooper	4000358C18	C	140 amp
	Cooper	4000353C17	D	140 amp
	Cooper	4038361C04CB	E	165 amp
<b>750 KVA</b>	Cooper	4000358C18	C	140 amp
	Cooper	4038361C05CB	E	185 amp
<b>1000 KVA</b>	Cooper	No Bay-o-net Offered		
	Cooper	No Bay-o-net Offered		
<b>1500 KVA</b>	Cooper	No Bay-o-net Offered		
	Cooper	No Bay-o-net Offered		
<b>2000 KVA</b>	Cooper	No Bay-o-net Offered		
	Cooper	No Bay-o-net Offered		
<b>2500 KVA</b>	Cooper	No Bay-o-net Offered		
	Cooper	No Bay-o-net Offered		

Fuse Type	Fuse Description
<b>A</b>	Kearney Dual Element Bay-o-net Fuse
<b>B</b>	Cooper Dual Element Bay-o-net Fuse
<b>C</b>	Cooper Dual Sensing Bay-o-net Fuse
<b>D</b>	Cooper Current Sensing Bay-o-net
<b>E</b>	Cooper Apere Overload Dual Sensing Bay-o-net Fuse

# Three Phase Pad Mount Transformer 12470 Volt

KVA Rating	Manufacturer Name	Bayonet Fuse Catalog Number	Fuse Type (see below)	Amperage Rating
<b>45 KVA</b>	Kearney	124080-5	A	5 amp
	Cooper	4038108C03	B	5 amp
	Cooper	4000358C03	C	3 amp
	Cooper	4000353C04	D	6 amp
<b>75 KVA</b>	Kearney	124080-5	A	5 amp
	Cooper	4038108C04	B	6 amp
	Cooper	4000358C05	C	8 amp
	Cooper	4000353C06	D	10 amp
<b>112.5 KVA</b>	Kearney	124080-8	A	8 amp
	Cooper	4038108C06	B	12 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C06	D	10 amp
<b>150 KVA</b>	Kearney	124080-12	A	12 amp
	Cooper	4038108C07	B	15 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C08	D	15 amp
<b>225 KVA</b>	Kearney	124080-15	A	15 amp
	Cooper	4038108C09	B	25 amp
	Cooper	4000358C10	C	25 amp
	Cooper	4000353C10	D	25 amp
<b>300 KVA</b>	Kearney	124080-25	A	25 amp
	Cooper	4038108C09	B	25 amp
	Cooper	4000358C10	C	25 amp
	Cooper	4000353C10	D	25 amp
<b>500 KVA</b>	Kearney	124080-30	A	30 amp
	Cooper	4038108C12	B	50 amp
	Cooper	4000358C12	C	50 amp
	Cooper	4000353C12	D	40 amp
<b>750 KVA</b>	Kearney	124080-35	A	35 amp
	Cooper	4000358C14	C	65 amp
	Cooper	4000353C14	D	65 amp
<b>1000 KVA</b>	Cooper	4000358C14	C	65 amp
	Cooper	4000353C14	D	65 amp
<b>1500 KVA</b>	Cooper	4000358C18	C	140 amp
	Cooper	4000353C17	D	140 amp
<b>2000 KVA</b>	Cooper	4038361C03CB	E	165 amp
	Cooper	4000353C17	D	140 amp
<b>2500 KVA</b>	Cooper	4038361C04CB	E	185 amp

Fuse Type	Fuse Description
<b>A</b>	Kearney Dual Element Bay-o-net Fuse
<b>B</b>	Cooper Dual Element Bay-o-net Fuse
<b>C</b>	Cooper Dual Sensing Bay-o-net Fuse
<b>D</b>	Cooper Current Sensing Bay-o-net
<b>E</b>	Cooper Apere Overload Dual Sensing Bay-o-net Fuse

# Three Phase Pad Mount Transformer

## 13200 Volt - 13800 Volt

KVA Rating	Manufacturer Name	Bayonet Fuse Catalog Number	Fuse Type (see below)	Amperage Rating
<b>45 KVA</b>	Kearney	124080-5	A	5 amp
	Cooper	4038108C03	B	5 amp
	Cooper	4000358C03	C	3 amp
	Cooper	4000353C04	D	6 amp
<b>75 KVA</b>	Kearney	124080-5	A	5 amp
	Cooper	4038108C04	B	6 amp
	Cooper	4000358C05	C	8 amp
	Cooper	4000353C06	D	10 amp
<b>112.5 KVA</b>	Kearney	124080-8	A	8 amp
	Cooper	4038108C06	B	12 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C06	D	10 amp
<b>150 KVA</b>	Kearney	124080-12	A	12 amp
	Cooper	4038108C07	B	15 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C08	D	15 amp
<b>225 KVA</b>	Kearney	124080-15	A	15 amp
	Cooper	4038108C09	B	25 amp
	Cooper	4000358C10	C	25 amp
	Cooper	4000353C10	D	25 amp
<b>300 KVA</b>	Kearney	124080-25	A	25 amp
	Cooper	4038108C09	B	25 amp
	Cooper	4000358C10	C	25 amp
	Cooper	4000353C10	D	25 amp
<b>500 KVA</b>	Kearney	124080-30	A	30 amp
	Cooper	4038108C12	B	50 amp
	Cooper	4000358C12	C	50 amp
	Cooper	4000353C12	D	40 amp
<b>750 KVA</b>	Kearney	124080-35	A	35 amp
	Cooper	4000358C14	C	65 amp
	Cooper	4000353C14	D	65 amp
<b>1000 KVA</b>	Cooper	4000358C14	C	65 amp
	Cooper	4000353C14	D	65 amp
<b>1500 KVA</b>	Cooper	4000358C18	C	140 amp
	Cooper	4000353C17	D	140 amp
<b>2000 KVA</b>	Cooper	4038361C05CB	E	185 amp
	Cooper	4000353C17	D	140 amp
<b>2500 KVA</b>	Cooper	4038361C05CB	E	185 amp

Fuse Type	Fuse Description
<b>A</b>	Kearney Dual Element Bay-o-net Fuse
<b>B</b>	Cooper Dual Element Bay-o-net Fuse
<b>C</b>	Cooper Dual Sensing Bay-o-net Fuse
<b>D</b>	Cooper Current Sensing Bay-o-net
<b>E</b>	Cooper Apere Overload Dual Sensing Bay-o-net Fuse



# Three Phase Pad Mount Transformer 24900 Volt

KVA Rating	Manufacturer Name	Bayonet Fuse Catalog Number	Fuse Type (see below)	Amperage Rating
<b>45 KVA</b>	Cooper	4038108C03	B	5 amp
	Cooper	4000358C03	C	3 amp
	Cooper	4000353C04	D	6 amp
<b>75 KVA</b>	Cooper	4038108C03	B	5 amp
	Cooper	4000358C03	C	3 amp
	Cooper	4000353C04	D	6 amp
<b>112.5 KVA</b>	Cooper	4038108C04	B	6 amp
	Cooper	4000358C05	C	8 amp
	Cooper	4000353C04	D	6 amp
<b>150 KVA</b>	Cooper	4038108C05	B	8 amp
	Cooper	4000358C05	C	8 amp
	Cooper	4000353C06	D	10 amp
<b>225 KVA</b>	Cooper	4038108C06	B	12 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C08	D	15 amp
<b>300 KVA</b>	Cooper	4038108C07	B	15 amp
	Cooper	4000358C08	C	15 amp
	Cooper	4000353C08	D	15 amp
<b>500 KVA</b>	Cooper	4038108C09	B	25 amp
	Cooper	4000358C10	C	25 amp
	Cooper	4000353C10	D	25 amp
<b>750 KVA</b>	Cooper	4038108C11	B	40 amp
	Cooper	4000358C12	C	50 amp
	Cooper	4000353C12	D	40 amp
<b>1000 KVA</b>	Cooper	4038108C12	B	50 amp
	Cooper	4000358C12	C	40 amp
<b>1500 KVA</b>	Cooper	4000358C14	C	65 amp
	Cooper	4000353C14	D	65 amp
<b>2000 KVA</b>	Cooper	4038361C04CB	E	165 amp
	Cooper	4000353C16	D	140 amp
<b>2500 KVA</b>	Cooper	4038361C04CB	E	165 amp
	Cooper	4000353C16	D	140 amp

Fuse Type	Fuse Description
<b>A</b>	Kearney Dual Element Bay-o-net Fuse
<b>B</b>	Cooper Dual Element Bay-o-net Fuse
<b>C</b>	Cooper Dual Sensing Bay-o-net Fuse
<b>D</b>	Cooper Current Sensing Bay-o-net
<b>E</b>	Cooper Apere Overload Dual Sensing Bay-o-net Fuse

## Maximum Number of Conductors in Conduit or Tubing 600 Volt Insulation

Conductor Size - AWG or MCM	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
<b>14</b>	13	24	39	69	94	154	X	X	X
<b>12</b>	10	18	29	51	70	114	164	X	X
<b>10</b>	6	11	18	32	44	73	104	160	X
<b>8</b>	3	5	9	16	22	36	51	79	136
<b>6</b>	1	4	6	11	15	26	37	57	98
<b>4</b>	1	2	4	7	9	16	22	35	60
<b>2</b>	1	1	3	5	7	11	16	25	43
<b>1/0</b>	X	1	1	3	4	7	10	15	27
<b>2/0</b>	X	1	1	2	3	6	8	13	22
<b>3/0</b>	X	1	1	1	3	5	7	11	18
<b>4/0</b>	X	1	1	1	2	4	6	9	15
<b>250</b>	X	X	1	1	1	3	4	7	12
<b>350</b>	X	X	1	1	1	2	3	5	9
<b>500</b>	X	X	X	1	1	1	2	4	7
<b>750</b>	X	X	X	X	1	1	1	2	4

## Physical Data for Aerial Cable Systems using AL Conductors

### 5,000 Volts

SIZE	Number of Strands	Insulation Thickness	O.D. Reg. Stranding	O.D. Compact Stranding	I/C Weight / 1000 FT		S/C, Messenger <sup>Ⓛ</sup> and Clamp, Weight / 1000 FT	
					Regular	Compact	Regular	Compact
4 AWG	7	.085"	.402"	---	76	---	483	---
2 AWG	7	.085"	.462"	---	111	---	588	---
1/0 AWG	7	.085"	.538"	.508"	159	151	732	708
2/0 AWG	7	.085"	.584"	.551"	194	183	837	804
3/0 AWG	7	.085"	.634"	.596"	234	222	957	921
4/0 AWG	7	.085"	.692"	.648"	286	270	1113	1065
266.8 CM	7	.085"	.756"	.707"	349	329	1302	1242
336.4 CM	19	.085"	.836"	.777"	422	403	1521	1464
350 CM	19	.085"	.849"	.788"	437	417	1694	1634
397.5 CM	19	.085"	.894"	.830"	490	467	1853	1784
477 CM	19	.085"	.963"	.892"	573	549	2102	2030
556.5 CM	19	.085"	1.026"	.950"	656	631	2351	2276
636 CM	37	.085"	1.088"	1.004" <sup>Ⓢ</sup>	737	712	2594	2519
795 CM	37	.085"	1.196"	1.102" <sup>Ⓢ</sup>	901	892	3086	3059

Ⓛ Based on 252 AWA Messenger @ 218# /MFT through 336.4 CM. Larger sizes based 052 AWA Messenger @ 346# /MFT

Ⓢ 19 Strand Conductor

### 15,000 Volts

SIZE	Number of Strands	Insulation Thickness	O.D. Reg. Stranding	O.D. Compact Stranding	I/C Weight / 1000 FT		S/C, Messenger <sup>Ⓛ</sup> and Clamp, Weight / 1000 FT	
					Regular	Compact	Regular	Compact
4 AWG	7	.150"	.532"	---	114	---	615	---
2 AWG	7	.150"	.592"	---	158	---	747	---
1/0 AWG	7	.150"	.668"	.638"	213	202	912	879
2/0 AWG	7	.150"	.714"	.681"	251	237	1026	984
3/0 AWG	7	.150"	.764"	.726"	296	281	1161	1116
4/0 AWG	7	.150"	.822"	.778"	354	334	1335	1275
266.8 CM	7	.150"	.886"	.837"	423	398	1542	1467
336.4 CM	19	.150"	.966"	.907"	502	478	1779	1707
350 CM	19	.150"	.979"	.918"	518	492	1955	1877
397.5 CM	19	.150"	1.024"	.960"	575	547	2126	2042
477 CM	19	.150"	1.093"	1.022"	664	633	2393	2300
556.5 CM	19	.150"	1.156"	1.080"	753	721	2660	2564
636 CM	37	.150"	1.218"	1.134" <sup>Ⓢ</sup>	839	807	2918	2822
795 CM	37	.160"	1.346"	1.252" <sup>Ⓢ</sup>	1031	1012	3494	3437

Ⓛ Based on 252 AWA Messenger @ 218# /MFT through 336.4 CM. Larger sizes based 052 AWA Messenger @ 346# /MFT

Ⓢ 19 Strand Conductor

### 15,000 Volts -- TREE PROOF CABLE

SIZE	Number of Strands	Insulation Thickness	O.D. Reg. Stranding	O.D. Compact Stranding	I/C Weight / 1000 FT		S/C, Messenger <sup>Ⓛ</sup> and Clamp, Weight / 1000 FT	
					Regular	Compact	Regular	Compact
2 AWG	7	.150"	.622"	---	170	---	783	---
1/0 AWG	7	.150"	.698"	.668"	227	215	954	918
2/0 AWG	7	.150"	.744"	.711"	266	251	1071	1026
3/0 AWG	7	.150"	.794"	.756"	312	297	1209	1164
4/0 AWG	7	.150"	.852"	.808"	372	351	1389	1326
266.8 CM	7	.150"	.916"	.867"	442	416	1599	1521
336.4 CM	19	.150"	.996"	.937"	522	497	1967	1892
397.5 CM	19	.150"	1.054"	.990"	597	568	2192	2105
477 CM	19	.150"	1.133"	1.062"	695	662	2486	2387
556.5 CM	19	.150"	1.196"	1.120"	786	752	2759	2657
795 CM	37	.160"	1.386"	1.292" <sup>Ⓢ</sup>	1072	1049	3617	3548

Ⓛ Based on 252 AWA Messenger @ 218# /MFT through 336.4 CM. Larger sizes based 052 AWA Messenger @ 346# /MFT

Ⓢ 19 Strand Conductor

## Physical Data for Aerial Cable Systems using AL Conductors

### 25,000 Volts

SIZE	Number of Strands	Insulation Thickness	O.D. Reg. Stranding	O.D. Compact Stranding	I/C Weight / 1000 FT		J/C, Messenger <sup>Ⓢ</sup> and Clamp, Weight / 1000 FT	
					Regular	Compact	Regular	Compact
2 AWG	7	.250"	.822"	---	270	---	1263	---
1/0 AWG	7	.250"	.898"	.868"	338	321	1467	1416
2/0 AWG	7	.250"	.944"	.911"	382	363	1599	1542
3/0 AWG	7	.250"	.994"	.956"	437	414	1764	1695
4/0 AWG	7	.250"	1.052"	1.008"	503	476	1962	1881
266.8 CM	7	.250"	1.116"	1.067"	583	550	2202	2103
336.4 CM	19	.250"	1.196"	1.137"	675	640	2478	2373
350 CM	19	.250"	1.209"	1.148"	693	657	2532	2424
397.5 CM	19	.250"	1.254"	1.190"	758	718	2727	2607
477 CM	19	.250"	1.333"	1.262"	859	815	3030	2898
556.5 CM	19	.250"	1.396"	1.320"	957	912	3324	3189
636 CM	37	.250"	1.458"	1.374" ②	1054	1005	3615	3468
795 CM	37	.250"	1.566"	1.472" ②	1246	1211	4191	4086

① Based on 052 AWA Messenger @ 346# /MFT for all sizes.

② 19 Strand Conductor

### 35,000 Volts

SIZE	Number of Strands	Insulation Thickness	O.D. Reg. Stranding	O.D. Compact Stranding	I/C Weight / 1000 FT		J/C, Messenger <sup>Ⓢ</sup> and Clamp, Weight / 1000 FT	
					Regular	Compact	Regular	Compact
1/0 AWG	7	.300"	.998"	.968"	403	384	1662	1605
2/0 AWG	7	.300"	1.044"	1.011"	450	429	1803	1740
3/0 AWG	7	.300"	1.094"	1.056"	508	483	1977	1902
4/0 AWG	7	.300"	1.152"	1.108"	579	548	2190	2097
266.8 CM	7	.300"	1.216"	1.167"	663	625	2442	2328
336.4 CM	19	.300"	1.296"	1.237"	761	721	2736	2616
350 CM	19	.300"	1.309"	1.248"	780	738	2793	2667
397.5 CM	19	.300"	1.354"	1.290"	847	803	2994	2862
477 CM	19	.300"	1.433"	1.362"	953	903	3382	3232
556.5 CM	19	.300"	1.496"	1.420"	1056	1004	3691	3535
636 CM	37	.300"	1.558"	1.476" ②	1156	1102	3991	3829
795 CM	37	.300"	1.666"	1.572" ②	1355	1315	4588	4468

① Based on 052 AWA Messenger @ 346# /MFT through 397.5 CM. Larger sizes based 1/2" Alumoweld (7) No. 6 @ 416# /MFT

② 19 Strand Conductor

### 46,000 Volts

SIZE	Number of Strands	Insulation Thickness	O.D. Reg. Stranding	O.D. Compact Stranding	I/C Weight / 1000 FT		J/C, Messenger <sup>Ⓢ</sup> and Clamp, Weight / 1000 FT	
					Regular	Compact	Regular	Compact
1/0 AWG	7	.400"	1.198"	1.168"	533	509	2090	2018
2/0 AWG	7	.400"	1.244"	1.211"	586	557	2249	2162
3/0 AWG	7	.400"	1.294"	1.256"	648	616	2435	2339
4/0 AWG	7	.400"	1.352"	1.308"	725	687	2666	2552
266.8 CM	7	.400"	1.416"	1.367"	816	773	2939	2810
336.4 CM	19	.400"	1.496"	1.437"	920	874	3251	3113
350 CM	19	.400"	1.509"	1.448"	941	895	3314	3176
397.5 CM	19	.400"	1.554"	1.490"	1012	963	3527	3380
477 CM	19	.400"	1.633"	1.562"	1146	1091	3929	3764
556.5 CM	19	.400"	1.696"	1.620"	1259	1198	4268	4085
636 CM	37	.400"	1.758"	1.676" ②	1357	1314	4562	4433
795 CM	37	.400"	1.866"	1.772" ②	1582	1511	5237	5024

① Based on 1/2", 7 #6 Alumoweld Messenger @ 416# /MFT

② 19 Strand Conductor