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SPAN LENGTH LIMITS FOR 6-PIN, 8-PIN & FIBERGLASS ARMS

08/21/96

OSAG5 / We#

#6 MHD SOLID COPPER TBWP - SAG TABLE

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		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
70		2	3	3	4	5		4	5	6	7	8	10	9
80		3	4	4	5	7		5	7	8	9	11	13	12
90		4	5	6	7	8		7	9	10	12	13	17	15
100		5	6	7	8	10		8	11	13	15	17	21	19
110		6	7	8	10	12		10	13	15	18	20	25	23
120		7	8	10	12	15		12	15	18	21	24	30	27
130		8	10	12	14	17		14	18	21	25	28	35	32
140		9	11	14	17	20		16	21	25	29	32	40	37
150	RS	11	13	15	19	23		19	24	28	33	37	46	42
160		12	15	18	22	26		21	27	32	37	42	53	48
170		14	16	20	25	30		24	31	36	42	48	59	54
180		15	18	22	28	33		27	34	41	47	53	67	61
TENSION lbs		359	295	244	198	163		202	159	134	115	102	82	509

MAXIMUM LOADED TENSION FOR GUYING – 761 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.
6. #6 HD Solid copper TBWP conductor that is damaged and needs additional conductor shall be spliced with #6 Bare HD Solid copper (stock code #133-0680).

Specifications	
Feet per lb.	8.93
Breaking Load	1280
Diameter	.1620
Strands	1
Cross-Sectional Area	.02061
Stock Code No.	133-6582

04/10/97

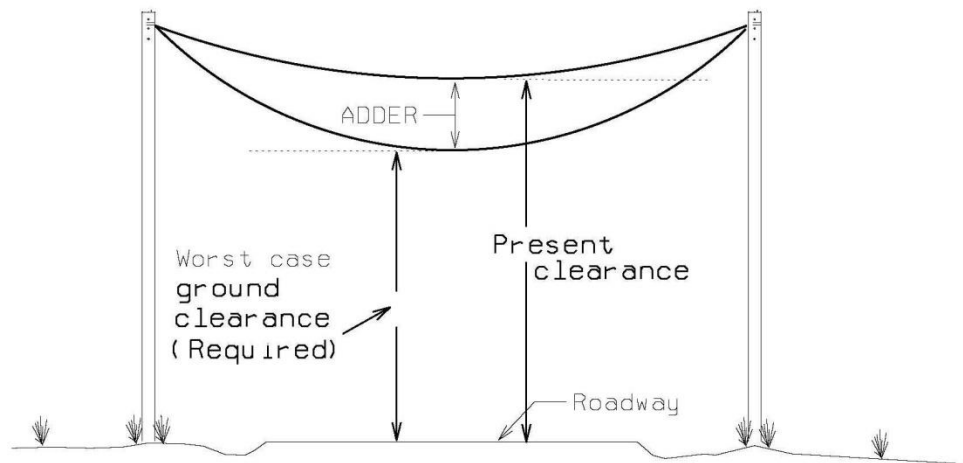
OSAG6 / We#

#6 MHD SOLID COPPER TBWP - ADDER TABLE

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ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
AMBIENT TEMPERATURE (°F)					
SPAN FEET	0-31	32-59	60-89	90-119	120>
70	6	5	4	3	2
80	8	6	5	4	2
90	10	8	7	5	4
100	13	10	8	6	4
110	15	12	10	7	5
120	18	15	12	9	6
130	21	17	14	10	7
140	24	19	15	11	8
150	27	22	18	13	9
160	32	26	21	16	11
170	35	28	23	17	11
180	40	33	26	20	14

Maximum loaded tension for guying – 761 lbs.



Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
Code Clearance required (see [Std CL5](#))  
(at worst case sag conditions)

Adder 17"

Required clearance @ 40 degrees F

18'6"

+1' 5"

19'11"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.



08/21/96

**OSAG10 / We#****#4 MHD SOLID COPPER TBWP - SAG TABLE**

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		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
70		5	6	7	8	8		6	7	8	8	9	10	9
80		7	8	9	10	11		8	9	10	11	11	13	11
90		9	10	11	12	13		10	11	12	13	14	17	14
100		11	13	14	15	17		12	14	15	17	18	21	18
110		13	15	17	19	20		15	17	19	20	22	25	21
120		16	18	20	22	24		18	20	22	24	26	30	25
130		18	21	24	26	28		21	24	26	28	30	35	30
140		21	25	27	30	33		24	27	30	33	35	41	34
150	RS	24	28	31	34	37		28	31	34	37	40	47	40
160		28	32	36	39	43		32	36	39	43	46	53	45
170		31	36	40	44	48		36	40	44	48	52	60	51
180		35	41	45	50	54		40	45	50	54	58	67	57
TENSION lbs		228	197	177	161	148		200	177	161	148	138	119	614

MAXIMUM LOADED TENSION FOR GUYING – 935 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	6.10
Breaking Load	1584
Diameter	.2043
Strands	1
Cross-Sectional Area	.03278
Stock Code No.	133-6641

04/10/97

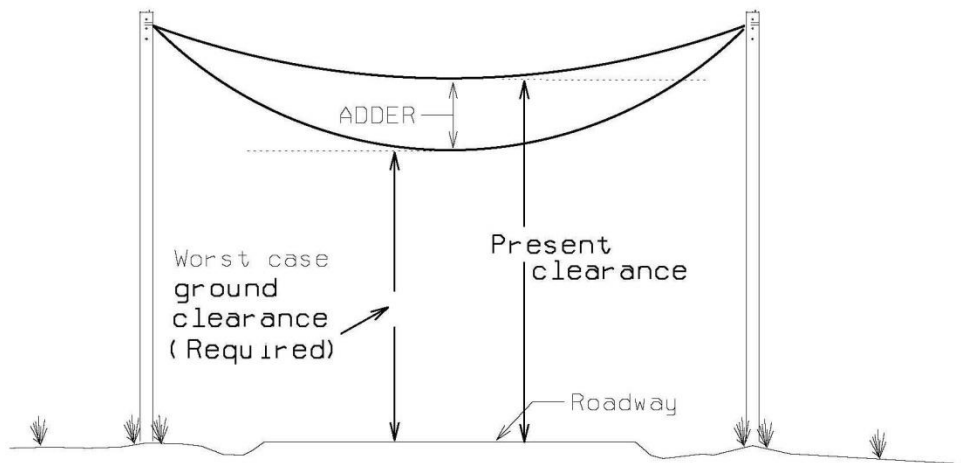
OSAG11 / We#

#4 MHD SOLID COPPER TBWP - ADDER TABLE

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ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
AMBIENT TEMPERATURE (°F)					
SPAN FEET	0-31	32-59	60-89	90-119	120>
70	4	3	2	2	1
80	5	4	3	2	2
90	7	6	5	4	3
100	9	7	6	4	3
110	10	8	6	5	3
120	12	10	/	6	4
130	14	11	9	7	5
140	17	14	11	8	6
150	19	16	13	10	7
160	21	17	14	10	7
170	24	20	16	12	8
180	27	22	17	13	9

Maximum loaded tension for guying – 935 lbs.



Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
Code Clearance required (see [Std CL5](#))  
(at worst case sag conditions)

Adder 11"

Required clearance @ 40 degrees F

$$\begin{array}{r} 18'6'' \\ + 11'' \\ \hline 19'5'' \end{array}$$

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

06/19/97

OSAG15 / We#

#4 7 STR HD COPPER – SAG TABLE

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		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
50		1	1	1	1	1		1	1	1	2	2	4	3
60		1	1	1	2	2		1	1	2	2	3	5	4
70		1	1	2	2	3		1	2	2	3	4	7	5
80		2	2	2	3	4		2	2	3	4	6	9	7
90		2	2	3	3	5		2	3	4	5	7	12	9
100		2	3	3	4	6		3	4	5	6	9	14	11
110		3	3	4	5	7		3	4	6	8	11	17	13
120		3	4	5	6	8		4	5	7	9	13	21	16
130		4	5	6	7	10		5	6	8	11	15	24	19
140		5	6	7	8	11		6	7	9	13	17	28	22
150	RS	5	6	8	10	13		6	8	11	15	20	32	25
160		6	7	9	11	14		7	9	12	17	22	37	29
170		7	8	10	12	16		8	11	14	19	25	41	32
180		8	9	11	14	18		9	12	15	21	28	46	36
190		9	10	12	15	20		10	13	17	23	32	52	40
200		10	11	14	17	22		11	15	19	24	35	57	45
TENSION lbs		811	684	571	452	344		686	532	408	298	221	135	787

MAXIMUM LOADED TENSION FOR GUYING – 1104 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	7.75
Breaking Load	1938
Diameter	.232
Strands	7 STR
Cross-Sectional Area	.03278
Stock Code No.	133-0976

01/01/13

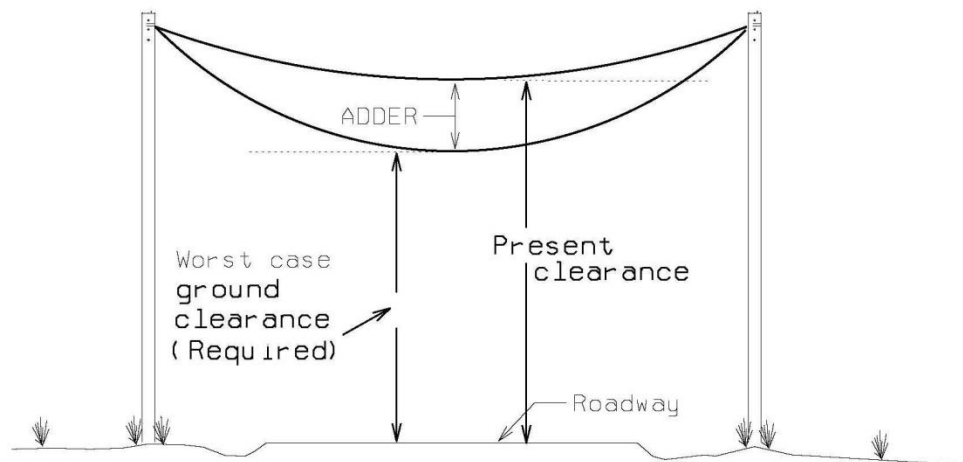
OSAG16 / We#

#4 7 STR HD COPPER – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
50	3	3	3	2	2
60	4	4	3	3	2
70	6	5	5	4	3
80	7	7	6	5	3
90	10	9	8	7	5
100	11	10	9	8	5
110	14	13	11	9	6
120	17	16	14	12	8
130	19	18	16	13	9
140	22	21	19	15	11
150	26	24	21	17	12
160	30	28	25	20	15
170	33	30	27	22	16
180	37	34	31	25	18
190	42	39	35	29	20
200	46	42	38	31	22

Maximum loaded tension for guying – 1104 lbs.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 18"  
 Required clearance @ 40 degrees F

18'6"  
 +1'6"  
 20'0"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

06/19/97

OSAG20 / We#

#1 HD SOLID COPPER – SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
50		0	1	1	1	1		1	1	1	1	1	3	2
60		1	1	1	1	1		1	1	1	1	2	4	2
70		1	1	1	1	2		1	1	2	2	3	6	3
80		1	1	2	2	2		1	2	2	3	4	7	4
90		2	2	2	2	3		2	2	3	3	5	9	5
100		2	2	3	3	4		2	3	3	4	6	11	7
110		2	3	3	4	4		3	3	4	5	7	14	8
120		3	3	4	4	5		3	4	5	6	8	16	10
130		3	4	4	5	6		4	4	5	7	10	19	11
140		4	4	5	6	7		4	5	6	8	11	22	13
150	RS	4	5	6	7	8		5	6	7	9	13	25	15
160		5	6	6	8	9		5	7	8	11	14	29	17
170		6	6	7	8	10		6	7	9	12	16	33	19
180		6	7	8	9	11		7	8	10	13	18	37	22
190		7	8	9	11	13		8	9	11	15	20	41	24
200		8	9	10	12	14		8	10	13	17	23	45	27
TENSION lbs		1914	1700	1506	1296	1085		1802	1426	1198	916	671	337	1657

MAXIMUM LOADED TENSION FOR GUYING – 2101 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

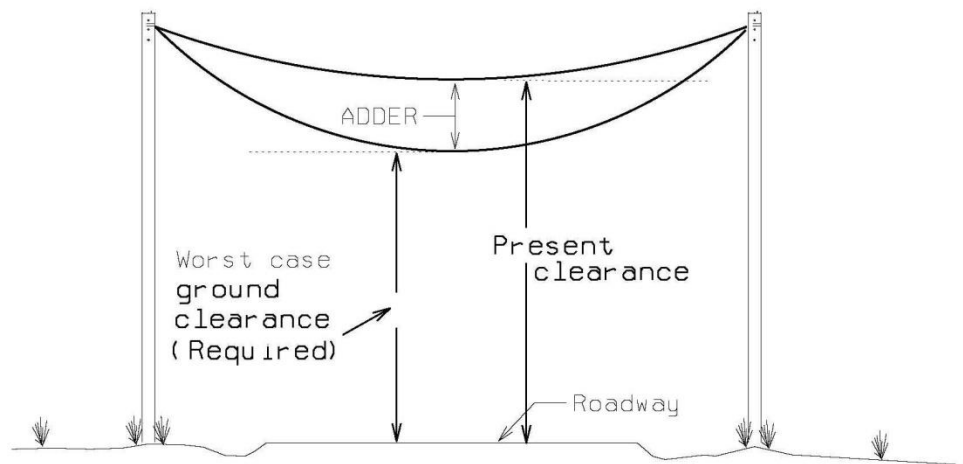
## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	3.94
Breaking Load	3688
Diameter	.2893
Strands	1 STR
Cross-Sectional Area	.06573
Stock Code No.	133-0688

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
50	2	2	2	2	2
60	3	3	3	3	2
70	5	5	4	4	3
80	6	5	5	4	3
90	7	7	6	6	4
100	9	8	8	7	5
110	11	11	10	9	7
120	13	12	11	10	8
130	15	15	14	12	9
140	18	17	16	14	11
150	20	19	18	16	12
160	24	22	21	18	15
170	27	26	24	21	17
180	30	29	27	24	19
190	33	32	30	26	21
200	37	35	32	28	22

Maximum loaded tension for guying – 2101 lbs.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 15"  
 Required clearance @ 40 degrees F

18'6"  
 +1'3"  
 19'9"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

08/21/96

OSAG25 / We#

#2 STR MHD COPPER TBWP – SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
70		3	4	4	5	6		4	5	6	7	8	10	8
80		4	5	6	7	8		6	7	8	10	11	13	10
90		5	6	7	9	11		7	9	10	12	14	17	13
100		6	8	9	11	13		9	11	13	15	17	21	16
110		7	9	11	13	16		10	13	16	18	20	25	19
120		9	11	13	16	19		12	16	19	21	24	30	23
130		10	13	15	19	22		15	18	22	25	28	35	27
140		12	15	18	22	24		17	21	25	29	33	41	31
150	RS	14	17	21	25	27		19	25	29	33	38	47	36
160		16	19	23	28	31		22	28	33	38	43	53	41
170		18	22	26	32	38		25	31	37	43	48	60	46
180		20	24	30	36	42		28	35	42	48	54	68	51
190		22	27	33	40	47		31	39	46	54	61	75	57
200		24	30	37	44	52		34	44	51	59	67	83	64
TENSION lbs		668	537	443	366	311		471	372	315	273	242	195	850

MAXIMUM LOADED TENSION FOR GUYING – 1200 LBS.  
 THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

□ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	3.70 Ft
Breaking Load	2361 lbs.
Diameter	.2576 in.
Strands	7 Str.
Cross-Sectional Area	.05213 Sq. In.
Standard Reel	1000 Ft. (270 lbs)
Stock Code No.	133-6986

04/10/97

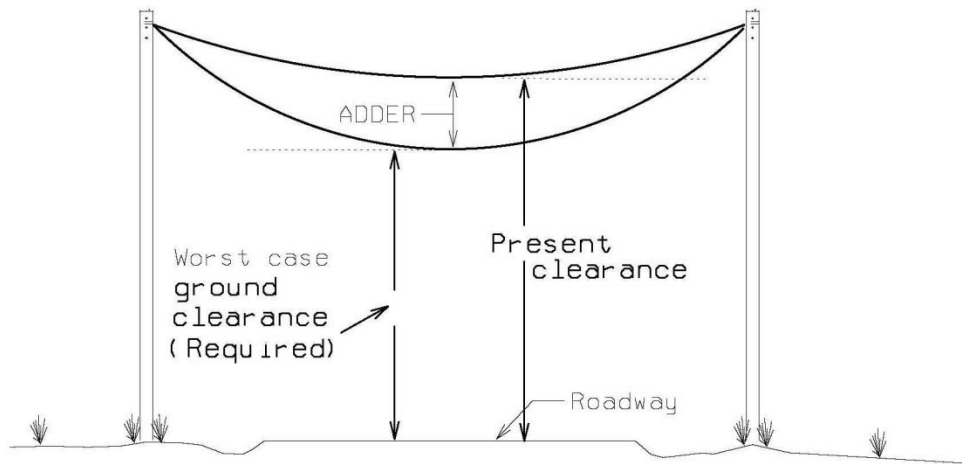
OSAG26 / We#

#2 STR MHD COPPER TBWP – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
AMBIENT TEMPERATURE (°F)					
SPAN FEET	0-31	32-59	60-89	90-119	120>
70	6	5	4	3	2
80	7	6	5	3	2
90	10	8	7	5	3
100	12	10	8	6	4
110	15	12	9	7	5
120	18	14	11	9	6
130	20	17	13	10	7
140	24	20	16	12	8
150	28	22	18	14	9
160	31	25	20	15	10
170	35	29	23	17	12
180	40	33	26	20	14
190	44	36	29	21	14
200	49	39	32	24	16

Maximum loaded tension for guying – 1200 lbs.



Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
Code Clearance required (see [Std CL5](#))  
(at worst case sag conditions)

Adder 17"

Required clearance @ 40 degrees F

18'6"

+1' 5"

19'11"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.



## We Energies and Wisconsin Public Service Electric Distribution Standards

01/01/13

**OSAG30 / We#**
**1/0, 2/0, 4/0, 250 HD TBWP COPPER – SAG TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
70		4	5	6	7	8		4	5	6	7	8	10	7
80		5	6	7	9	10		6	7	8	9	11	13	9
90		6	8	9	11	13		7	8	10	12	13	17	11
100		8	10	12	14	16		8	10	12	15	16	21	14
110		9	12	14	17	19		10	13	15	18	20	25	16
120		11	14	17	20	22		12	15	18	21	24	30	20
130		13	17	20	23	26		14	18	21	25	28	35	23
140		15	19	23	27	30		16	21	24	28	32	40	27
150	RS	18	22	26	31	35		18	23	28	33	37	46	30
160		20	26	30	35	40		21	27	32	37	42	53	36
170		23	29	34	40	45		24	30	36	42	47	59	40
180		25	32	38	44	51		26	33	40	47	53	67	44
190		28	36	42	50	57		29	38	45	52	59	74	49
200		31	39	47	55	63		33	42	50	58	66	82	56
TENSION (lbs) CONDUCTOR														
1/0		850	665	552	469	411		781	610	511	439	388	310	1181
2/0		1035	808	672	572	501		967	752	630	541	478	382	1366
4/0		1542	1203	1004	857	754		1471	1143	957	822	727	582	1857
250 MCM		1718	1424	1244	1102	996		1639	1360	1192	1062	963	800	2273

MAXIMUM LOADED TENSION FOR GUYING – LISTED IN SPECIFICATIONS TABLE BELOW.  
THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

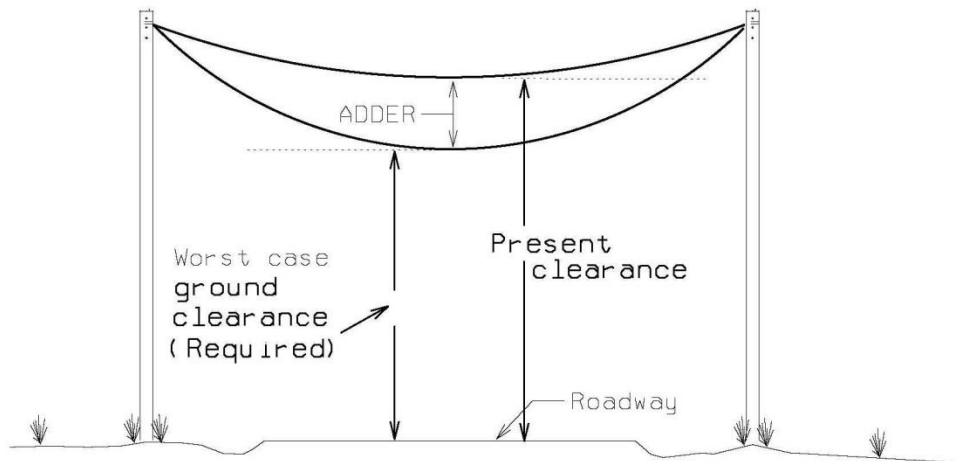
□ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The mid-span minimum clearance of 14” does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

	Specifications			
	1/0 HD TBWP CU	2/0 HD TBWP CU	4/0 HD TBWP CU	250 HD TBWP CU
Max. Guying Tension	1615	1850	2470	2950
Ft. per lb.	2.36	1.92	1.25	1.02
Diameter	.368	.414	.522	.574
Cross-Sectional Area	.08289	.1045	.1662	.1963
Strands	(7X.1228)	(7X.1379)	(7X.1739)	(19X.1147)
Breaking Load	4752	5926	9154	11360
Stock Code No.	133-7104	133-7163	133-7281	133-7340

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
70	6	5	4	3	2
80	7	6	5	4	2
90	10	9	7	5	4
100	13	11	9	6	5
110	15	12	10	7	5
120	18	15	12	9	6
130	21	17	14	10	7
140	24	19	16	12	8
150	28	23	18	13	9
160	32	26	21	16	11
170	35	29	23	17	12
180	41	34	27	20	14
190	45	36	29	22	15
200	49	40	32	24	16

Maximum loaded tension for guying – listed in Specifications table in OSAG30.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
Code Clearance required (see [Std CL5](#))  
(at worst case sag conditions)

Adder 17"

Required clearance @ 40 degrees F

18'6"

+1' 5"

19'11"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

08/21/96

OSAG35 / We#

**2, 1/0, 2/0, 4/0 – 7 STRAND MHD & HD BARE COPPER –  
SAG TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		5	7	8	10	11		6	8	9	11	13	15	11
110		6	8	10	12	14		7	10	11	13	15	19	13
120		8	10	12	14	16		9	11	13	15	18	22	15
130		9	11	14	16	19		10	13	16	19	22	26	18
140		10	13	16	19	22		12	15	18	21	25	30	21
150		12	15	18	22	25		14	18	21	25	29	35	24
160		14	17	21	25	29		16	20	24	29	34	39	28
170		15	20	24	28	32		18	23	27	32	38	45	31
180		17	22	27	31	36		20	25	30	36	42	50	35
190		19	24	30	35	40		22	28	34	40	48	56	38
200	RS	21	27	33	39	45		25	31	37	44	49	62	43
210		24	30	36	43	49		27	35	41	49	57	68	47
220		26	33	40	47	54		30	38	45	53	63	75	52
230		28	36	43	51	59		33	42	49	58	69	82	57
240		31	39	47	56	64		36	46	53	63	74	89	62
250		33	42	51	60	69		39	49	58	69	81	96	67
TENSION lbs CONDUCTOR														
#2		584	455	375	316	275		499	391	328	282	250	200	889
1/0		891	697	578	489	427		810	632	529	454	401	320	1209
2/0		1169	938	783	660	572		958	758	641	554	493	396	1374
4/0		1835	1473	1230	1039	902		1610	1261	1058	908	802	640	1978

Maximum loaded tension for guying – listed in specifications below.

The span between the dashed lines is the ruling span (RS).

□ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications				
	#2	1/0	2/0	4/0
Max. Guying Tension	1315 lb.	1720 lb.	1925 lb.	2675 lb.
Ft. per lb.	4.88 Ft.	3.07 Ft.	2.43 Ft.	1.53 Ft.
Diameter	.292 in.	.368 in.	.414 in.	.522 in.
Cross-Sectional Area	.05213 in.	.08289 in.	.1045 in.	.1662 in.
MHD or HD	HD	HD	MHD	MHD
Strands	7	7	7	7
Breaking Load	3045 lb.	4752 lb.	4640 lb.	7278 lb.
Stock Code No.	133-1035	133-1153	133-1212	133-1271

04/10/97

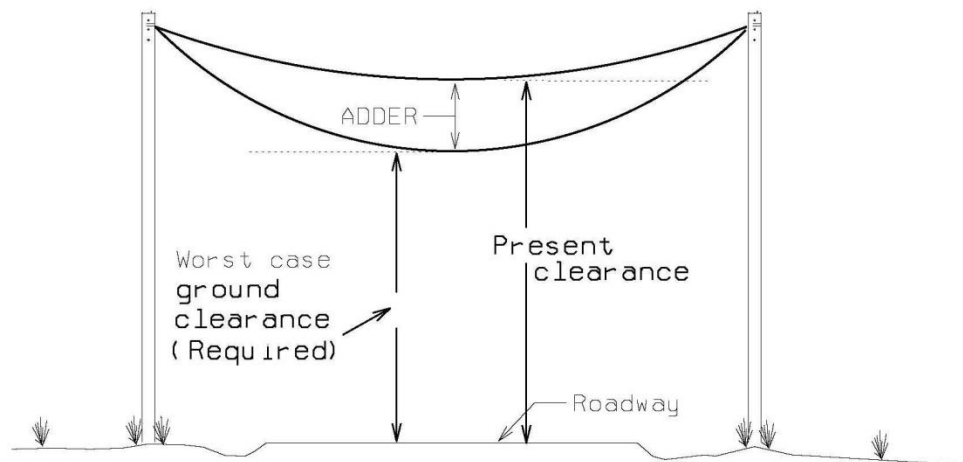
OSAG36 / We#

**2, 1/0, 2/0, 4/0, 7 STRAND MHD & HD BARE COPPER –  
ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	9	7	6	4	2
110	12	9	8	6	4
120	13	11	9	7	4
130	16	13	10	7	4
140	18	15	12	9	5
150	21	17	14	10	6
160	23	19	15	10	5
170	27	22	18	13	7
180	30	25	20	14	8
190	34	28	22	16	8
200	37	31	25	18	13
210	41	33	27	19	11
220	45	37	30	22	12
230	49	40	33	24	13
240	53	43	36	26	15
250	57	47	38	27	15

Maximum loaded tension for guying – listed in Specifications.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 13"  
 Required clearance @ 40 degrees F

18'6"  
 +1'1"  
 19'7"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

08/21/96

OSAG40 / We#

3 - #12 COPPERWELD – SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
200		5	5	6	7	8		8	10	11	14	16	23	34
210		5	6	7	8	9		9	11	13	15	18	25	37
220		6	7	7	8	9		10	12	14	17	20	27	41
230		7	7	8	9	10		11	13	15	18	22	30	43
240		7	8	9	10	11		12	14	17	20	23	33	49
250		8	9	9	11	12		13	15	18	21	25	35	53
260		8	9	10	12	13		14	17	19	23	28	38	57
270		9	10	11	12	14		15	18	21	25	30	41	61
280		10	11	12	13	15		16	19	22	27	32	45	66
290		10	12	13	14	16		17	20	24	29	34	48	71
300		11	12	14	15	17		18	22	26	31	37	51	76
310		12	13	15	16	19		20	23	28	33	39	55	81
320		13	14	16	17	20		21	25	29	35	42	58	86
330		14	15	16	19	21		22	26	31	37	44	62	92
340		14	16	18	20	22		24	28	33	40	47	66	97
350	RS	15	17	19	21	24		25	30	35	42	50	70	103
360		16	18	20	22	25		26	32	37	44	53	74	109
370		17	19	21	23	27		28	33	39	47	56	78	115
380		18	20	22	25	28		29	35	41	49	59	82	122
390		19	21	23	26	29		31	37	44	52	62	86	128
400		20	22	24	27	31		33	39	46	55	65	91	135
410		21	23	25	29	33		34	41	48	58	68	95	142
420		22	24	27	30	34		36	43	51	60	72	100	149
TENSION lbs		663	599	543	483	424		403	338	287	240	202	144	846

MAXIMUM LOADED TENSION FOR GUYING – 1278 LBS.  
 THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

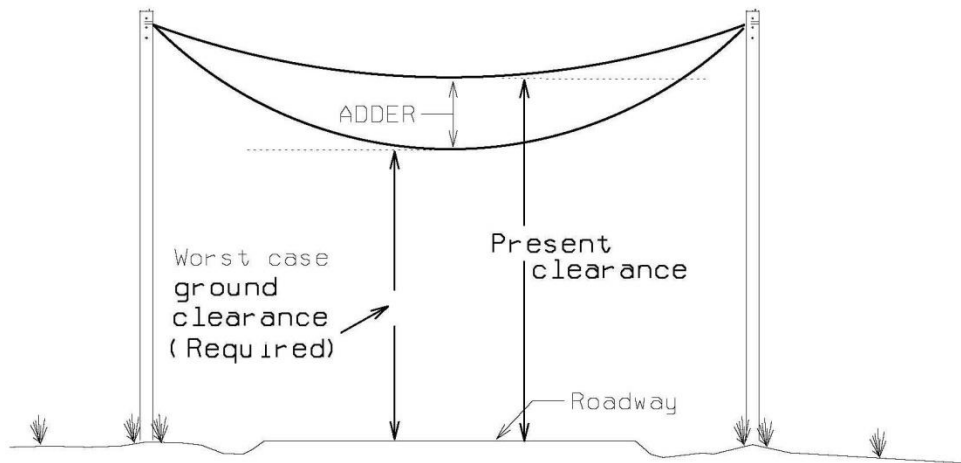
□ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
5. Do not use this conductor in railroad crossing spans.
6. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	18.25 ft.
Breaking Load	2236 lbs
Diameter	0.174 in.
Strands	3 x #12 (.0808)
Cross-Sectional Area	.01539
Stock Code No.	133-1952

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
200	26	24	23	20	18
210	28	26	24	22	19
220	31	29	27	24	21
230	32	30	28	25	21
240	37	35	32	29	26
250	40	38	35	32	28
260	43	40	38	34	29
270	46	43	40	36	31
280	50	47	44	39	34
290	54	51	47	42	37
300	58	54	50	45	39
310	61	58	53	48	42
320	65	61	57	51	44
330	70	66	61	55	48
340	73	69	64	57	50
350	78	73	68	61	53
360	83	77	72	65	56
370	87	82	76	68	59
380	93	87	81	73	63
390	97	91	84	76	66
400	102	96	89	80	70
410	108	101	94	84	74
420	113	106	98	89	77

Maximum loaded tension for guying – 1278 lbs.



Example of Roadway clearance

Span Length 230', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)

18'6"  
 +2'6"  
 21'0"

Required clearance @ 40 degrees F

Present clearance @ 40 degrees F

22'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

08/21/96

OSAG45 / We#

3 - #10 COPPERWELD – SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
200		6	7	8	10	11		8	10	12	14	17	23	29
210		7	8	9	11	12		9	11	13	16	18	26	32
220		8	9	10	12	14		10	12	14	17	20	28	35
230		8	10	11	13	15		11	13	16	19	22	31	39
240		9	11	12	14	16		12	14	17	20	24	33	42
250		10	11	13	15	18		13	16	18	22	26	36	46
260		11	12	14	16	19		14	17	20	24	28	39	49
270		12	13	15	18	21		15	18	22	26	30	42	53
280		13	14	16	19	22		16	20	23	28	33	46	57
290		13	15	17	20	24		18	21	25	30	35	49	61
300		14	16	19	22	25		19	22	27	32	37	52	66
310		15	18	20	23	27		20	24	28	34	40	56	70
320		16	19	21	25	29		21	26	30	36	43	60	75
330		17	20	23	26	31		23	27	32	39	45	63	79
340		19	21	24	28	33		24	29	34	41	48	67	84
350	RS	20	22	25	30	35		26	31	36	44	51	71	89
360		21	24	27	31	37		27	32	38	46	54	75	94
370		22	25	28	33	39		29	34	40	49	57	80	100
380		23	26	30	35	41		30	36	43	52	60	84	105
390		24	28	32	37	43		32	38	45	54	63	88	111
400		26	29	33	39	45		33	40	47	57	67	93	117
410		27	31	35	41	47		35	42	50	60	70	98	125
420		28	32	37	43	50		37	44	52	63	73	103	129
TENSION lbs		814	714	628	542	463		625	523	443	371	314	225	1103

MAXIMUM LOADED TENSION FOR GUYING – 1603 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	11.48 ft.
Breaking Load	3221 lbs
Diameter	.220 in.
Strands	3 x #10 (.1019)
Cross-Sectional Area	.02446 sq. in.
Stock Code No.	133-2011

04/10/97

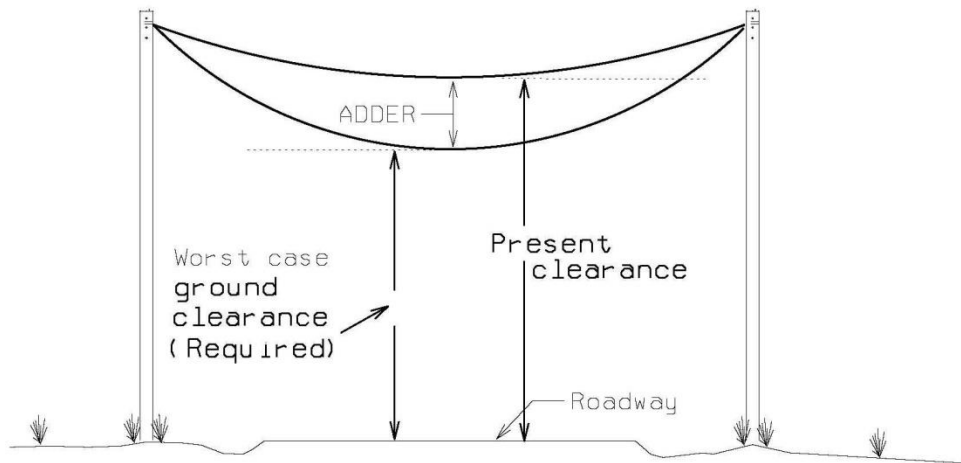
OSAG46 / We#

3 - #10 COPPERWELD – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
200	21	19	17	15	12
210	23	21	19	16	14
220	25	23	21	18	15
230	28	26	23	20	17
240	30	28	25	22	18
250	33	30	28	24	20
260	35	32	29	25	21
270	38	35	31	27	23
280	41	37	34	29	24
290	43	40	36	31	26
300	47	44	39	34	29
310	50	46	42	36	30
320	54	49	45	39	32
330	56	52	47	40	34
340	60	55	50	43	36
350	63	58	53	45	38
360	67	62	56	48	40
370	71	66	60	51	43
380	75	69	62	53	45
390	79	73	66	57	48
400	84	77	70	60	50
410	90	83	75	65	55
420	92	85	77	66	56

Maximum loaded tension for guying – 1603 lbs.



Example of Roadway clearance

Span Length 280', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 37"  
 Required clearance @ 40 degrees F

18'6"  
 +3' 1"  
 21'7"

Present clearance @ 40 degrees F

22'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.



08/21/96

OSAG50 / We#

#8A COPPERWELD COMPOSITE CONDUCTOR – SAG  
TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
200		5	5	6	6	7		12	15	18	20	23	30	36
210		6	6	6	7	8		14	16	19	23	26	33	39
220		6	7	7	8	9		15	18	21	25	28	37	43
230		7	7	8	8	9		16	20	23	27	31	40	47
240		7	8	8	9	10		18	21	25	29	34	43	51
250		8	8	9	10	11		19	23	27	32	37	47	56
260		8	9	10	11	12		21	25	30	35	40	51	60
270		9	10	11	12	13		22	27	32	37	43	55	65
280		10	11	11	13	14		24	29	34	40	46	59	70
290		11	11	12	13	15		26	31	37	43	49	63	75
300		11	12	13	14	16		28	34	40	46	53	68	80
310		12	13	14	15	17		30	36	42	49	56	73	86
320		13	14	15	16	18		31	38	45	52	60	77	91
330		14	15	16	17	19		33	41	48	56	64	82	97
340		14	16	17	18	21		36	43	51	59	68	87	103
350	RS	15	17	18	20	22		38	46	54	63	72	92	109
360		16	17	19	21	23		40	48	57	66	76	98	115
370		17	18	20	22	24		42	51	60	70	80	103	122
380		18	19	21	23	26		44	54	63	74	85	109	129
390		19	20	22	24	27		47	57	67	78	89	115	135
400		20	22	23	26	28		49	60	70	82	94	121	143
410		21	23	24	27	30		52	63	74	86	99	127	150
420		22	24	26	28	31		54	66	77	90	104	133	157
TENSION lbs		891	827	767	699	627		363	299	254	218	190	148	860

MAXIMUM LOADED TENSION FOR GUYING – 1307 LBS.  
THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	13.46 ft.
Breaking Load	2233 lbs
Diameter	0.199 in.
Strands	3 (1 x .1127 CW, 2 x .07969 HD CU)
Cross-Sectional Area	.01995
Standard Reel	5400 ft.
Stock Code No.	133-1598

04/10/97

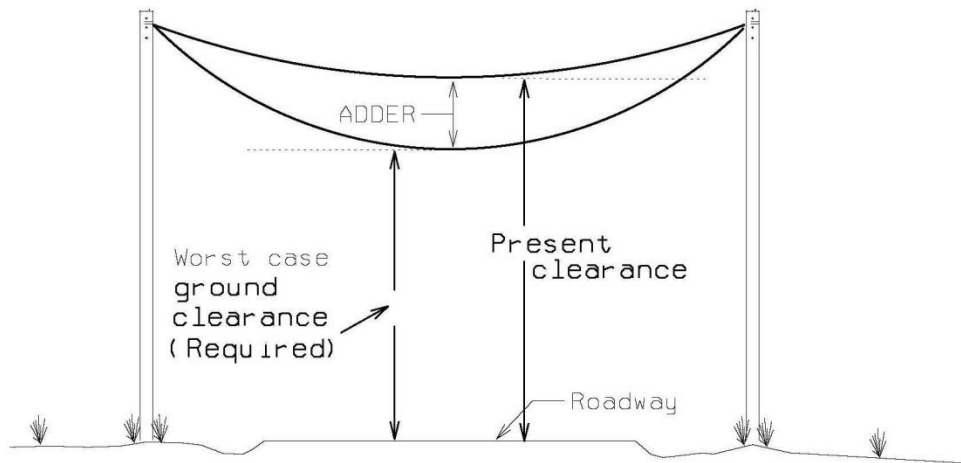
OSAG51 / We#

#8A COPPERWELD COMPOSITE CONDUCTOR – ADDER  
TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
200	24	21	18	16	13
210	25	23	20	16	13
220	28	25	22	18	15
230	31	27	24	20	16
240	33	30	26	22	17
250	37	33	29	24	19
260	39	35	30	25	20
270	43	38	33	28	22
280	46	41	36	30	24
290	49	44	38	32	26
300	52	46	40	34	27
310	56	50	44	37	30
320	60	53	46	39	31
330	64	56	49	41	33
340	67	60	52	44	35
350	71	63	55	46	37
360	75	67	58	49	39
370	80	71	62	52	42
380	85	75	66	55	44
390	88	78	68	57	46
400	94	83	73	61	49
410	98	87	76	64	51
420	103	91	80	67	53

Maximum loaded tension for guying – 1307 lbs.



Example of Roadway clearance

Span Length 300', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 46"  
 Required clearance @ 40 degrees F

18'6"  
 +3' 10"  
 22'4"

Present clearance @ 40 degrees F

23'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

08/21/96

OSAG55 / We#

#6A COPPERWELD COMPOSITE CONDUCTOR - SAG  
TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
200		6	6	7	8	9		11	13	16	18	21	28	32
210		6	7	8	9	10		12	14	17	20	24	31	35
220		7	8	9	10	11		13	16	19	22	26	34	38
230		8	9	9	11	12		14	17	21	24	28	37	42
240		8	9	10	12	13		16	19	22	26	31	41	45
250		9	10	11	13	15		17	21	24	29	33	44	49
260		10	11	12	14	16		18	22	26	31	36	48	53
270		11	12	13	15	17		20	24	28	33	39	52	58
280		12	13	14	16	18		21	26	31	36	42	55	62
290		12	14	15	17	20		23	28	33	39	45	59	66
300		13	15	16	18	21		24	30	35	41	48	64	71
310		14	16	17	20	22		26	32	37	44	51	68	76
320		15	17	18	21	24		28	34	40	47	55	72	81
330		16	18	20	22	25		29	36	42	50	58	77	86
340		17	19	21	23	27		31	38	45	53	62	82	91
350	RS	18	20	22	25	29		33	40	48	56	65	87	97
360		19	21	23	26	30		35	43	50	60	69	92	102
370		20	22	25	28	32		37	45	53	63	73	97	108
380		21	23	26	29	34		39	47	56	66	77	102	114
390		22	25	27	31	36		41	50	59	70	81	108	120
400		24	26	29	33	37		43	53	62	74	85	113	126
410		25	27	30	34	39		46	55	65	77	90	119	133
420		26	29	32	36	41		48	58	69	81	94	125	139
TENSION lbs		1037	939	849	750	652		563	464	392	332	286	216	1059

MAXIMUM LOADED TENSION FOR GUYING – 1550 LBS.  
THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	9.84 ft.
Breaking Load	2585 lbs
Diameter	.230 in.
Strands	3 (1 x .1068 CW, 2 x .1068 HD CU)
Cross-Sectional Area	.02688 sq. in.
Standard Reel	6000 ft.
Stock Code No.	133-1657

04/10/97

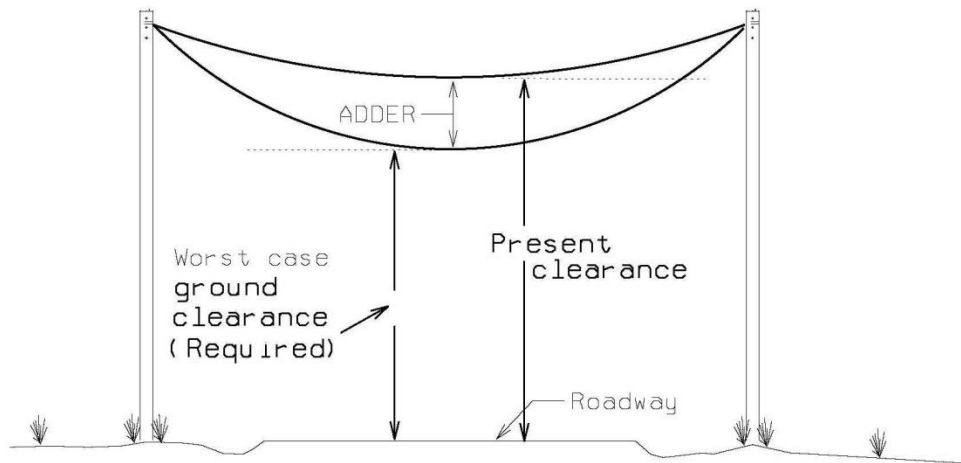
OSAG56 / We#

#6A COPPERWELD COMPOSITE CONDUCTOR – ADDER  
TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
AMBIENT TEMPERATURE (°F)					
SPAN FEET	0-31	32-59	60-89	90-119	120>
200	21	19	16	14	11
210	23	21	18	15	11
220	25	22	19	16	12
230	28	25	21	18	14
240	29	26	23	19	14
250	32	28	25	20	16
260	35	31	27	22	17
270	38	34	30	25	19
280	41	36	31	26	20
290	43	38	33	27	21
300	47	41	36	30	23
310	50	44	39	32	25
320	53	47	41	34	26
330	57	50	44	36	28
340	60	53	46	38	29
350	64	57	49	41	32
360	67	59	52	42	33
370	71	63	55	45	35
380	75	67	58	48	37
390	79	70	61	50	39
400	83	73	64	52	41
410	87	78	68	56	43
420	91	81	70	58	45

Maximum loaded tension for guying – 1550 lbs.



Example of Roadway clearance

Span Length 270', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 34"  
 Required clearance @ 40 degrees F

18'6"  
 +2' 10"  
 21'4"

Present clearance @ 40 degrees F

22'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

08/21/96

OSAG60 / We#

#4A COPPERWELD COMPOSITE CONDUCTOR - SAG  
TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
200		6	7	7	8	10		8	9	11	13	16	23	24
210		7	7	8	9	11		9	10	12	15	17	25	27
220		7	8	9	10	12		10	11	13	16	19	28	29
230		8	9	10	11	13		10	12	15	17	21	30	32
240		9	10	11	12	14		11	13	16	19	23	33	35
250		9	10	12	13	15		12	15	17	21	25	36	38
260		10	11	13	14	17		13	16	19	22	27	39	41
270		11	12	14	15	18		14	17	20	24	29	42	44
280		12	13	15	17	19		15	18	22	26	31	45	48
290		13	14	16	18	21		17	20	23	28	33	48	51
300		14	15	17	19	22		18	21	25	30	35	51	55
310		14	16	18	20	24		19	22	26	32	38	55	58
320		15	17	19	22	25		20	24	28	34	40	59	62
330		16	18	20	23	27		21	25	30	36	43	62	66
340		17	19	22	24	28		23	27	32	38	45	66	70
350	RS	18	21	23	26	30		24	29	34	40	48	70	74
360		20	22	24	27	32		26	30	36	43	51	74	79
370		21	23	25	29	34		27	32	38	45	54	78	83
380		22	24	27	31	35		28	34	40	47	57	83	88
390		23	25	28	32	37		30	36	42	50	60	87	92
400		24	27	30	34	39		32	37	44	53	63	92	97
410		25	28	31	36	41		33	39	46	55	66	96	102
420		27	30	33	37	43		35	41	48	58	69	101	107
TENSION lbs		1606	1447	1302	1145	990		1230	1038	883	737	616	424	1616

MAXIMUM LOADED TENSION FOR GUYING – 2182 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	6.19 ft.
Breaking Load	3938 lbs
Diameter	.290 in.
Strands	3 (1 x .1347 CW, 2 x .1347 HD CU)
Cross-Sectional Area	.04275 sq. in.
Standard Reel	3800 ft.
Stock Code No.	133-1775

04/10/97

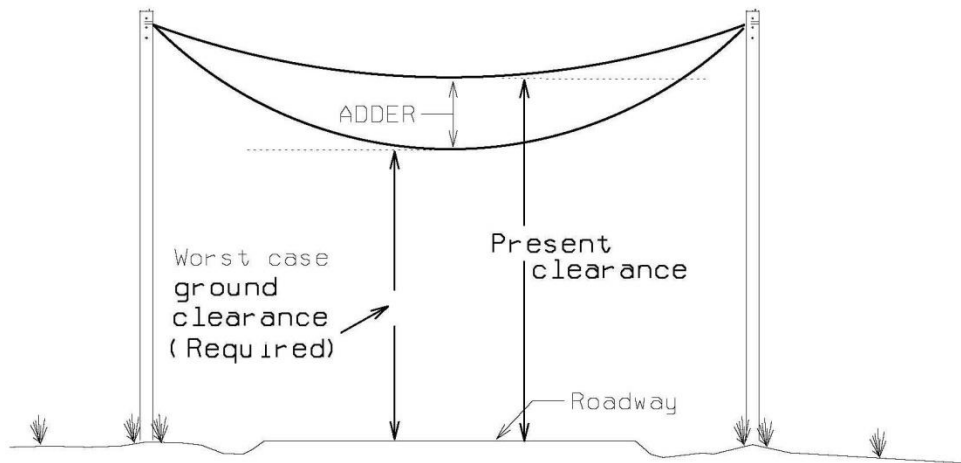
OSAG61 / We#

#4A COPPERWELD COMPOSITE CONDUCTOR – ADDER  
TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
200	16	15	13	11	8
210	18	17	15	12	10
220	19	18	16	13	10
230	22	20	17	15	11
240	24	22	19	16	12
250	26	23	21	17	13
260	28	25	22	19	14
270	30	27	24	20	15
280	33	30	26	22	17
290	34	31	28	23	18
300	37	34	30	25	20
310	39	36	32	26	20
320	42	38	34	28	22
330	45	41	36	30	23
340	47	43	38	32	25
350	50	45	40	34	26
360	53	49	43	36	28
370	56	51	45	38	29
380	60	54	48	41	31
390	62	56	50	42	32
400	65	60	53	44	34
410	69	63	56	47	36
420	72	66	59	49	38

Maximum loaded tension for guying – 2182 lbs.



Example of Roadway clearance

Span Length 270', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 27"  
 Required clearance @ 40 degrees F

18'6"  
 +2'3"  
 20'9"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG65 / We#

#4 ACSR 6/1 – SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		2	3	5	7	9		5	7	8	9	10	12	14
110		3	4	6	8	11		6	9	10	11	12	15	17
120		3	5	7	10	13		7	10	12	13	14	18	20
130		4	6	8	12	15		9	12	14	15	17	21	23
140		5	6	9	13	18		10	14	16	18	19	24	27
150		5	7	11	15	20		11	16	18	20	22	27	31
160		6	8	12	17	23		13	18	21	23	25	31	36
170		7	9	14	20	26		15	21	23	26	29	35	40
180		8	11	15	22	29		16	23	26	29	32	40	45
190		8	12	17	25	32		18	26	29	32	36	44	50
200	RS	9	13	19	27	36		20	29	32	36	40	49	56
210		10	14	21	30	40		22	32	35	40	44	54	61
220		11	16	23	33	43		25	35	39	44	48	59	67
230		12	17	25	36	47		27	38	43	48	53	65	73
240		13	19	27	39	52		29	41	46	52	57	70	80
250		15	20	29	43	56		32	45	50	56	62	76	87
TENSION lbs		366	261	181	125	95		169	119	106	95	86	70	566

MAXIMUM LOADED TENSION FOR GUYING – 915 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	17.42 ft.
Breaking Load	1860 lbs
Diameter	.250 in.
Strands	6 Alum./1 Steel
Cross-Sectional Area	.0382 sq. in.
Code Word	Swan
Stock Code No.	133-0286

02/29/08

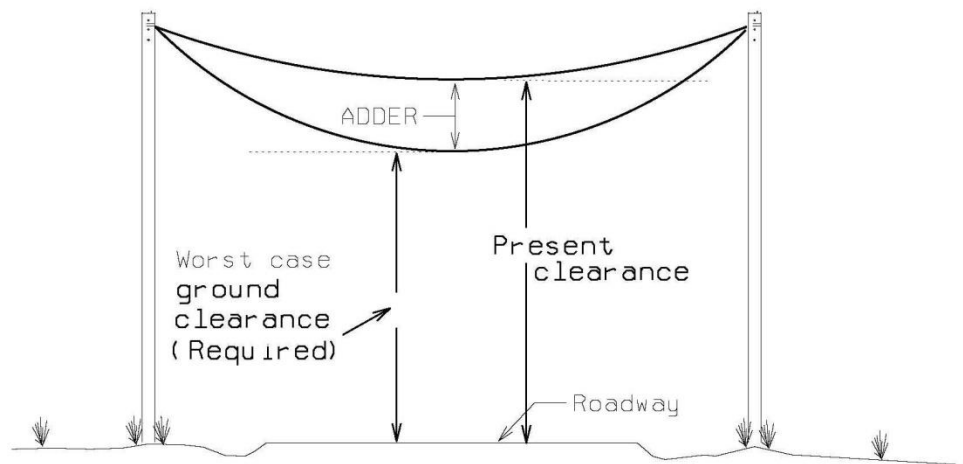
OSAG66 / We#

#4 ACSR 6/1 – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	9	7	6	5	4
110	11	8	7	6	5
120	13	10	8	7	6
130	14	11	9	8	6
140	17	13	11	9	8
150	20	15	13	11	9
160	23	18	15	13	11
170	25	19	17	14	11
180	29	22	19	16	13
190	32	24	21	18	14
200	36	27	24	20	16
210	39	29	26	21	17
220	42	32	28	23	19
230	46	35	30	25	20
240	51	39	34	28	23
250	55	42	37	31	25

Maximum loaded tension for guying – 915 lbs.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 11"  
 Required clearance @ 40 degrees F

$$\begin{array}{r} 18'6'' \\ + 11'' \\ \hline 19'5'' \end{array}$$

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.



02/29/08

OSAG70 / We#

#2 ACSR SHORT SPAN – SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		4	5	7	9	11		5	7	9	10	11	14	12
110		4	7	9	11	13		6	8	11	13	14	16	14
120		5	8	11	13	16		7	10	13	15	16	20	17
130		6	9	12	16	19		8	12	15	18	19	23	20
140		7	11	14	18	22		9	14	17	20	22	27	23
150		8	12	17	21	25		11	16	20	23	26	31	27
160		9	14	19	24	28		12	18	23	27	29	35	30
170		10	16	21	27	32		14	20	26	30	33	39	34
180		12	18	24	30	36		16	23	29	34	37	44	38
190		13	20	27	34	40		17	25	32	38	41	49	43
200	RS	14	22	29	37	44		19	28	35	42	46	55	47
210		16	24	32	41	49		21	31	39	46	50	60	52
220		18	26	36	45	54		23	34	43	50	55	66	57
230		19	29	39	50	59		26	37	47	55	60	72	63
240		21	31	42	54	64		28	40	51	60	66	79	68
[4]250		23	34	46	58	69		30	44	55	65	71	85	74
TENSION lbs		443	295	218	172	144		332	229	181	154	141	118	786

MAXIMUM LOADED TENSION FOR GUYING – 1225 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. When #2 ACSR is used as a neutral conductor along with #2 ACSR as the primary conductor, see [Line Work Method 2001](#). For spans 250' and longer, the 14" required midspan vertical clearance shall be met by limiting span length or increasing the vertical separation at the poles.
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	9.37 ft.
Breaking Load	3640 lbs
Diameter	.325 in.
Strands	7 Alum./1 Steel
Cross-Sectional Area	.0654 sq. in.
Standard Reel	5622 Ft (600 lbs)
Code Word	Sparate
Stock Code No.	133-0228

02/29/08

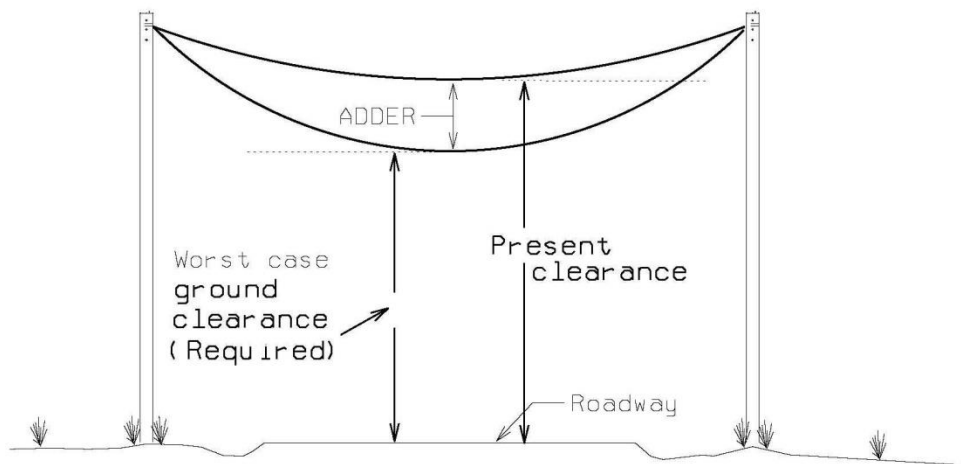
OSAG71 / We#

#2 ACSR SHORT SPAN – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	9	7	5	4	3
110	10	8	5	3	2
120	13	10	7	5	4
130	15	11	8	5	4
140	18	13	10	7	5
150	20	15	11	8	5
160	23	17	12	8	6
170	25	19	13	9	6
180	28	21	15	10	7
190	32	24	17	11	8
200	36	27	20	13	9
210	39	29	21	14	10
220	43	32	23	16	11
230	46	35	25	17	12
240	51	39	28	19	13
250	55	41	30	20	14

Maximum loaded tension for guying – 1225 lbs.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 11"  
 Required clearance @ 40 degrees F

$$\begin{array}{r} 18'6'' \\ + 11'' \\ \hline 19'5'' \end{array}$$

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG75 / We#

#2 ACSR LONG SPAN - SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
150		4	5	6	8	10		7	9	11	12	13	16	17
160		5	6	7	9	12		7	10	12	14	15	18	20
170		5	6	8	11	13		8	11	14	15	17	20	22
180		6	7	9	12	15		9	13	15	17	19	23	25
190		6	8	10	13	17		10	14	17	19	21	25	28
200		7	9	11	15	18		12	15	19	21	23	28	30
210		8	10	12	16	20		13	17	21	24	26	31	34
220		9	11	14	18	22		14	19	23	26	28	34	37
230		9	12	15	19	24		15	20	25	28	31	37	40
240		10	13	16	21	27		17	22	28	31	34	41	44
250		11	14	18	23	29		18	24	30	33	36	44	48
260		12	15	19	25	31		20	26	32	36	39	48	52
270		13	16	20	27	34		21	28	35	39	42	51	56
280		14	17	22	29	36		23	30	37	42	46	55	60
290		15	19	24	31	39		24	33	40	45	49	59	64
300		16	20	25	33	42		26	35	43	48	52	63	69
310		17	21	27	35	44		28	37	46	51	56	68	73
320		18	23	29	37	47		30	40	49	55	60	72	78
[4]330		19	24	31	40	50		32	42	52	58	63	77	83
[4]340		21	26	32	42	53		34	45	55	62	67	81	88
[4]350	RS	22	27	34	45	57		36	47	59	65	71	86	93
[4]360		23	29	36	47	60		38	50	62	69	76	91	99
[4]370		24	30	38	50	63		40	53	65	73	80	96	104
[4]380		26	32	41	53	67		42	56	69	77	84	102	110
[4]390		27	34	43	55	70		44	59	73	81	89	107	116
[4]400		29	36	45	58	74		47	62	77	85	93	113	122
[4]410		30	37	47	61	78		49	65	80	90	98	118	128
[4]420		31	39	49	64	82		51	68	84	94	103	124	135
TENSION lbs		900	721	572	440	347		552	415	336	301	275	228	1221

MAXIMUM LOADED TENSION FOR GUYING – 1825 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. When #2 ACSR is used as a neutral conductor along with #2 ACSR as the primary conductor, see [Line Work Method 2001](#). For spans 250' and longer, the 14" required midspan vertical clearance shall be met by limiting span length or increasing the vertical separation at the poles..
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	9.37 ft.
Breaking Load	3640 lbs
Diameter	.325 in.
Strands	7 Alum./1 Steel
Cross-Sectional Area	.0654 sq. in.
Standard Reel	5622 Ft (600 lbs)
Code Word	Sparate
Stock Code No.	133-0228

02/29/08

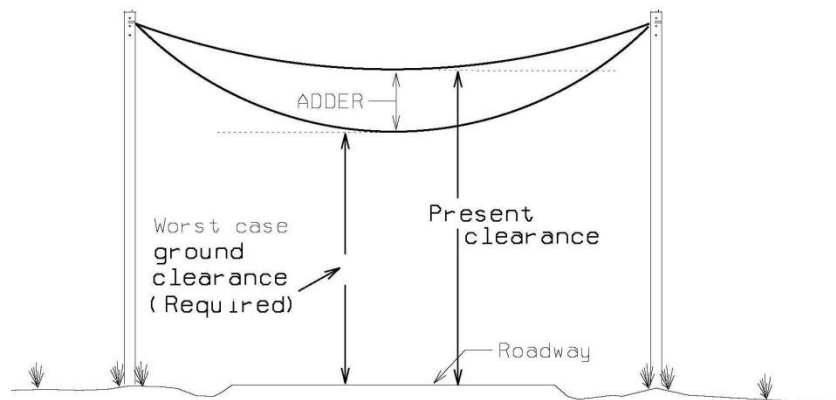
OSAG76 / We#

#2 ACSR LONG SPAN – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
150	10	8	6	5	4
160	13	10	8	6	5
170	14	11	8	7	5
180	16	12	10	8	6
190	18	14	11	9	7
200	18	15	11	9	7
210	21	17	13	10	8
220	23	18	14	11	9
230	25	20	15	12	9
240	27	22	16	13	10
250	30	24	18	15	12
260	32	26	20	16	13
270	35	28	21	17	14
280	37	30	23	18	14
290	40	31	24	19	15
300	43	34	26	21	17
310	45	36	27	22	17
320	48	38	29	23	18
330	51	41	31	25	20
340	54	43	33	26	21
350	57	46	34	28	22
360	61	49	37	30	23
370	64	51	39	31	24
380	68	54	41	33	26
390	72	57	43	35	27
400	75	60	45	37	29
410	79	63	48	38	30
420	84	67	51	41	32

Maximum loaded tension for guying – 1825 lbs.



Example of Roadway clearance

Span Length 280', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 30"  
 Required clearance @ 40 degrees F

18'6"  
 +2'6"  
 21'0"

Present clearance @ 40 degrees F  
 Clearance **OK**

22'8"

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG80 / We#

1/0 ACSR SHORT SPAN - SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		3	4	6	8	10		4	7	9	10	11	13	11
110		4	5	7	10	12		5	8	10	12	13	16	13
120		4	6	9	12	14		6	10	12	14	16	19	16
130		5	7	10	14	17		7	11	15	17	18	22	19
140		6	9	12	16	20		9	13	17	19	21	26	22
150		7	10	14	18	23		10	15	20	22	24	29	25
160		8	11	16	21	26		11	17	22	25	28	33	28
170		9	13	18	24	29		13	19	25	29	31	38	32
180		10	14	20	26	33		14	22	28	32	35	42	36
190		11	16	22	29	36		16	24	31	36	39	47	40
200	RS	12	18	25	33	40		18	27	35	40	43	52	44
210		14	20	27	36	44		19	29	38	44	48	58	49
220		15	21	30	40	49		21	32	42	48	53	63	53
230		16	23	33	43	53		23	35	46	53	57	69	58
[4]240		18	26	35	47	58		25	38	50	57	63	75	64
[4]250		19	28	38	51	63		28	42	54	62	68	82	69
TENSION lbs		705	490	354	267	216		492	326	251	219	200	167	955

MAXIMUM LOADED TENSION FOR GUYING – 1460 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- When #2 ACSR is used as a neutral conductor along with 1/0 ACSR as the primary conductor in short span tangent construction, refer to Std OSAG200 for underbuild sag requirements. When sagging a neutral to match the phase wires above it, also see conductor information in [Line Work Method 2001](#).
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	6.88 ft.
Breaking Load	4380 lbs
Diameter	.398 in.
Strands	6 Alum./1 Steel
Cross-Sectional Area	.0968 sq. in.
Standard Reel	6089 Ft (885 lbs)
Code Word	Raven
Stock Code No.	133-0345

02/29/08

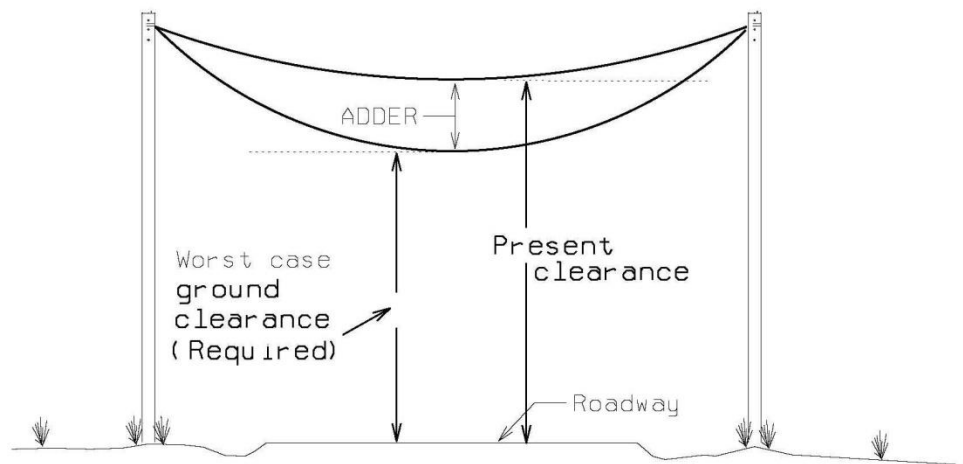
OSAG81 / We#

1/0 ACSR SHORT SPAN – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	9	6	4	3	2
110	11	8	6	4	3
120	13	9	7	5	3
130	15	11	7	5	4
140	17	13	9	7	5
150	19	14	9	7	5
160	22	16	11	8	5
170	25	19	13	9	7
180	28	20	14	10	7
190	31	23	16	11	8
200	34	25	17	12	9
210	39	29	20	14	10
220	42	31	21	15	10
230	46	34	23	16	12
240	50	37	25	18	12
250	54	40	28	20	14

Maximum loaded tension for guying – 1460 lbs.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 11"  
 Required clearance @ 40 degrees F

$$\begin{array}{r} 18'6'' \\ + 11'' \\ \hline 19'5'' \end{array}$$

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

01/01/13

OSAG85 / We#

1/0 ACSR MEDIUM SPAN - SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
150		4	5	6	8	10		6	8	11	13	14	17	17
160		5	6	7	9	12		7	9	12	15	16	20	19
170		5	6	8	10	13		8	11	14	17	18	22	22
180		6	7	9	12	15		8	12	16	19	20	25	25
190		6	8	10	13	17		9	13	18	21	23	28	27
200		7	9	11	14	19		10	15	19	23	25	31	30
210		8	10	12	16	21		12	16	21	25	28	34	33
220		9	11	13	17	23		13	18	24	28	31	37	37
230		9	12	14	19	25		14	20	26	30	33	41	40
240		10	13	16	21	27		15	21	28	33	36	44	44
250		11	14	17	22	29		16	23	30	36	39	48	47
260		12	15	18	24	32		18	25	33	39	43	52	51
270		13	16	20	26	34		19	27	35	42	46	56	55
280		14	17	21	28	37		20	29	38	45	49	60	60
290		15	18	23	30	39		22	31	41	48	53	64	64
300	RS	16	20	25	32	42		24	33	44	52	57	69	68
310		17	21	26	34	45		25	36	47	55	61	74	73
320		18	22	28	37	48		27	38	50	59	65	79	78
330		19	24	30	39	51		28	40	53	63	69	84	83
340		21	25	32	41	54		30	43	56	67	73	89	88
350		22	27	33	44	57		32	45	60	71	77	94	93
TENSION lbs		1220	992	796	609	467		832	588	447	377	345	284	1390

MAXIMUM LOADED TENSION FOR GUYING – 2025 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. When #2 ACSR is used as a neutral conductor along with 1/0 ACSR as the primary conductor in long span tangent construction, refer to Std OSAG205 for underbuild sag requirements. When sagging a neutral to match the phase wires above it, also see the conductor information in [Line Work Method 2001](#).
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.
6. For lines with ruling spans greater than 350 feet, refer to the 1/0 ACSR Long Span – Sag Table.

Specifications	
Feet per lb.	6.88 ft.
Breaking Load	4380 lbs
Diameter	.398 in.
Strands	6 Alum./1 Steel
Cross-Sectional Area	.0968 sq. in.
Standard Reel	6089 Ft (885 lbs)
Code Word	Raven
Stock Code No.	133-0345

01/01/13

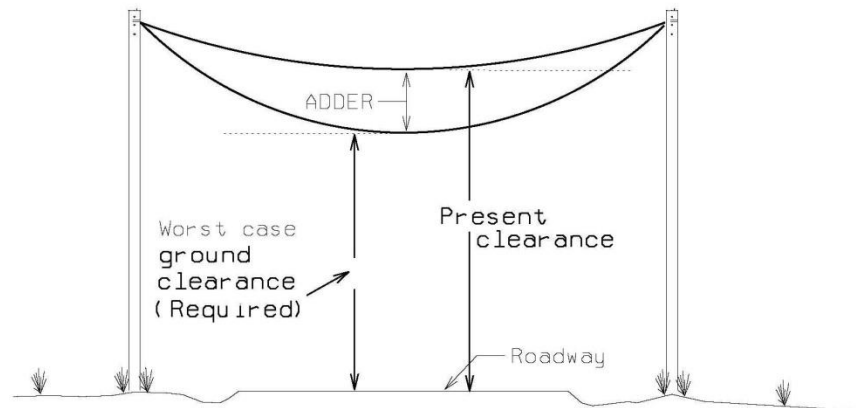
OSAG86 / We#

1/0 ACSR MEDIUM SPAN - ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
150	11	9	6	4	3
160	13	11	8	5	4
170	14	11	8	5	4
180	17	13	9	6	5
190	19	15	10	7	5
200	21	16	12	8	6
210	22	18	13	9	6
220	24	19	13	9	6
230	27	21	15	11	8
240	29	23	16	11	8
250	32	25	18	12	9
260	34	27	19	13	9
270	37	29	21	14	10
280	40	31	22	15	11
290	42	33	23	16	11
300	45	36	25	17	12
310	49	38	27	19	13
320	52	41	29	20	14
330	56	44	31	21	15
340	59	46	33	22	16
350	62	49	34	23	17

Maximum loaded tension for guying – 2025 lbs.



Example of Roadway clearance

Span Length 270', Temp 40 degrees F  
Code Clearance required (see [Std CL5](#))  
(at worst case sag conditions):

Adder: 29"

Required clearance @ 40 degrees F:

18'6"

+2'5"

20'11"

Present clearance @ 40 degrees F:

22'4"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.



02/29/08

OSAG90 / We#

1/0 ACSR LONG SPAN - SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
150		4	5	6	8	10		6	9	11	12	13	16	16
160		5	6	7	9	11		7	10	12	14	15	18	18
170		5	6	8	10	12		8	11	14	16	17	20	21
180		6	7	9	11	14		9	12	15	18	19	23	23
190		6	8	10	12	16		10	14	17	20	21	25	26
200		7	9	11	14	17		11	15	19	22	23	28	29
210		8	10	12	15	19		12	17	21	24	26	31	31
220		9	11	13	17	21		14	18	23	26	28	34	35
230		9	12	14	18	23		15	20	25	29	31	37	38
240		10	13	15	20	25		16	22	27	31	34	40	41
250		11	14	17	21	27		17	24	30	34	37	43	45
260		12	15	18	23	29		19	26	32	37	40	47	48
270		13	16	20	25	31		20	28	35	39	43	51	52
280		14	17	21	27	34		22	30	37	42	46	55	56
290		15	18	23	29	36		24	32	40	45	49	59	60
300		16	20	24	31	39		25	34	43	49	53	63	64
310		17	21	26	33	41		27	37	46	52	56	67	69
320		18	22	27	35	44		29	39	49	55	60	71	73
330		19	24	29	37	47		30	41	52	59	64	76	78
340		21	25	31	39	50		32	44	55	62	68	80	82
[4]350	RS	22	27	33	42	53		34	47	58	66	72	85	87
[4]360		23	28	35	44	56		36	49	62	70	76	90	92
[4]370		24	30	37	47	59		38	52	65	74	80	95	98
[4]380		26	31	39	49	62		40	55	69	78	84	100	103
[4]390		27	33	41	52	66		43	58	73	82	89	106	109
[4]400		29	35	43	55	69		45	61	76	86	94	111	114
[4]410		30	37	45	57	73		47	64	80	91	98	117	120
[4]420		31	38	47	60	76		49	67	84	95	103	123	126
TENSION lbs		1220	999	812	637	504		777	572	456	403	372	313	1479

MAXIMUM LOADED TENSION FOR GUYING – 2160 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. When #2 ACSR is used as a neutral conductor along with 1/0 ACSR as the primary conductor in long span tangent construction, refer to Std OSAG205 for underbuild sag requirements. When sagging a neutral to match the phase wires above it, also see the conductor information in [Line Work Method 2001](#).
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	6.88 ft.
Breaking Load	4380 lbs
Diameter	.398 in.
Strands	6 Alum./1 Steel
Cross-Sectional Area	.0968 sq. in.
Standard Reel	6089 Ft (885 lbs)
Code Word	Raven
Stock Code No.	133-0345

02/29/08

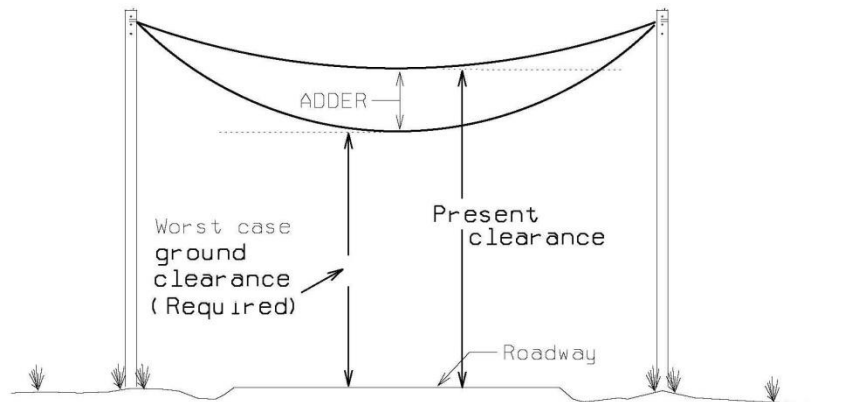
OSAG91 / We#

1/0 ACSR LONG SPAN – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
150	10	7	5	4	3
160	11	8	6	4	3
170	13	10	7	5	4
180	14	11	8	5	4
190	16	12	9	6	5
200	18	14	10	7	6
210	19	14	10	7	5
220	21	17	12	9	7
230	23	18	13	9	7
240	25	19	14	10	7
250	28	21	15	11	8
260	29	22	16	11	8
270	32	24	17	13	9
280	34	26	19	14	10
290	36	28	20	15	11
300	39	30	21	15	11
310	42	32	23	17	13
320	44	34	24	18	13
330	48	37	26	19	14
340	50	38	27	20	14
350	53	40	29	21	15
360	56	43	30	22	16
370	60	46	33	24	18
380	63	48	34	25	19
390	66	51	36	27	20
400	69	53	38	28	20
410	73	56	40	29	22
420	77	59	42	31	23

Maximum loaded tension for guying – 2160 lbs.



Example of Roadway clearance

Span Length 270', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 24"  
 Required clearance @ 40 degrees F

18'6"  
 +2'0"  
 20'6"

Present clearance @ 40 degrees F  
 Clearance **OK**

21'8"

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG95 / We#

4/0 AA - SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		3	4	6	9	11		4	6	9	11	13	17	10
110		3	5	8	11	14		5	8	11	14	16	21	13
120		4	6	9	13	16		5	9	13	16	19	25	15
130		5	7	11	15	19		6	11	15	19	22	29	17
140		5	8	13	18	22		7	13	17	22	26	34	20
150		6	9	14	20	25		9	15	20	25	30	39	23
160		7	11	16	23	29		10	17	23	29	34	44	26
170		8	12	18	26	32		11	19	26	32	38	50	30
180		9	14	21	29	36		12	21	29	36	43	56	34
190		10	15	23	32	40		14	23	32	40	48	62	37
200	RS	11	17	26	36	45		15	26	36	45	53	69	41
210		12	18	28	39	49		17	28	39	49	58	76	46
220		13	20	31	43	54		18	31	43	54	64	83	50
230		14	22	34	47	59		20	34	47	59	70	91	55
240		15	24	37	51	65		22	37	51	64	76	99	60
250		17	26	40	56	70		24	40	56	70	82	108	65
TENSION lbs		1113	712	467	334	267		786	463	336	267	227	173	1211

MAXIMUM LOADED TENSION FOR GUYING – 1850 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

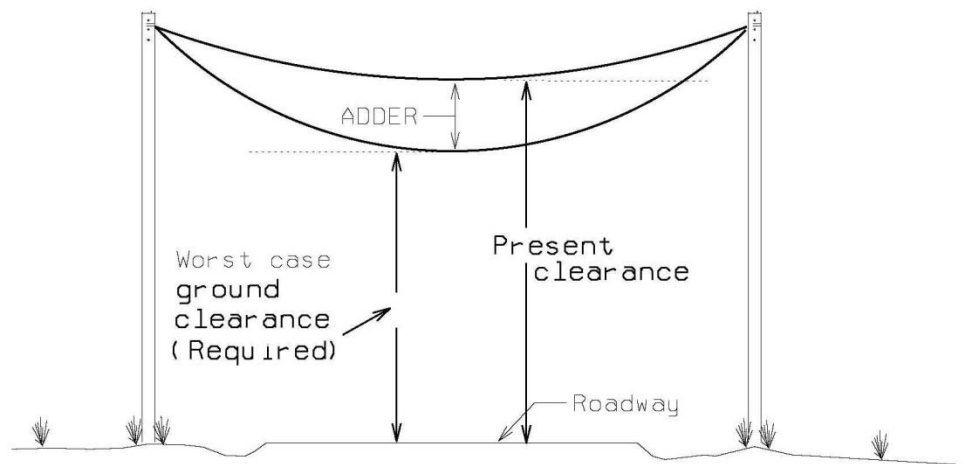
## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	5.03 ft.
Breaking Load	3830 lbs
Diameter	0.522 in.
Strands	7 (0.1739 AA)
Cross-Sectional Area	0.1663
Code Word	Oxlip
Stock Code No.	133-0400 (Removed from stock 9/12/86)

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	13	11	8	6	4
110	16	13	10	7	5
120	20	16	12	9	6
130	23	18	14	10	7
140	27	21	17	12	8
150	30	24	19	14	9
160	34	27	21	15	10
170	39	31	24	18	12
180	44	35	27	20	13
190	48	39	30	22	14
200	54	43	33	24	16
210	59	48	37	27	18
220	65	52	40	29	19
230	71	57	44	32	21
240	77	62	48	35	23
250	84	68	52	38	26

Maximum loaded tension for guying – 1850 lbs.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 18"  
 Required clearance @ 40 degrees F

18'6"  
 +1'6"  
 20'0"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		4	6	8	10	12		5	7	9	11	12	14	10
110		5	7	10	12	14		6	9	11	13	15	17	12
120		6	9	11	14	17		7	11	13	16	17	20	15
130		7	10	13	17	20		9	13	16	19	20	24	17
140		8	12	16	19	23		10	15	18	22	24	28	20
150		9	14	18	22	26		11	17	21	25	27	32	23
160		11	16	20	25	30		13	19	24	28	31	36	26
170		12	18	23	28	33		15	21	27	32	35	41	30
180		14	20	26	32	38		16	24	30	36	39	46	33
190		15	22	29	36	42		18	27	34	40	43	51	37
[4]200	RS	17	24	32	39	46		20	30	37	44	48	56	41
[4]210		18	27	35	43	51		22	33	41	49	53	62	45
[4]220		20	29	38	48	56		25	36	45	54	58	68	49
[4]230		22	32	42	52	61		27	39	49	59	64	75	54
[4]240		24	35	46	57	67		29	43	54	64	69	81	59
[4]250		26	38	50	62	72		32	46	58	69	75	88	64
TENSION lbs		1043	719	550	443	377		859	590	468	393	364	310	1397

MAXIMUM LOADED TENSION FOR GUYING – 2075 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

□ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.  
When 4/0 ACSR is used as a neutral conductor along with 795 KCM AA as the primary conductor in short span construction, refer to Std OSAG220 for underbuild sag requirements.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	3.44 ft.
Breaking Load	8350 lbs
Diameter	.563 in.
Strands	6 Alum./1 Steel
Cross-Sectional Area	0.1939
Standard Reel	3195 Ft./885 lbs. or 6390 Ft./1770 lbs
Code Word	Penguin
Stock Code No.	133-0404

02/29/08

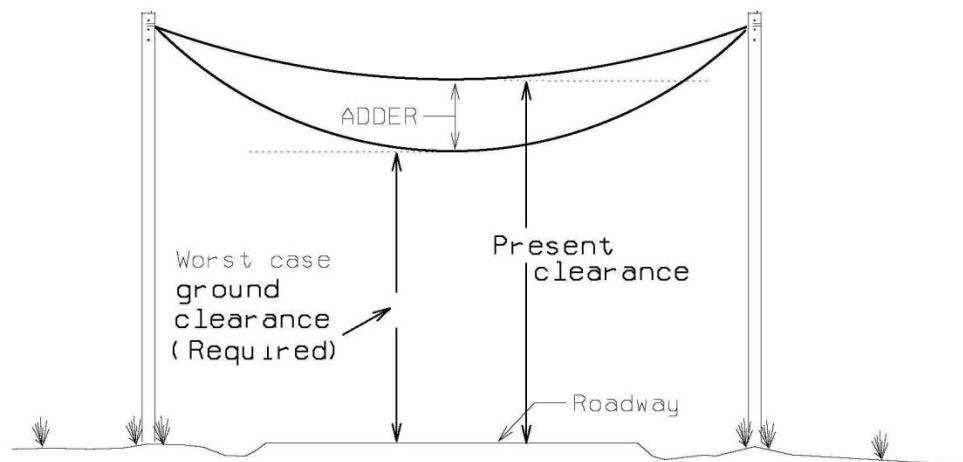
OSAG101 / We#

4/0 ACSR SHORT SPAN – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	9	7	5	3	2
110	11	8	6	4	2
120	13	9	7	4	3
130	15	11	8	5	4
140	18	13	10	6	4
150	21	15	11	7	5
160	23	17	12	8	5
170	26	20	14	9	6
180	30	22	16	10	7
190	33	24	17	11	8
200	36	26	19	12	8
210	40	29	21	13	9
220	43	32	23	14	10
230	48	36	26	16	11
240	52	38	27	17	12
250	56	42	30	19	13

Maximum loaded tension for guying – 2075 lbs.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 11"  
 Required clearance @ 40 degrees F

18'6"  
 +11"  
 19'5"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

## We Energies and Wisconsin Public Service Electric Distribution Standards

02/29/08

OSAG105 / We#

4/0 ACSR LONG SPAN - SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
150		4	5	6	7	9		4	6	8	11	13	16	12
160		4	5	6	8	11		5	7	9	12	15	18	14
170		5	6	7	9	12		6	8	11	14	16	20	16
180		5	7	8	10	13		6	9	12	16	18	22	18
190		6	7	9	11	15		7	10	13	17	21	25	20
200		7	8	10	13	16		8	11	15	19	23	28	22
210		7	9	11	14	18		9	12	16	21	25	31	24
220		8	10	12	15	20		10	13	18	23	28	34	27
230		9	11	13	17	22		11	14	19	25	30	37	29
240		10	12	14	18	24		11	16	21	28	33	40	32
250		10	13	15	20	26		12	17	23	30	36	43	35
260		11	14	17	21	28		13	18	25	33	38	47	38
270		12	15	18	23	30		15	20	27	35	41	51	40
280		13	16	19	25	32		16	21	29	38	45	54	44
290		14	17	21	27	35		17	23	31	40	48	58	47
300		15	18	22	29	37		18	25	33	43	51	62	50
310		16	19	24	31	40		19	26	35	46	55	67	53
320	RS	17	21	25	33	42		20	28	37	49	58	71	57
330		18	22	27	35	45		22	30	40	52	62	75	60
340		19	23	29	37	48		23	32	42	56	66	80	64
350		20	25	30	39	50		24	33	45	59	70	85	68
360		22	26	32	41	53		26	35	47	62	74	90	72
370		23	28	34	43	56		27	37	50	66	78	95	76
380		24	29	36	46	59		29	39	53	69	82	100	80
390		25	31	38	48	63		30	42	56	73	86	105	85
400		27	32	40	51	66		32	44	58	77	91	111	89
410		28	34	42	53	69		33	46	61	81	96	117	93
420		29	36	44	56	73		35	48	64	85	100	122	98
TENSION lbs		2611	2160	1765	1375	1060		2192	1597	1194	907	768	630	2571

MAXIMUM LOADED TENSION FOR GUYING – 3500 LBS.  
THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The mid-span minimum clearance of 14” does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	3.44 ft.
Breaking Load	8350 lbs
Diameter	.563 in.
Strands	6 Alum./1 Steel
Cross-Sectional Area	.1939 sq. in.
Standard Reel	3195 Ft (885 lbs) or 6390 Ft (1770 lbs)
Code Word	Penguin
Stock Code No.	133-0404

02/29/08

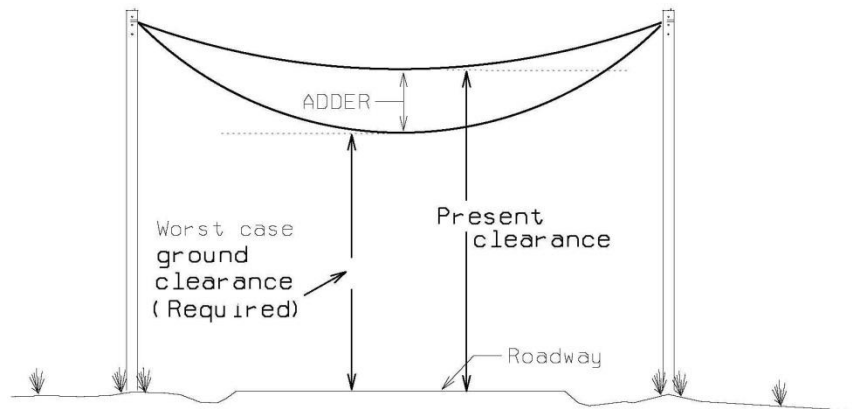
OSAG106 / We#

4/0 ACSR LONG SPAN – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
150	12	10	8	5	3
160	13	11	9	6	3
170	14	12	9	6	4
180	16	13	10	6	4
190	18	15	12	8	4
200	20	17	13	9	5
210	22	19	15	10	6
220	24	21	16	11	6
230	26	23	18	12	7
240	29	24	19	12	7
250	31	26	20	13	7
260	34	29	22	14	9
270	36	31	24	16	10
280	38	33	25	16	9
290	41	35	27	18	10
300	44	37	29	19	11
310	48	41	32	21	12
320	51	43	34	22	13
330	53	45	35	23	13
340	57	48	38	24	14
350	61	52	40	26	15
360	64	55	43	28	16
370	68	58	45	29	17
380	71	61	47	31	18
390	75	63	49	32	19
400	79	67	53	34	20
410	84	71	56	36	21
420	87	74	58	37	22

Maximum loaded tension for guying – 3500 lbs.



Example of Roadway clearance

Span Length 270', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 31"  
 Required clearance @ 40 degrees F

18'6"  
 +2'7"  
 21'1"

Present clearance @ 40 degrees F  
 Clearance **OK**

22'8"

If a code violation exists, report it to the Field Application Engineer.



02/29/08

OSAG110 / We#

336.4 KCM AA BARE - SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		3	4	6	9	11		4	6	9	11	13	17	9
110		3	5	8	11	13		4	8	11	13	16	21	11
120		4	6	9	13	16		5	9	13	16	19	25	14
130		5	7	11	15	19		6	11	15	19	22	29	16
140		6	9	13	17	22		7	12	17	22	25	33	19
150		6	10	15	20	25		8	14	20	25	29	38	21
160		7	11	17	23	29		9	16	22	28	33	44	24
170		8	13	19	26	32		11	18	25	32	38	49	27
180		9	14	21	29	36		12	20	28	36	42	55	31
190		10	16	23	32	40		13	23	31	40	47	62	34
200	RS	11	18	26	36	45		15	25	35	44	52	68	38
210		13	19	29	39	49		16	28	38	48	57	75	42
220		14	21	31	43	54		18	30	42	53	63	83	46
230		15	23	34	47	59		20	33	46	58	69	90	50
240		16	25	37	51	64		21	36	50	63	75	98	55
250		18	27	41	56	70		23	39	54	69	81	107	59
TENSION lbs		1664	1082	731	531	426		1276	757	546	431	365	278	1645

MAXIMUM LOADED TENSION FOR GUYING – 2460 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

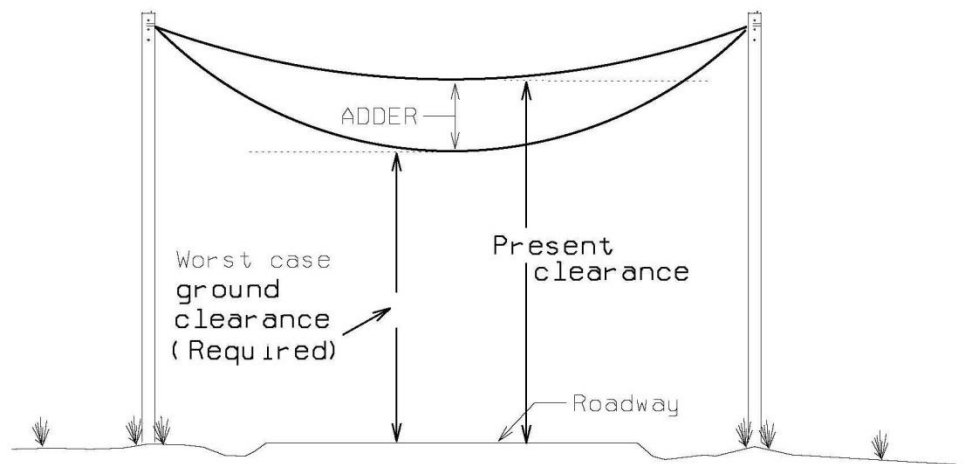
## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	3.17 ft.
Breaking Load	6150 lbs
Diameter	.666 in.
Strands	19 Alum (19 x .1331)
Cross-Sectional Area	.2664 sq. in.
Code Word	Tulip
Stock Code No.	133-0464 (Removed from stock 9/12/88)

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	13	11	8	6	4
110	17	13	10	8	5
120	20	16	12	9	6
130	23	18	14	10	7
140	26	21	16	11	8
150	30	24	18	13	9
160	35	28	22	16	11
170	38	31	24	17	11
180	43	35	27	19	13
190	49	39	31	22	15
200	53	43	33	24	16
210	59	47	37	27	18
220	65	53	41	30	20
230	70	57	44	32	21
240	77	62	48	35	23
250	84	68	53	38	26

Maximum loaded tension for guying – 2460 lbs.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 18"  
 Required clearance @ 40 degrees F

18'6"  
 +1'6"  
 20'0"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG115 / We#

336.4 KCM AA POLY COVERED - SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		3	4	6	8	10		4	6	9	11	13	17	10
110		4	5	7	10	13		5	8	10	13	16	20	12
120		4	6	9	12	15		6	9	12	16	18	24	14
130		5	7	10	14	18		7	11	15	18	22	29	16
140		6	8	12	16	20		8	12	17	21	25	33	19
150		7	9	13	19	23		9	14	19	24	29	38	22
160		8	11	15	21	27		10	16	22	28	33	43	25
170		9	12	17	24	30		11	18	25	31	37	49	28
180		10	14	19	27	34		13	20	28	35	42	55	31
190		11	15	21	30	38		14	23	31	39	46	61	35
200	RS	12	17	24	33	42		16	25	34	43	51	68	38
210		13	19	26	36	46		18	28	38	48	57	75	42
220		14	20	29	40	51		19	31	42	53	62	82	47
230		16	22	32	44	55		21	33	46	57	68	90	51
240		17	24	34	47	60		23	36	50	63	74	98	55
250		18	26	37	51	65		25	39	54	68	80	106	60
TENSION lbs		1977	1387	977	707	558		1467	922	676	536	453	344	1835

MAXIMUM LOADED TENSION FOR GUYING – 2650 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. The mid-span minimum clearance of 14" does not apply to these sag calculations unless the conductor is used in new construction. In emergencies and reconstruction, re-install the conductor to match approximately the existing sag.
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	2.58 ft.
Breaking Load	5535 lbs
Diameter	.766 in.
Strands	19 Strands
Standard Reel	2446 ft. (948 lbs) NRC 40.24
Code Word	Anona XLP
Stock Code No.	133-0465

02/29/08

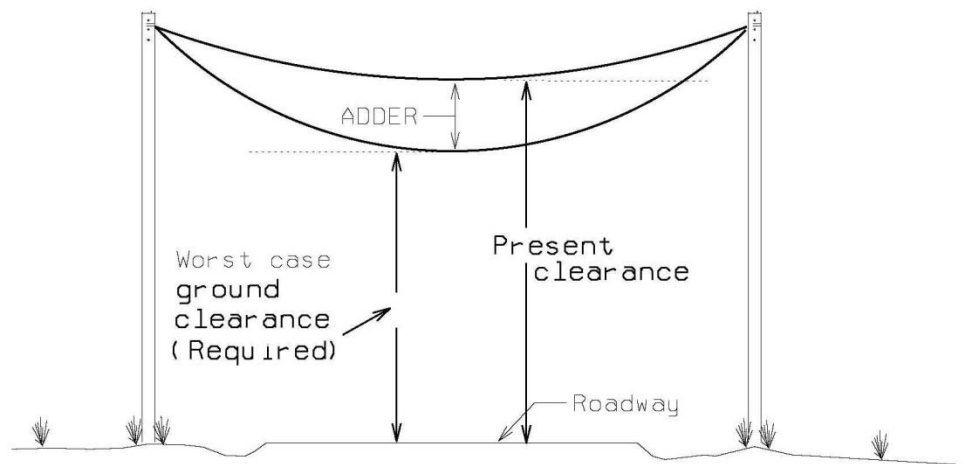
OSAG116 / We#

336.4 KCM AA POLY COVERED – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	13	11	8	6	4
110	15	12	10	7	4
120	18	15	12	8	6
130	22	18	14	11	7
140	25	21	16	12	8
150	29	24	19	14	9
160	33	27	21	15	10
170	38	31	24	18	12
180	42	35	27	20	13
190	47	38	30	22	15
200	52	43	34	25	17
210	57	47	37	27	18
220	63	51	40	29	20
230	69	57	44	33	22
240	75	62	48	35	24
250	81	67	52	38	26

Maximum loaded tension for guying – 2650 lbs.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 18"  
 Required clearance @ 40 degrees F

18'6"  
 +1'6"  
 20'0"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG120 / We#

## 336.4 ACSR SHORT SPAN - SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES							
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)							
SPAN FEET		0	32	60	90	120		0	32	60	90	120	140 [2]	194 [2]	32 w/ ice [3]
100		3	5	8	10	12		4	7	9	11	13	14	16	10
110		4	7	9	12	14		5	8	11	13	16	17	19	12
120		5	8	11	14	17		6	10	13	16	19	20	23	14
130		6	9	13	17	20		7	11	15	19	22	24	27	16
140		7	11	15	20	23		8	13	18	22	25	28	31	19
150		8	12	17	22	27		9	15	20	25	29	32	35	21
160		9	14	20	26	31		11	17	23	28	33	36	40	24
170		10	16	22	29	35		12	19	26	32	37	41	46	27
180		11	18	25	32	39		14	22	29	36	42	46	51	31
190		13	20	28	36	43		15	24	32	40	47	51	57	34
200	RS	14	22	31	40	48		17	27	36	44	52	56	63	38
210		15	24	34	44	53		19	30	39	49	57	62	69	42
220		17	27	37	48	58		20	33	43	54	63	68	76	46
230		18	29	41	53	63		22	36	47	59	68	74	83	50
[4]240		20	32	44	57	69		24	39	52	64	74	81	91	55
[4]250		22	34	48	62	75		26	42	56	69	81	88	98	59
TENSION lbs		1578	997	709	549	458		1299	814	612	495	424	390	348	1737

MAXIMUM LOADED TENSION FOR GUYING – 2575 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

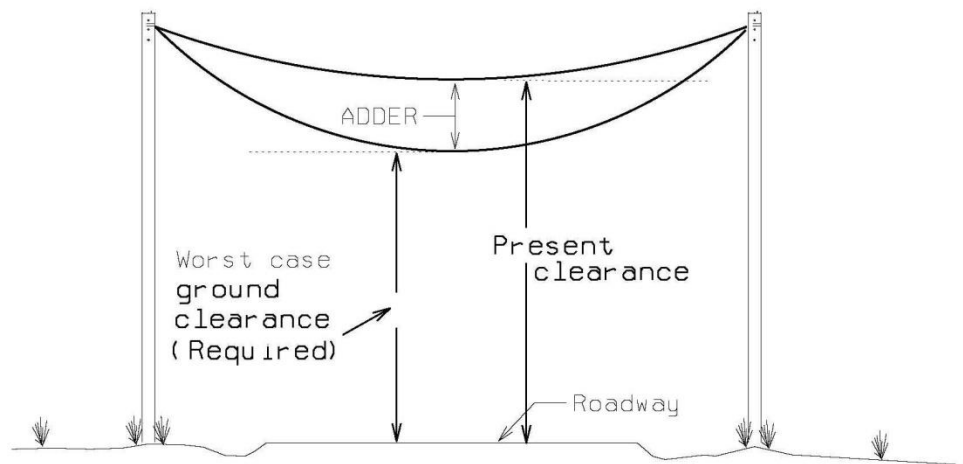
## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- When 1/0 ACSR is used as a neutral conductor along with 336.4 ACSR as the primary conductor in short span tangent construction, refer to Std OSAG210 for underbuild sag requirements. When sagging a neutral to match the phase wires above it, also see the conductor information in [Line Work Method 2001](#).
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	2.74 ft.
Breaking Load	8680 lbs
Diameter	.684 in.
Strands	18 Alum./1 Steel
Cross-Sectional Area	.2789 sq. in.
Standard Reel	3878 ft./1385 lbs or 5824 ft./2080 lbs
Code Word	Merlin
Stock Code No.	133-0460

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	12	9	7	5	3
110	14	11	8	6	3
120	17	13	10	7	4
130	20	16	12	8	5
140	23	18	13	9	6
150	26	20	15	10	6
160	29	23	17	12	7
170	34	27	20	14	9
180	37	29	22	15	9
190	42	33	25	17	10
200	46	36	27	19	11
210	50	39	30	20	12
220	56	43	33	22	13
230	61	47	36	24	15
240	67	52	39	27	17
250	72	56	42	29	17

Maximum loaded tension for guying – 2575 lbs.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 16"  
 Required clearance @ 40 degrees F

18'6"  
 +1'4"  
 19'10"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

01/01/13

OSAG125 / We#

## 336.4 ACSR MEDIUM SPAN - SAG TABLE

Page 1 of 1

SPAN FEET		INITIAL SAG – INCHES					FINAL SAG - INCHES								
		CONDUCTOR TEMPERATURE (°F)					CONDUCTOR TEMPERATURE (°F)								
		0	32	60	90	120	0	32	60	90	120	140	194 [2]	32 w/ ice [3]	
150		7	9	13	16	20	8	12	15	19	22	23	27	17	
160		7	11	15	19	22	9	14	17	21	25	27	31	20	
170		8	12	16	21	25	10	15	20	24	28	30	35	22	
180		9	14	18	23	28	12	17	22	27	31	34	39	25	
190		11	15	20	26	31	13	19	25	30	35	38	44	28	
200		12	17	23	29	35	14	21	27	33	39	42	49	31	
210		13	19	25	32	38	16	23	30	37	42	46	54	34	
220		14	20	27	35	42	17	26	33	40	47	51	59	37	
230		15	22	30	38	46	19	28	36	44	51	55	64	40	
[4]240		17	24	33	42	50	21	30	39	48	55	60	70	44	
[4]250		18	26	35	45	54	23	33	43	52	60	65	76	48	
[4]260		20	28	38	49	59	24	36	46	56	65	71	82	52	
[4]270	RS	21	31	41	53	63	26	39	50	61	70	76	89	56	
[4]280		23	33	44	57	68	28	41	53	65	76	82	95	60	
[4]290		25	35	48	61	73	30	45	57	70	81	88	102	64	
[4]300		26	38	51	65	78	32	48	61	75	87	94	109	69	
[4]310		28	41	55	70	83	35	51	65	80	93	100	117	73	
[4]320		30	43	58	74	89	37	54	70	85	99	107	125	78	
[4]330		32	46	62	79	95	39	58	74	90	105	114	132	83	
[4]340		34	49	66	84	100	42	61	79	96	111	121	141	88	
[4]350		36	52	70	89	106	44	65	83	102	118	128	149	94	
TENSION lbs		1876	1299	965	756	631	1521	1035	804	660	569	524	451	2163	

MAXIMUM LOADED TENSION FOR GUYING – 3100 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

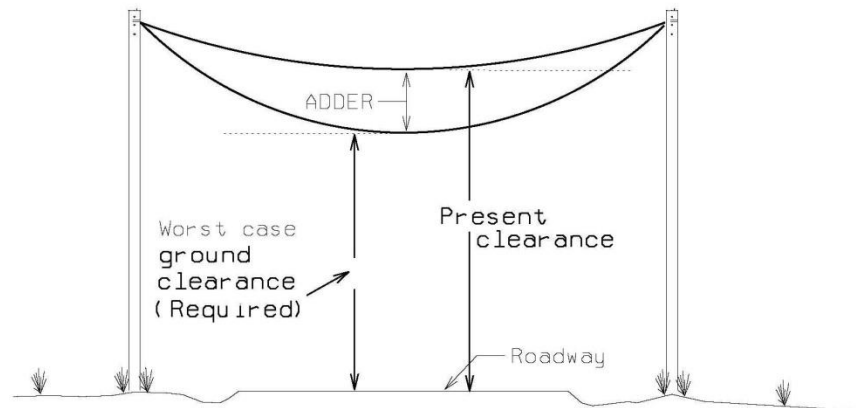
## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. When 1/0 ACSR is used as a neutral conductor along with 336.4 ACSR as the primary conductor in short span tangent construction, refer to Std OSAG212 for underbuild sag requirements. When sagging a neutral to match the phase wires above it, also see the conductor information in [Line Work Method 2001](#).
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.
6. The 336.4 ACSR Medium Span sag table was introduced on January 1, 2012. For conductors installed previous to this date, refer to the 336.4 ACSR Long Span Sag Table (OSAG130) or the 336.4 ACSR Short Span Sag Table (OSAG120).

Specifications	
Feet per lb.	2.74 ft.
Breaking Load	8680 lbs
Diameter	.684 in.
Strands	18 Alum./1 Steel
Cross-Sectional Area	.2789 sq. in.
Standard Reel	3878 Ft (1385 lbs) or 5824 Ft (2080 lbs)
Code Word	Merlin
Stock Code No.	133-0460

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
150	19	15	12	8	5
160	22	17	14	10	6
170	25	20	15	11	7
180	27	22	17	12	8
190	31	25	19	14	9
200	35	28	22	16	10
210	38	31	24	17	12
220	42	33	26	19	12
230	45	36	28	20	13
240	49	40	31	22	15
250	53	43	33	24	16
260	58	46	36	26	17
270	63	50	39	28	19
280	67	54	42	30	19
290	72	57	45	32	21
300	77	61	48	34	22
310	82	66	52	37	24
320	88	71	55	40	26
330	93	74	58	42	27
340	99	80	62	45	30
350	105	84	66	47	31

Maximum loaded tension for guying – 3100 lbs.



Example of Roadway clearance

Span Length 270', Temp 40 degrees F  
Code Clearance required (see [Std CL5](#))  
(at worst case sag conditions):

Adder: 50"

Required clearance @ 40 degrees F:

18'6"

+4'2"

24'8"

Present clearance @ 40 degrees F:

25'11"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.



02/29/08

OSAG130 / We#

## 336.4 ACSR LONG SPAN - SAG TABLE

Page 1 of 1

SPAN FEET	INITIAL SAG - INCHES						FINAL SAG - INCHES								
	CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)								
	0	32	60	90	120		0	32	60	90	120	140	194 [2]	32 w/ ice [3]	
150	6	8	10	13	16		7	10	13	16	18	20	23	15	
160	6	9	12	15	18		8	11	15	18	21	22	27	17	
170	7	10	13	17	20		9	13	16	20	23	25	30	19	
180	8	11	15	19	23		10	14	18	22	26	28	34	22	
190	9	13	17	21	25		11	16	21	25	29	31	37	24	
200	10	14	18	23	28		13	18	23	28	32	35	42	27	
210	11	15	20	26	31		14	20	25	31	35	38	46	29	
220	12	17	22	28	34		15	22	28	34	39	42	50	32	
230	13	18	24	31	37		17	24	30	37	43	46	55	35	
240	15	20	26	34	41		18	26	33	40	46	50	60	38	
250	16	22	29	37	44		20	28	36	43	50	55	65	42	
260	17	24	31	40	48		21	30	38	47	54	59	70	45	
270	18	25	33	43	51		23	33	42	50	59	64	76	48	
280	20	27	36	46	55		25	35	45	54	63	68	81	52	
290	21	29	39	49	59		26	38	48	58	68	73	87	56	
[4]300	23	31	41	53	64		28	40	51	62	72	79	94	60	
[4]310	24	33	44	56	68		30	43	55	67	77	84	100	64	
[4]320	RS	26	36	47	60	72	32	46	58	71	82	89	106	68	
[4]330		28	38	50	64	77	34	49	62	75	88	95	113	72	
[4]340		29	40	53	68	82	36	52	66	80	93	101	120	77	
[4]350		31	43	56	72	87	39	55	70	85	98	107	127	81	
[4]360		33	45	60	76	92	41	58	74	90	104	113	135	86	
[4]370		35	48	63	80	97	43	61	78	95	110	119	142	91	
[4]380		37	50	66	85	102	45	65	82	100	116	126	150	96	
[4]390		38	53	70	89	107	48	68	87	105	122	133	158	101	
[4]400		40	56	73	94	113	50	72	91	111	129	140	166	106	
[4]410		43	58	77	99	119	53	75	96	116	135	147	175	112	
[4]420		45	61	81	103	125	55	79	100	122	142	154	183	117	
TENSION lbs		2165	1574	1193	934	776	1743	1225	962	791	682	628	527	2488	

MAXIMUM LOADED TENSION FOR GUYING – 3500 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

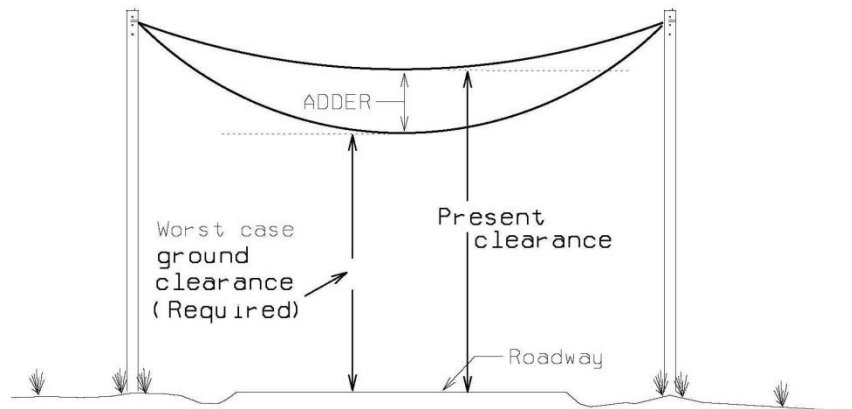
## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- When 1/0 ACSR is used as a neutral conductor along with 336.4 ACSR as the primary conductor in short span tangent construction, refer to Std OSAG215 for underbuild sag requirements. When sagging a neutral to match the phase wires above it, also see the conductor information in [Line Work Method 2001](#).
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	2.74 ft.
Breaking Load	8680 lbs
Diameter	.684 in.
Strands	18 Alum./1 Steel
Cross-Sectional Area	.2789 sq. in.
Standard Reel	3878 Ft (1385 lbs) or 5824 Ft (2080 lbs)
Code Word	Merlin
Stock Code No.	133-0460

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
150	16	13	10	7	5
160	19	16	12	9	6
170	21	17	14	10	7
180	24	20	16	12	8
190	26	21	16	12	8
200	29	24	19	14	10
210	32	26	21	15	11
220	35	28	22	16	11
230	38	31	25	18	12
240	42	34	27	20	14
250	45	37	29	22	15
260	49	40	32	23	16
270	53	43	34	26	17
280	56	46	36	27	18
290	61	49	39	29	19
300	66	54	43	32	22
310	70	57	45	33	23
320	74	60	48	35	24
330	79	64	51	38	25
340	84	68	54	40	27
350	89	72	57	42	29
360	94	77	61	45	31
370	99	81	64	47	32
380	105	85	68	50	34
390	110	90	71	53	36
400	116	94	75	55	37
410	122	100	79	59	40
420	128	104	83	61	41

Maximum loaded tension for guying – 3500 lbs.



Example of Roadway clearance

Span Length 270', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 43"  
 Required clearance @ 40 degrees F

18'6"  
 +3'7"  
 22'1"

Present clearance @ 40 degrees F  
 Clearance **OK**

23'8"

If a code violation exists, report it to the Field Application Engineer.

01/01/13

OSAG132 / We#

477 ACSR LONG SPAN - SAG TABLE

Page 1 of 1

	INITIAL SAG – INCHES						FINAL SAG - INCHES										
	CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)										
SPAN FEET	0	32	60	90	120		0	32	60	90	120	194 [2]	212 [2]	32 w/ 1/2" ice [3]	60-90 MPH [4]	15 3/4" ice-40 MPH [4]	15 1" Ice [4]
200	11	14	18	21	25		13	17	21	25	29	33	34	23	28	26	28
210	12	15	19	24	28		14	19	23	28	32	36	38	26	31	28	31
220	13	17	21	26	31		16	21	26	31	35	40	41	28	34	31	34
230	14	19	23	28	33		17	23	28	33	38	44	45	31	37	34	38
240	15	20	25	31	36		19	25	31	36	42	48	49	34	40	37	41
250	17	22	27	34	40		20	27	33	40	45	52	53	37	43	40	44
260	18	24	30	36	43		22	29	36	43	49	56	58	40	47	44	48
270	20	26	32	39	46		24	32	39	46	53	60	62	43	51	47	52
280	21	27	34	42	50		26	34	42	50	57	65	67	46	54	50	56
290	23	29	37	45	53		27	37	45	53	61	69	72	49	58	54	60
300	24	32	39	48	57		29	39	48	57	65	74	77	53	62	58	64
310	26	34	42	52	61		31	42	51	61	70	79	82	56	67	62	68
320	28	36	45	55	65		33	45	55	65	74	85	87	60	71	66	73
330	29	38	48	58	69		36	47	58	69	79	90	93	64	75	70	77
340	31	41	51	62	73		38	50	62	73	84	96	98	68	80	74	82
350-RS	33	43	54	66	77		40	53	65	77	89	101	104	72	85	79	87
360	35	45	57	70	82		42	56	69	82	94	107	110	76	90	83	92
370	37	48	60	74	87		45	60	73	87	99	113	117	80	95	88	97
380	39	51	63	78	91		47	63	77	91	105	119	123	85	100	93	103
390	41	53	67	82	96		50	66	81	96	110	126	129	89	105	98	108
TENSION lbs	3451	2647	2119	1730	1468		2844	2135	1743	1469	1283	1124	1092	3718	3731	5240	6155

MAXIMUM LOADED TENSION FOR GUYING – 5000 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

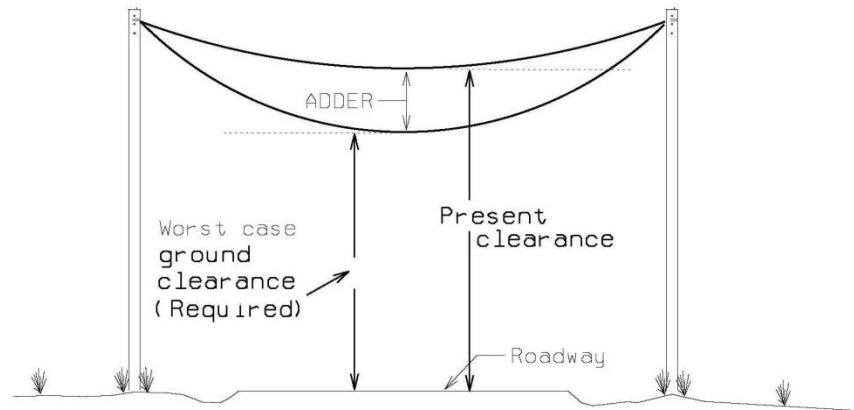
## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ½" radial ice @ 32 degrees F.
- Contact the Material & Standards group when using this sag table. 477 ACSR long span construction at this max tension was mostly used on 46 kV sub-transmission projects.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	1.63 ft.
Breaking Load	17,200 lbs
Diameter	.846 in.
Strands	24 Alum./7 Steel
Cross-Sectional Area	.3747 sq. in.
Standard Reel	10,660 Ft (6550 lbs)
Code Word	Flicker
Stock Code No.	133-0470

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN (FT)	AMBIENT TEMPERATURE (°F)				
	0°-31°	32°-59°	60°-89°	90°-119°	120°>
200	21	17	13	9	5
210	24	19	15	10	6
220	25	20	15	10	6
230	28	22	17	12	7
240	30	24	18	13	7
250	33	26	20	13	8
260	36	29	22	15	9
270	38	30	23	16	9
280	41	33	25	17	10
290	45	35	27	19	11
300	48	38	29	20	12
310	51	40	31	21	12
320	54	42	32	22	13
330	57	46	35	24	14
340	60	48	36	25	14
350	64	51	39	27	15
360	68	54	41	28	16
370	72	57	44	30	18
380	76	60	46	32	18
390	79	63	48	33	19

Maximum loaded tension for guying – 5000 lbs.



Example of Roadway clearance

Span Length 270', Temp 40 degrees F  
Code Clearance required (see [Std CL5](#))  
(at worst case sag conditions)

Adder 30"

Required clearance @ 40 degrees F

18'6"

+2'6"

21'0"

Present clearance @ 40 degrees F

Clearance **OK**

23'8"

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG135 / We#

795 KCM AA SHORT SPAN - SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		5	7	10	13	15		6	9	11	14	16	20	11
110		6	9	12	15	18		7	11	14	17	19	24	13
120		7	11	15	18	21		8	13	16	20	23	29	15
130		8	13	17	21	25		10	15	19	23	27	34	18
140		9	15	20	25	29		11	18	22	27	31	39	21
150		11	17	23	28	33		13	20	26	31	36	45	24
160		12	19	26	32	38		15	23	29	35	41	51	27
170		14	22	29	36	43		17	26	33	40	46	58	31
180	RS	15	24	33	41	48		19	29	37	45	51	65	35
190		17	27	36	45	53		21	32	41	50	57	73	39
[4]200		19	30	40	50	59		23	36	46	55	63	80	43
[4]210		21	33	44	55	65		25	39	50	61	70	89	47
[4]220		23	36	49	61	71		28	43	55	67	77	97	52
[4]230		25	40	53	66	78		31	47	61	73	84	106	57
[4]240		27	43	58	72	85		33	51	66	79	91	116	62
[4]250		29	47	63	79	92		36	56	72	86	99	126	67
TENSION lbs		2377	1492	1110	891	760		1937	1252	978	813	707	557	2368

MAXIMUM LOADED TENSION FOR GUYING – 3500 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. When 4/0 ACSR is used as a neutral conductor along with 795 KCM AA as the primary conductor in short span tangent construction, refer to Std OSAG220 for underbuild sag requirements. When sagging a neutral to match the phase wires above it, also see the conductor information in [Line Work Method 2001](#).
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.
6. When extending 795 KCM AA lines installed prior to 01/31/72, guying of the existing line is required. A maximum of 1400 lbs difference in guying tension per conductor shall be used for this guying application.

Specifications	
Feet per lb.	1.34 ft.
Breaking Load	13900 lbs
Diameter	1.026 in.
Strands	37 strands
Cross-Sectional Area	0.6245 in.
Standard Reel	1850 lbs/(2479 ft)
Code Word	Arbutus
Stock Code No.	133-0475

02/29/08

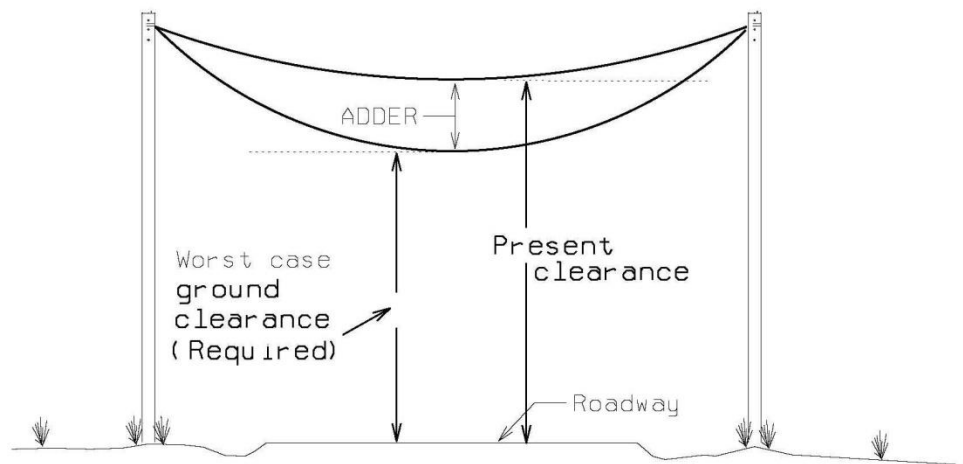
OSAG136 / We#

795 KCM AA SHORT SPAN – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	14	11	9	6	4
110	17	13	10	7	5
120	21	16	13	9	6
130	24	19	15	11	7
140	28	21	17	12	8
150	32	25	19	14	9
160	36	28	22	16	10
170	41	32	25	18	12
180	46	36	28	20	14
190	52	41	32	23	16
200	57	44	34	25	17
210	64	50	39	28	19
220	69	54	42	30	20
230	75	59	45	33	22
240	83	65	50	37	25
250	90	70	54	40	27

Maximum loaded tension for guying – 3500 lbs.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 19"  
 Required clearance @ 40 degrees F

18'6"  
 +1'7"  
 20'1"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG140 / We#

1272 KCM AA - SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		10	12	14	16	18		10	13	15	17	19	22	14
110		12	15	17	20	22		12	16	18	20	22	27	17
120		14	18	21	24	26		15	19	21	24	27	32	20
130		16	21	24	28	31		17	22	25	28	31	38	23
140		19	24	28	32	36		20	25	29	33	36	44	27
150		22	28	32	37	41		23	29	33	38	42	50	31
160		25	32	37	42	47		26	33	38	43	48	57	35
170		28	36	42	47	53		29	37	43	49	54	65	40
180	RS	32	40	47	53	59		33	42	48	55	60	72	44
190		35	45	52	59	66		37	46	54	61	67	81	49
200		39	50	58	66	73		41	51	60	67	74	90	55
[4]210		43	55	64	72	80		45	57	66	74	82	99	60
[4]220		47	60	70	79	88		49	62	72	81	90	108	66
[4]230		52	66	76	87	96		54	68	79	89	98	118	72
[4]240		56	71	83	95	105		59	74	86	97	107	129	79
[4]250		61	77	90	103	114		64	80	93	105	116	140	86
TENSION lbs		1839	1446	1241	1093	986		1756	1393	1204	1066	965	802	2535

MAXIMUM LOADED TENSION FOR GUYING – 3500 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

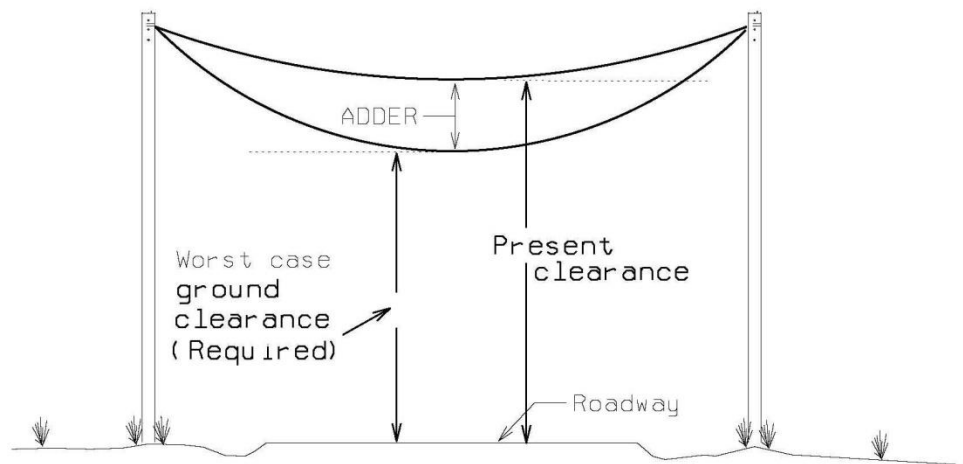
## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- When 336.4 ACSR is used as a neutral conductor along with 1272 KCM AA as the primary conductor in short span tangent construction, refer to Std OSAG225 for underbuild sag requirements. When sagging a neutral to match the phase wires above it, also see the conductor information in [Line Work Method 2001](#).
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	.84 ft.
Breaking Load	22000 lbs
Diameter	1.300 in.
Strands	61 AA (61 x 0.1444)
Cross-Sectional Area	0.999 sq. in.
Standard Reel	4100 ft./(4880 lbs)
Code Word	Narcissus
Stock Code No.	133-0485

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	12	9	7	5	3
110	15	11	9	7	5
120	17	13	11	8	5
130	21	16	13	10	7
140	24	19	15	11	8
150	27	21	17	12	8
160	31	24	19	14	9
170	36	28	22	16	11
180	39	30	24	17	12
190	44	35	27	20	14
200	49	39	30	23	16
210	54	42	33	25	17
220	59	46	36	27	18
230	64	50	39	29	20
240	70	55	43	32	22
250	76	60	47	35	24

Maximum loaded tension for guying – 3500 lbs.



#### Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 16"  
 Required clearance @ 40 degrees F

18'6"  
 +1'4"  
 19'10"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.



02/29/08

OSAG145 / We#

#6 DUPLEX (SECONDARY APPLICATIONS) – SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
80		9	10	12	13	14		11	13	14	15	16	18	17
85		10	12	13	14	16		13	14	16	17	18	21	19
90		11	13	15	16	18		14	16	18	19	20	23	22
95		12	15	16	18	20		16	18	20	21	23	26	24
100		14	16	18	20	22		18	20	22	23	25	29	27
105		15	18	20	22	24		20	22	24	26	28	32	29
110		17	19	22	24	26		22	24	26	28	30	35	32
115		18	21	24	26	29		24	26	29	31	33	38	35
120		20	23	26	29	31		26	29	31	34	36	41	38
125		21	25	28	31	34		28	31	34	37	39	45	42
130		23	27	30	34	37		30	34	37	40	42	48	45
135		25	29	33	36	40		32	36	40	43	46	52	49
140		27	32	35	39	43		35	39	43	46	49	56	52
145		29	34	38	42	46		37	42	46	49	53	60	56
150		31	36	41	45	49		40	45	49	53	56	65	60
155		33	39	43	48	52		43	48	52	56	60	69	64
160	RS	35	41	46	51	56		46	51	56	60	64	73	68
165		37	44	49	54	59		49	54	59	64	68	78	73
170		40	46	52	58	63		52	58	63	68	72	83	77
175		42	49	55	61	67		55	61	66	72	77	88	82
180		44	52	58	65	70		58	65	70	76	81	93	86
185		47	55	62	68	74		61	68	74	80	86	98	91
190		49	58	65	72	79		64	72	78	85	90	104	96
195		52	61	69	76	83		68	76	83	89	95	109	101
200		55	64	72	80	87		71	80	87	94	100	115	107
TENSION lbs		73	63	56	50	46		56	50	46	43	40	35	371

MAXIMUM LOADED TENSION FOR GUYING – 585 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.

Specifications	
Feet per lb.	14.9 ft.
Breaking Load	1110 lbs
Diameter	.450 in. (circumscribed circle)
Strands (6 AWG Neutral)	1 - #6 Stranded Alum.
Strands (6 AWG Phase)	1 - #6 Solid Alum.
Standard Reel	500 ft./(34 lbs)
Code Word	Chihuahua/XLP
Stock Code No.	133-0175

02/29/08

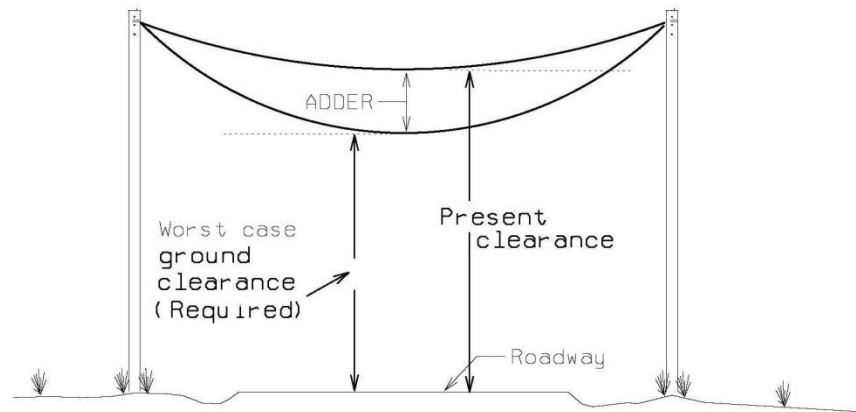
OSAG146 / We#

#6 DUPLEX (SECONDARY APPLICATIONS) – ADDER  
TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
80	7	5	4	3	2
85	8	7	5	4	3
90	9	7	5	4	3
95	10	8	6	5	3
100	11	9	7	6	4
105	12	10	8	6	4
110	13	11	9	7	5
115	14	12	9	7	5
120	15	12	10	7	5
125	17	14	11	8	6
130	18	14	11	8	6
135	20	16	12	9	6
140	21	17	13	10	7
145	23	18	14	11	7
150	25	20	16	12	9
155	26	21	17	13	9
160	27	22	17	13	9
165	29	24	19	14	10
170	31	25	20	15	11
175	33	27	22	16	11
180	35	28	23	17	12
185	37	30	24	18	12
190	40	32	26	19	14
195	41	33	26	20	14
200	44	35	28	21	15

Maximum loaded tension for guying – 585 lbs.



## Example of Roadway clearance

Span Length 170', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)

18'6"

Adder 25"

+2'1"

Required clearance @ 40 degrees F

20'7"

Present clearance @ 40 degrees F

23'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG150 / We#

#4 TRIPLEX (SECONDARY APPLICATIONS) – SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
80		9	10	12	13	14		12	13	14	15	16	18	17
85		10	12	13	14	16		13	14	16	17	18	21	20
90		12	13	15	16	17		15	16	18	19	20	23	22
95		13	15	16	18	19		16	18	20	21	22	26	25
100		14	16	18	20	22		18	20	22	23	25	28	27
105		16	18	20	22	24		20	22	24	26	27	31	30
110		17	20	22	24	26		22	24	26	28	30	34	33
115		19	22	24	26	28		24	27	29	31	33	38	36
120		21	24	26	29	31		26	29	31	34	36	41	39
125		22	26	28	31	34		28	31	34	36	39	45	42
130		24	28	31	34	36		31	34	37	39	42	48	46
135		26	30	33	36	39		33	37	40	43	45	52	50
140		28	32	35	39	42		35	39	43	46	49	56	53
145		30	34	38	42	45		38	42	46	49	52	60	57
150		32	37	41	45	48		41	45	49	53	56	64	61
155		34	39	43	48	52		43	48	52	56	60	68	65
160	RS	37	42	46	51	55		46	51	56	60	64	73	70
165		39	44	49	54	59		49	55	59	64	68	78	74
170		41	47	52	57	62		52	58	63	68	72	82	79
175		44	50	55	61	66		55	61	66	72	76	87	83
180		46	53	59	64	70		59	65	70	76	81	92	88
185		49	56	62	68	74		62	69	74	80	85	98	93
190		52	59	65	72	78		65	72	78	84	90	103	98
195		54	62	69	76	82		69	76	83	89	95	109	104
200		57	65	72	79	86		72	80	87	94	100	114	109
TENSION lbs		143	125	113	103	95		113	102	94	87	82	72	449

MAXIMUM LOADED TENSION FOR GUYING – 657 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.

Specifications	
Feet per lb.	7.35 ft.
Breaking Load	1110 lbs
Diameter	.59 in.
Strands (Neutral)	#6 Str. Bare EC Alum
Strands (Phase)	2/C #4 Sol WP 45 Mil Poly
Conductor Lay	14 inches (+/- 2")
Code Word	Artemia/Poly
Stock Code No.	133-0200

02/29/08

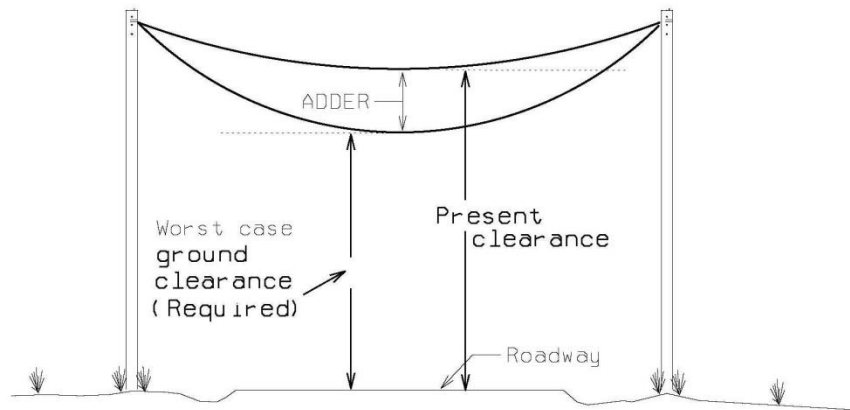
OSAG151 / We#

#4 TRIPLEX (SECONDARY APPLICATIONS) – ADDER  
TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
80	6	5	4	3	2
85	8	7	5	4	3
90	8	7	5	4	3
95	10	8	6	5	4
100	10	8	6	5	3
105	11	9	7	5	4
110	12	10	8	6	4
115	14	11	9	7	5
120	15	12	10	7	5
125	17	14	11	9	6
130	17	14	11	9	6
135	19	15	12	9	7
140	21	17	13	10	7
145	22	18	14	11	8
150	23	19	15	11	8
155	25	20	16	12	8
160	27	22	17	13	9
165	29	23	19	14	10
170	30	24	19	14	10
175	32	26	21	15	11
180	33	27	22	16	11
185	36	29	24	18	13
190	38	31	25	19	13
195	40	33	26	20	14
200	42	34	27	20	14

Maximum loaded tension for guying – 657 lbs.



Example of Roadway clearance

Span Length 130', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)

Adder 14"

Required clearance @ 40 degrees F

18'6"

+1'2"

19'8"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG155 / We#

**1/0 TRIPLEX SECONDARY CABLE SHORT SPAN – SAG  
TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		5	6	7	8	10		6	8	10	12	14	16	14
105		5	6	8	9	11		7	9	11	13	15	18	15
110		6	7	8	10	12		7	10	12	14	17	19	17
115		7	8	9	11	14		8	11	13	16	18	21	18
120		7	8	10	12	15		9	12	14	17	20	23	20
125		8	9	11	13	16		10	13	15	19	22	25	22
130		8	10	12	14	17		10	14	17	20	23	27	23
135		9	11	13	15	19		11	15	18	22	25	29	25
140		10	12	14	17	20		12	16	19	23	27	31	27
145		10	12	15	18	22		13	17	21	25	29	34	29
150		11	13	16	19	23		14	18	22	27	31	36	31
155		12	14	17	20	25		15	19	24	29	33	39	33
160	RS	13	15	18	22	26		16	20	25	31	35	41	35
165		13	16	19	23	28		17	22	27	32	38	44	38
170		14	17	20	25	30		18	23	28	34	40	46	40
175		15	18	21	26	31		19	25	30	37	42	49	42
180		16	19	23	27	33		20	26	32	39	45	52	45
185		17	20	24	29	35		21	27	34	41	47	55	47
190		18	21	25	31	37		22	29	36	43	50	58	50
195		19	22	27	32	39		24	30	37	45	53	61	53
200		20	24	28	34	41		25	32	39	48	55	64	55
TENSION lbs		1302	1095	923	760	630		1042	806	654	541	466	402	1466

MAXIMUM LOADED TENSION FOR GUYING – 1900 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.

Specifications	
Feet per lb.	2.33 ft.
Breaking Load	4380 lbs
Diameter	.98 in.
Cross-Sectional Area	.0968 sq. in. (neutral only)
Strands (1/0 Neutral)	1/C 6 Str Alum./1 Str. Steel Bare ACSR
Strands (1/0 Phase)	2/C 7 Str. Alum. WP 60 Mil XLP
Conductor Lay	35 inches (+/- 4")
Standard Reel	1100 ft (472 lbs)
Code Word	Neritina/XLP
Stock Code No.	133-0212

02/29/08

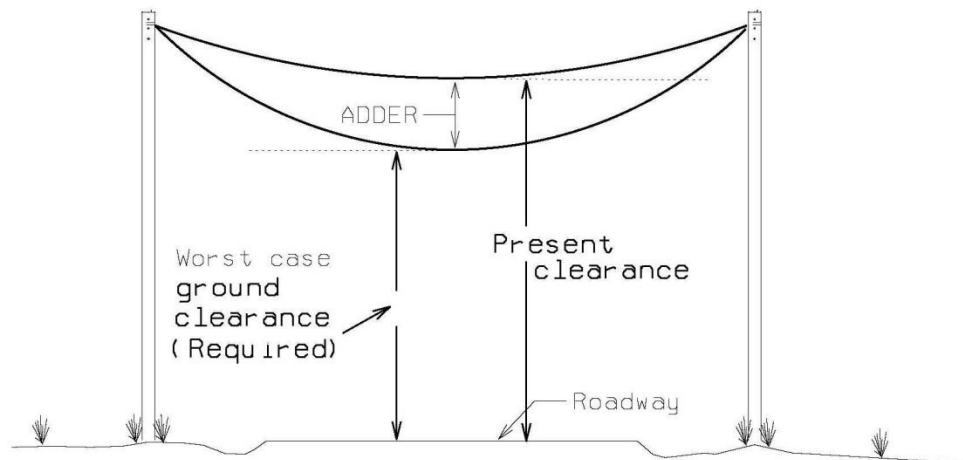
OSAG156 / We#

**1/0 TRIPLEX SECONDARY CABLE SHORT SPAN – ADDER  
TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	10	8	6	4	2
105	11	9	7	5	3
110	12	9	7	5	2
115	13	10	8	5	3
120	14	11	9	6	3
125	15	12	10	6	3
130	17	13	10	7	4
135	18	14	11	7	4
140	19	15	12	8	4
145	21	17	13	9	5
150	22	18	14	9	5
155	24	20	15	10	6
160	25	21	16	10	6
165	27	22	17	12	6
170	28	23	18	12	6
175	30	24	19	12	7
180	32	26	20	13	7
185	34	28	21	14	8
190	36	29	22	15	8
195	37	31	24	16	8
200	39	32	25	16	9

Maximum loaded tension for guying – 1900 lbs.



## Example of Roadway clearance

Span Length 140', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 15"  
 Required clearance @ 40 degrees F

18'6"  
 +1'3"  
 19'9"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG160 / We#

**1/0 TRIPLEX SECONDARY CABLE LONG SPAN – SAG  
TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
120		7	9	10	12	14		9	12	14	16	18	20	18
125		8	9	11	13	15		10	13	15	17	20	22	20
130		9	10	12	14	16		11	14	16	19	21	24	22
135		9	11	13	15	17		12	15	17	20	23	26	23
140		10	12	13	16	18		13	16	19	22	25	28	25
145		11	12	14	17	20		14	17	20	23	26	30	27
150		11	13	15	18	21		15	18	21	25	28	32	29
155		12	14	16	19	23		16	19	23	27	30	34	31
160		13	15	18	21	24		17	21	24	28	32	36	33
165		14	16	19	22	26		18	22	26	30	34	39	35
170		15	17	20	23	27		19	23	28	32	36	41	37
175		15	18	21	25	29		20	25	29	34	38	43	39
180		16	19	22	26	31		21	26	31	36	41	46	41
185		17	20	23	28	32		23	28	33	38	43	48	44
190		18	21	25	29	34		24	29	34	40	45	51	46
195		19	22	26	31	36		25	31	36	42	48	54	49
200	RS	20	24	27	32	38		26	32	38	44	50	57	51
205		21	25	29	34	40		28	34	40	46	53	59	54
210		22	26	30	36	42		29	36	42	49	55	62	56
215		23	27	32	37	44		30	38	44	51	58	65	59
220		24	29	33	39	46		32	39	46	54	61	68	62
225		25	30	35	41	48		33	41	48	56	63	72	65
230		27	31	36	43	50		35	43	50	59	66	75	68
235		28	33	38	45	52		36	45	53	61	69	78	71
240		29	34	40	47	54		38	47	55	64	72	82	74
245		30	35	41	48	57		39	49	57	66	75	85	77
250		31	37	43	50	59		41	51	60	69	78	88	80
TENSION lbs		1282	1092	940	799	685		981	795	676	583	516	456	1586

MAXIMUM LOADED TENSION FOR GUYING – 2050 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.

Specifications	
Feet per lb.	2.33 ft.
Breaking Load	4380 lbs
Diameter	.98 in.
Cross-Sectional Area	.0968 sq. in. (neutral only)
Strands (1/0 Neutral)	1/C 6 Str Alum./1 Str. Steel Bare ACSR
Strands (1/0 Phase)	2/C 7 Str. Alum. WP 60 Mil XLP
Conductor Lay	35 inches (+/- 4")
Standard Reel	1100 ft (472 lbs)
Code Word	Neritina/XLP
Stock Code No.	133-0212

02/29/08

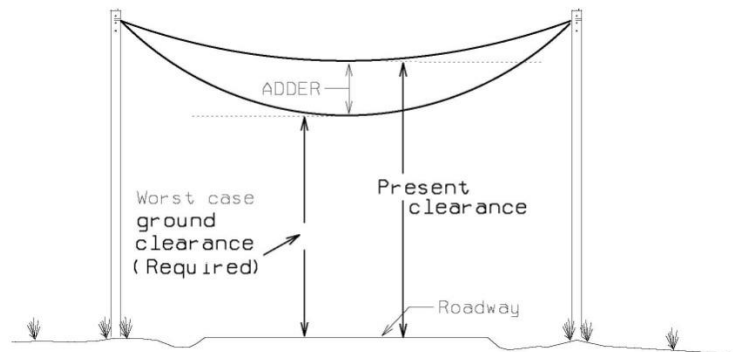
OSAG161 / We#

**1/0 TRIPLEX SECONDARY CABLE LONG SPAN – ADDER  
TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
120	11	8	6	4	2
125	12	9	7	5	2
130	13	10	8	5	3
135	14	11	9	6	3
140	15	12	9	6	3
145	16	13	10	7	4
150	17	14	11	7	4
155	18	15	11	7	4
160	19	15	12	8	4
165	21	17	13	9	5
170	22	18	13	9	5
175	23	18	14	9	5
180	25	20	15	10	5
185	25	20	15	10	5
190	27	22	17	11	6
195	29	23	18	12	6
200	31	25	19	13	7
205	31	25	19	13	6
210	33	26	20	13	7
215	35	27	21	14	7
220	36	29	22	14	7
225	39	31	24	16	9
230	40	32	25	16	9
235	42	33	25	17	9
240	44	35	27	18	10
245	46	36	28	19	10
250	47	37	28	19	10

Maximum loaded tension for guying – 2050 lbs.



## Example of Roadway clearance

Span Length 170', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 18"  
 Required clearance @ 40 degrees F

18'6"  
 +1'6"  
 20'0"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.



02/29/08

OSAG165 / We#

#4 QUADRUPLIX SECONDARY CABLE SHORT SPAN –  
SAG TABLE

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
80		12	13	14	15	16		14	15	16	17	18	20	19
85		14	15	16	17	18		16	17	18	19	20	23	22
90		15	17	18	19	20		18	19	20	22	23	25	24
95		17	19	20	21	23		20	21	23	24	25	28	27
100		19	21	22	24	25		22	24	25	27	28	31	30
105		21	23	24	26	28		24	26	28	29	31	34	33
110		23	25	27	29	30		27	29	30	32	34	38	36
115		25	27	29	31	33		29	31	33	35	37	41	40
120		27	30	32	34	36		32	34	36	38	40	45	43
125		29	32	34	37	39		34	37	39	42	44	49	47
130		32	35	37	40	42		37	40	43	45	47	53	51
135		34	37	40	43	46		40	43	46	48	51	57	55
140		37	40	43	46	49		43	47	49	52	55	61	59
145		39	43	46	50	53		46	50	53	56	59	66	63
150		42	46	50	53	56		50	53	57	60	63	70	68
155		45	49	53	57	60		53	57	60	64	67	75	72
160	RS	48	53	56	60	64		56	61	64	68	72	80	77
165		51	56	60	64	68		60	65	69	72	76	85	82
170		54	59	64	68	72		64	69	73	77	81	90	87
175		57	63	68	72	77		68	73	77	82	86	96	92
180		61	67	71	76	81		71	77	82	86	91	101	98
185		64	70	75	81	86		75	81	86	91	96	107	103
190		68	74	80	85	91		80	86	91	96	101	113	109
195		71	78	84	90	95		84	90	96	101	107	119	115
200		75	82	88	94	100		88	95	101	107	112	125	120
TENSION lbs		150	137	127	119	112		127	118	112	106	100	90	469

MAXIMUM LOADED TENSION FOR GUYING – 666 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.

Specifications	
Feet per lb.	5.32 ft.
Breaking Load	1110 lbs
Diameter	.710
Cross-Sectional Area	.0240 (Neutral) .098 (Alum Only) .1224 (Alum. w/ WP)
Strands (Neutral)	1/C #6 AWG Str Alum EC Grade Alloy No. 6201
Strands (Phase)	3/C #4 Solid AL WP 45 Mils XLP
Conductor Lay	16 inches (+/- 2")
Standard Coil	500 ft. (94 lbs)
Code Word	(None)
Stock Code No.	133-0205

02/29/08

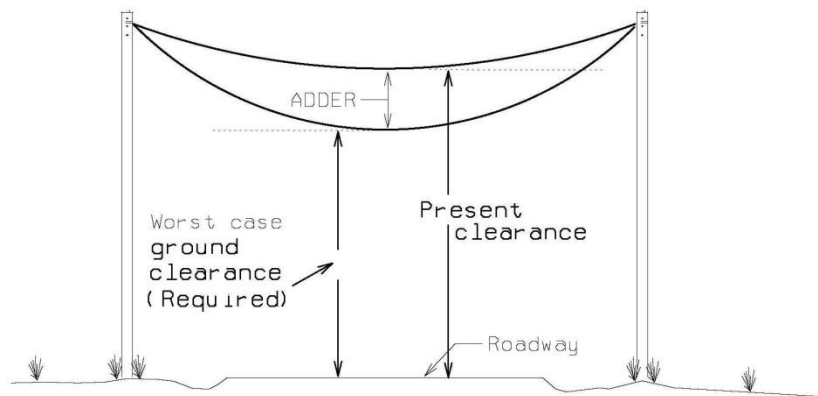
OSAG166 / We#

#4 QUADRUPLIX SECONDARY CABLE SHORT SPAN –  
ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
80	6	5	4	3	2
85	7	6	5	4	3
90	7	6	5	3	2
95	8	7	5	4	3
100	9	7	6	4	3
105	10	8	6	5	3
110	11	9	8	6	4
115	12	10	8	6	4
120	13	11	9	7	5
125	15	12	10	7	5
130	16	13	10	8	6
135	17	14	11	9	6
140	18	14	12	9	6
145	20	16	13	10	7
150	20	17	13	10	7
155	22	18	15	11	8
160	24	19	16	12	8
165	25	20	16	13	9
170	26	21	17	13	9
175	28	23	19	14	10
180	30	24	19	15	10
185	32	26	21	16	11
190	33	27	22	17	12
195	35	29	23	18	12
200	37	30	24	18	13

Maximum loaded tension for guying – 666 lbs.



#### Example of Roadway clearance

Span Length 150', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 17"  
 Required clearance @ 40 degrees F

18'6"  
 +1'5"  
 19'11"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG170 / We#

**1/0 QUADRUPLIX SECONDARY CABLE SHORT SPAN –  
SAG TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		6	6	7	8	10		7	8	10	12	14	16	14
105		6	7	8	9	11		7	9	11	13	15	18	16
110		7	8	9	10	12		8	10	12	14	17	20	17
115		7	8	10	11	13		9	11	13	16	18	22	19
120		8	9	10	12	14		10	12	15	17	20	24	20
125		9	10	11	13	16		11	13	16	19	22	26	22
130		9	11	12	14	17		11	14	17	20	23	28	24
135		10	12	13	15	18		12	15	18	22	25	30	26
140		11	12	14	17	20		13	17	20	23	27	32	28
145		12	13	15	18	21		14	18	21	25	29	34	30
150		12	14	16	19	22		15	19	23	27	31	37	32
155		13	15	17	20	24		16	20	24	29	33	39	34
160	RS	14	16	19	22	25		17	22	26	31	35	42	36
165		15	17	20	23	27		19	23	27	33	38	45	38
170		16	18	21	25	29		20	24	29	35	40	47	41
175		17	19	22	26	30		21	26	31	37	42	50	43
180		18	21	24	28	32		22	27	33	39	45	53	46
185		19	22	25	29	34		23	29	34	41	47	56	48
190		20	23	26	31	36		25	30	36	43	50	59	51
195		21	24	28	32	38		26	32	38	45	53	62	54
200		22	25	29	34	40		27	34	40	48	55	66	56
TENSION lbs		1531	1336	1168	1000	853		1249	1008	843	711	614	519	1673

MAXIMUM LOADED TENSION FOR GUYING – 2100 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.

Specifications	
Feet per lb.	1.77 ft.
Breaking Load	4380 lbs
Diameter	1.120 in. (circumscribed circle)
Cross-Sectional Area	.0968 sq. in. (neutral only)
Strands (Neutral)	1/C 1/0 6 Alum./1 Steel ACSR
Strands (Phase)	3/C 1/0 19 Str Alum WP 60 Mils XLP
Conductor Lay	28 inches (+/- 1")
Standard Reel	1100 ft (622.6 lbs)
Code Word	Costena/XLP
Stock Code No.	133-0216

02/29/08

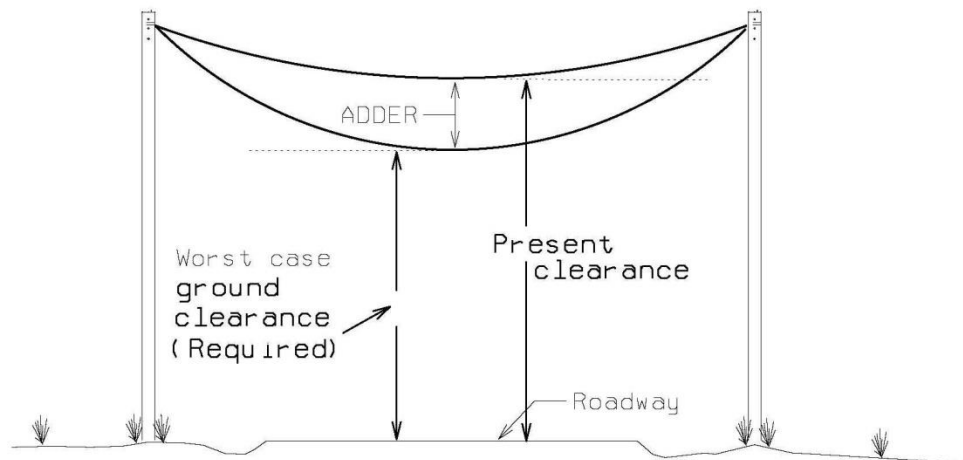
OSAG171 / We#

**1/0 QUADRUPLIX SECONDARY CABLE SHORT SPAN –  
ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	9	8	6	4	2
105	11	9	7	5	3
110	12	10	8	6	3
115	13	11	9	6	4
120	14	12	9	7	4
125	15	13	10	7	4
130	17	14	11	8	5
135	18	15	12	8	5
140	19	15	12	9	5
145	20	16	13	9	5
150	22	18	14	10	6
155	23	19	15	10	6
160	25	20	16	11	7
165	26	22	18	12	7
170	27	23	18	12	7
175	29	24	19	13	8
180	31	26	20	14	8
185	33	27	22	15	9
190	34	29	23	16	9
195	36	30	24	17	9
200	39	32	26	18	11

Maximum loaded tension for guying – 2100 lbs.



## Example of Roadway clearance

Span Length 150', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 18"  
 Required clearance @ 40 degrees F

18'6"  
 +1'6"  
 20'0"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG175 / We#

**1/0 QUADRUPLIX SECONDARY CABLE LONG SPAN –  
SAG TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
120		8	9	10	11	13		10	12	14	16	18	20	18
125		8	9	11	12	14		11	13	15	17	19	22	20
130		9	10	11	13	15		11	14	16	18	21	24	22
135		10	11	12	14	16		12	15	17	20	22	26	23
140		10	12	13	15	17		13	16	18	21	24	28	25
145		11	13	14	16	18		14	17	20	23	26	30	27
150		12	13	15	17	20		15	18	21	24	27	32	29
155		13	14	16	18	21		16	20	23	26	29	34	31
160		14	15	17	20	22		17	21	24	28	31	36	33
165		14	16	18	21	24		18	22	26	29	33	39	35
170		15	17	19	22	25		20	24	27	31	35	41	37
175		16	18	21	24	27		21	25	29	33	37	43	39
180		17	19	22	25	28		22	26	30	35	39	46	42
185		18	21	23	26	30		23	28	32	37	42	49	44
190		19	22	24	28	32		25	29	34	39	44	51	46
195		20	23	26	29	33		26	31	36	41	46	54	49
200	RS	21	24	27	31	35		27	33	38	43	49	57	51
205		22	25	28	32	37		29	34	40	45	51	60	54
210		23	26	30	34	39		30	36	42	48	54	63	57
215		25	28	31	36	41		31	38	44	50	56	66	59
220		26	29	33	37	43		33	39	46	52	59	69	62
225		27	30	34	39	44		34	41	48	55	62	72	65
230		28	32	36	41	46		36	43	50	57	65	75	68
235		29	33	37	42	49		37	45	52	60	67	78	71
240		31	35	39	44	51		39	47	54	62	70	82	74
245		32	36	40	46	53		41	49	56	65	73	85	77
250		33	37	42	48	55		42	51	59	68	76	89	80
TENSION lbs		1598	1415	1260	1104	966		1251	1044	903	786	697	599	1841

MAXIMUM LOADED TENSION FOR GUYING – 2300 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.

Specifications	
Feet per lb.	1.77 ft.
Breaking Load	4380 lbs
Diameter	1.120 in. (circumscribed circle)
Cross-Sectional Area	.0968 sq. in. (neutral only)
Strands (Neutral)	1/C 1/0 6 Alum/1 Steel ACSR
Strands (Phase)	3/C 1/0 19 Str Alum WP 60 Mils XLP
Conductor Lay	28 inches (+/- 1")
Standard Reel	1100 ft (622.6 lbs)
Code Word	Costena/XLP
Stock Code No.	133-0216

02/29/08

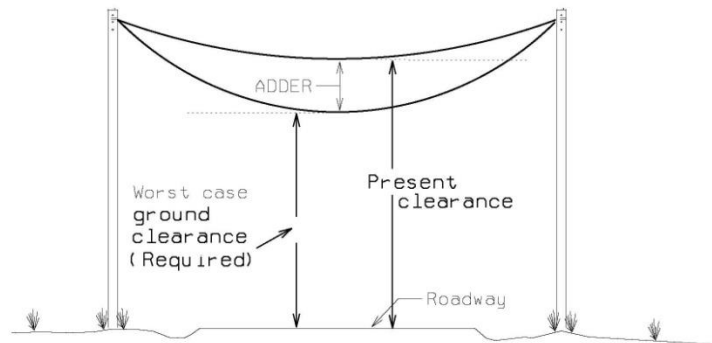
OSAG176 / We#

**1/0 QUADRUPLIX SECONDARY CABLE LONG SPAN –  
ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
120	10	8	6	4	2
125	11	9	7	5	3
130	13	10	8	6	3
135	14	11	9	6	4
140	15	12	10	7	4
145	16	13	10	7	4
150	17	14	11	8	5
155	18	14	11	8	5
160	19	15	12	8	5
165	21	17	13	10	6
170	21	17	14	10	6
175	22	18	14	10	6
180	24	20	16	11	7
185	26	21	17	12	7
190	26	22	17	12	7
195	28	23	18	13	8
200	30	24	19	14	8
205	31	26	20	15	9
210	33	27	21	15	9
215	35	28	22	16	10
220	36	30	23	17	10
225	38	31	24	17	10
230	39	32	25	18	10
235	41	33	26	18	11
240	43	35	28	20	12
245	44	36	29	20	12
250	47	38	30	21	13

Maximum loaded tension for guying – 2300 lbs.



## Example of Roadway clearance

Span Length 170', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)

Adder 17"

Required clearance @ 40 degrees F

18'6"

+1'5"

19'11"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG180 / We#

**336.4 KCM TRIPLEX SECONDARY CABLE SHORT SPAN –  
SAG TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		10	12	13	15	17		11	13	15	17	19	21	17
105		11	13	15	17	18		13	15	17	19	20	23	19
110		12	14	16	18	20		14	16	18	20	22	26	20
115		14	16	18	20	22		15	18	20	22	25	28	22
120		15	17	19	22	24		17	19	22	24	27	31	24
125		16	19	21	24	26		18	21	24	26	29	33	26
130		17	20	23	26	28		19	23	26	29	31	36	28
135		19	22	25	28	31		21	25	28	31	34	39	31
140		20	23	26	30	33		22	26	30	33	36	42	33
145		21	25	28	32	35		24	28	32	36	39	45	35
150		23	27	30	34	38		26	30	34	38	42	48	38
155		25	29	32	36	40		28	32	36	41	45	51	40
160	RS	26	31	34	39	43		29	34	39	43	47	54	43
165		28	32	37	41	46		31	37	41	46	50	58	46
170		30	34	39	44	48		33	39	44	49	54	61	49
175		31	36	41	46	51		35	41	46	52	57	65	51
180		33	39	44	49	54		37	44	49	55	60	69	54
185		35	41	46	52	57		39	46	52	58	63	73	57
190		37	43	49	55	60		41	49	55	61	67	77	61
195		39	45	51	58	64		44	51	58	64	71	81	64
200		41	48	54	61	67		46	54	61	68	74	85	67
TENSION lbs		1686	1447	1281	1140	1030		1502	1280	1137	1020	930	813	2323

MAXIMUM LOADED TENSION FOR GUYING – 2850 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.

Specifications	
Feet per lb.	.87 ft.
Breaking Load	8350 lbs
Diameter	1.83
Cross-Sectional Area	.1939 (neutral only) .2642 (Alum only – 1 phase) .509 (Alum w/ WP only – 1 phase)
Strands (Neutral)	4/0 Str 6/1 ACSR Bare
Strands (Phase)	2/C 336.4 KCM 19 Str Alum WP 78 Mils XLP
Conductor Lay	60 inches reverse twist
Standard Reel	500 ft (571.8 lbs)
Code Word	(None)
Stock Code No.	133-0217

02/29/08

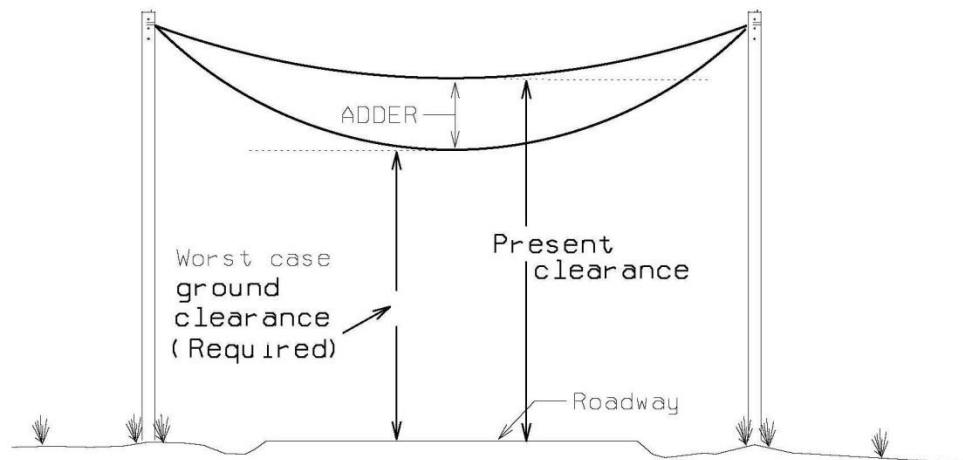
OSAG181 / We#

**336.4 KCM TRIPLEX SECONDARY CABLE SHORT SPAN –  
ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	10	8	6	4	2
105	10	8	6	4	3
110	12	10	8	6	4
115	13	10	8	6	3
120	14	12	9	7	4
125	15	12	9	7	4
130	17	13	10	7	5
135	18	14	11	8	5
140	20	16	12	9	6
145	21	17	13	9	6
150	22	18	14	10	6
155	23	19	15	10	6
160	25	20	15	11	7
165	27	21	17	12	8
170	28	22	17	12	7
175	30	24	19	13	8
180	32	25	20	14	9
185	34	27	21	15	10
190	36	28	22	16	10
195	37	30	23	17	10
200	39	31	24	17	11

Maximum loaded tension for guying – 2850 lbs.



## Example of Roadway clearance

Span Length 150', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 18"  
 Required clearance @ 40 degrees F

$$\begin{array}{r} 18'6'' \\ +1'6'' \\ \hline 20'0'' \end{array}$$

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.



02/29/08

OSAG185 / We#

**336.4 KCM TRIPLEX SECONDARY CABLE LONG SPAN –  
SAG TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
120		15	17	19	21	22		17	19	21	23	24	27	23
125		17	19	21	22	24		19	21	23	25	26	30	25
130		18	20	22	24	26		20	22	24	27	29	32	27
135		20	22	24	26	28		22	24	26	29	31	35	29
140		21	24	26	28	30		23	26	28	31	33	37	31
145		23	25	28	30	33		25	28	30	33	35	40	33
150		24	27	30	32	35		27	30	33	35	38	43	36
155		26	29	32	34	37		29	32	35	38	41	46	38
160		27	31	34	37	40		30	34	37	40	43	49	40
165		29	33	36	39	42		32	36	39	43	46	52	43
170		31	35	38	41	45		34	38	42	45	49	55	46
175		33	37	40	44	48		36	41	44	48	52	58	48
180		35	39	43	47	50		38	43	47	51	55	62	51
185		37	41	45	49	53		41	46	50	54	58	65	54
190		39	43	48	52	56		43	48	52	57	61	69	57
195		41	46	50	55	59		45	51	55	60	64	72	60
200	RS	43	48	53	57	62		47	53	58	63	68	76	63
205		45	51	55	60	65		50	56	61	66	71	80	66
210		47	53	58	63	68		52	59	64	69	75	84	70
215		50	56	61	66	72		55	61	67	73	78	88	73
220		52	58	64	69	75		57	64	70	76	82	92	76
225		54	61	67	73	79		60	67	73	80	86	96	80
230		57	64	70	76	82		63	70	77	83	89	101	84
235		59	66	73	79	86		66	73	80	87	93	105	87
240		62	69	76	83	89		68	77	84	91	97	110	91
245		64	72	79	86	93		71	80	87	94	101	114	95
250		67	75	82	90	97		74	83	91	98	106	119	99
TENSION lbs		1606	1433	1310	1201	1112		1453	1297	1190	1097	1021	908	2471

MAXIMUM LOADED TENSION FOR GUYING – 3000 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.

Specifications	
Feet per lb.	.87 ft.
Breaking Load	8350 lbs
Diameter	1.83
Cross-Sectional Area	.1939 (neutral only) .2642 (Alum only – 1 phase) .509 (Alum w/ WP only – 1 phase)
Strands (Neutral)	4/0 Str 6/1 ACSR Bare
Strands (Phase)	3/C 336.4 KCM 19 Str Alum WP 78 Mills XLP
Conductor Lay	60 inches reverse twist
Standard Reel	500 ft (571.8 lbs)
Code Word	(None)
Stock Code No.	133-0217

02/29/08

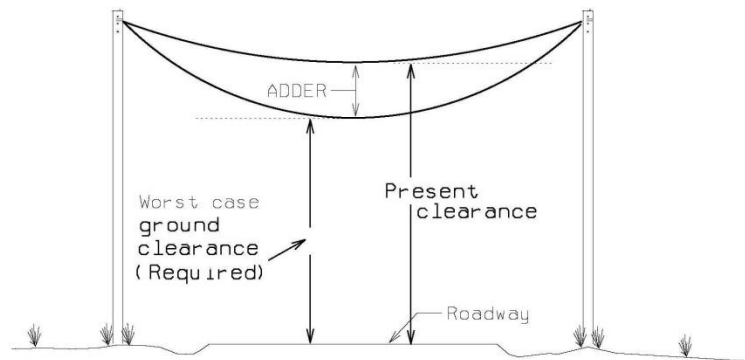
OSAG186 / We#

**336.4 KCM TRIPLEX SECONDARY CABLE LONG SPAN –  
ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
120	10	8	6	4	3
125	11	9	7	5	4
130	12	10	8	5	3
135	13	11	9	6	4
140	14	11	9	6	4
145	15	12	10	7	5
150	16	13	10	8	5
155	17	14	11	8	5
160	19	15	12	9	6
165	20	16	13	9	6
170	21	17	13	10	6
175	22	17	14	10	6
180	24	19	15	11	7
185	24	19	15	11	7
190	26	21	17	12	8
195	27	21	17	12	8
200	29	23	18	13	8
205	30	24	19	14	9
210	32	25	20	15	9
215	33	27	21	15	10
220	35	28	22	16	10
225	36	29	23	16	10
230	38	31	24	18	12
235	39	32	25	18	12
240	42	33	26	19	13
245	43	34	27	20	13
250	45	36	28	21	13

Maximum loaded tension for guying – 3000 lbs.



Example of Roadway clearance

Span Length 150', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 13"  
 Required clearance @ 40 degrees F

18'6"  
 +1'1"  
 19'7"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG190 / We#

**336.4 KCM QUADRUPLIX SECONDARY CABLE SHORT  
SPAN – SAG TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		12	13	15	16	18		13	15	17	18	20	23	18
105		13	15	16	18	20		15	17	18	20	22	25	20
110		14	16	18	20	21		16	18	20	22	24	28	22
115		16	18	20	22	23		18	20	22	24	26	30	24
120		17	19	21	23	26		19	22	24	26	28	33	26
125		19	21	23	25	28		21	24	26	28	31	36	28
130		20	23	25	28	30		22	25	28	31	33	39	31
135		22	24	27	30	32		24	27	30	33	36	42	33
140		23	26	29	32	35		26	30	33	36	39	45	36
145		25	28	31	34	37		28	32	35	38	41	48	38
150		27	30	33	37	40		30	34	37	41	44	51	41
155		29	32	36	39	43		32	36	40	44	47	55	44
160	RS	30	34	38	42	45		34	39	43	47	50	58	46
165		32	37	40	44	48		36	41	45	50	54	62	49
170		34	39	43	47	51		38	44	48	53	57	66	52
175		36	41	45	50	54		41	46	51	56	60	70	55
180		39	43	48	53	58		43	49	54	59	64	74	59
185		41	46	51	56	61		45	52	57	62	67	78	62
190		43	48	53	59	64		48	54	60	66	71	82	65
195		45	51	56	62	68		51	57	63	69	75	87	69
200		48	54	59	65	71		53	60	66	73	79	91	73
TENSION lbs		1968	1745	1583	1439	1319		1763	1553	1410	1287	1189	1027	2601

MAXIMUM LOADED TENSION FOR GUYING – 3100 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.

Specifications	
Feet per lb.	.64 ft.
Breaking Load	8350 lbs
Diameter	2.04
Cross-Sectional Area	.1939 (neutral only) .2642 (Alum only – 1 phase) .509 (Alum w/ WP only – 1 phase)
Strands (Neutral)	4/0 Str 6/1 ACSR Bare
Strands (Phase)	3/C 336.4 KCM 19 Str Alum WP 78 Mils XLP
Conductor Lay	60 inches reverse twist
Standard Reel	500 ft (780 lbs)
Code Word	(None)
Stock Code No.	133-0219

02/29/08

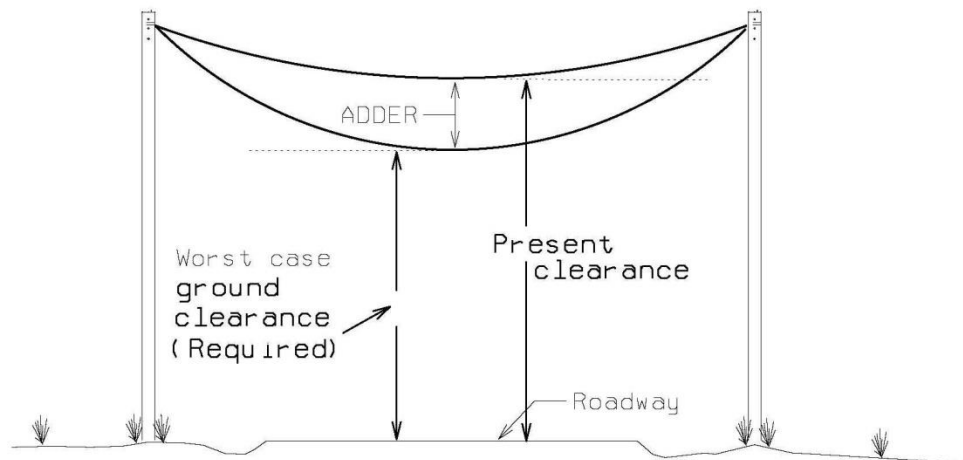
OSAG191 / We#

**336.4 KCM QUADRUPLIX SECONDARY CABLE SHORT  
SPAN – ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
AMBIENT TEMPERATURE (°F)					
SPAN FEET	0-31	32-59	60-89	90-119	120>
100	10	8	6	5	3
105	10	8	7	5	3
110	12	10	8	6	4
115	12	10	8	6	4
120	14	11	9	7	5
125	15	12	10	8	5
130	17	14	11	8	6
135	18	15	12	9	6
140	19	15	12	9	6
145	20	16	13	10	7
150	21	17	14	10	7
155	23	19	15	11	8
160	24	19	15	11	8
165	26	21	17	12	8
170	28	22	18	13	9
175	29	24	19	14	10
180	31	25	20	15	10
185	33	26	21	16	11
190	34	28	22	16	11
195	36	30	24	18	12
200	38	31	25	18	12

Maximum loaded tension for guying – 3100 lbs.



## Example of Roadway clearance

Span Length 150', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 17"  
 Required clearance @ 40 degrees F

18'6"  
 +1'5"  
 19'11"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG195 / We#

**336.4 KCM QUADRUPLIX SECONDARY CABLE LONG  
SPAN – SAG TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
120		18	20	21	23	24		20	22	23	25	26	30	25
125		20	21	23	25	26		21	23	25	27	29	32	27
130		21	23	25	27	28		23	25	27	29	31	35	29
135		23	25	27	29	31		25	27	29	31	33	38	31
140		25	27	29	31	33		27	29	32	34	36	41	34
145		26	29	31	33	35		29	32	34	36	38	44	36
150		28	31	33	36	38		31	34	36	39	41	47	39
155		30	33	35	38	40		33	36	39	41	44	50	41
160		32	35	38	40	43		35	38	41	44	47	53	44
165		34	37	40	43	46		37	41	44	47	50	56	47
170		36	40	43	46	49		40	43	46	50	53	60	50
175		39	42	45	48	52		42	46	49	53	56	63	53
180		41	45	48	51	55		44	49	52	56	59	67	56
185		43	47	50	54	58		47	51	55	59	63	71	59
190		45	50	53	57	61		50	54	58	62	66	75	62
195		48	52	56	60	64		52	57	61	65	69	79	66
200	RS	50	55	59	63	67		55	60	64	69	73	83	69
205		53	58	62	66	71		58	63	68	72	77	87	73
210		56	61	65	70	74		61	66	71	76	81	91	76
215		58	64	68	73	78		63	69	74	80	84	96	80
220		61	67	71	77	82		66	73	78	83	88	100	84
225		64	70	75	80	85		70	76	81	87	93	105	87
230		67	73	78	84	89		73	79	85	91	97	110	91
235		70	76	81	87	93		76	83	89	95	101	114	95
240		73	79	85	91	97		79	86	93	99	105	119	99
245		76	82	89	95	101		82	90	97	103	110	124	104
250		79	86	92	99	105		86	94	101	108	114	130	108
TENSION lbs		1860	1704	1588	1482	1390		1705	1560	1456	1362	1283	1132	2733

MAXIMUM LOADED TENSION FOR GUYING – 3225 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.

Specifications	
Feet per lb.	.64 ft.
Breaking Load	8350 lbs
Diameter	2.04
Cross-Sectional Area	.1939 (neutral only) .2642 (Alum only – 1 phase) .509 (Alum w/ WP only – 1 phase)
Strands (Neutral)	4/0 Str 6/1 ACSR Bare
Strands (Phase)	3/C 336.4 KCM 19 Str Alum WP 78 Mills XLP
Conductor Lay	60 inches reverse twist
Standard Reel	500 ft (780 lbs)
Code Word	(None)
Stock Code No.	133-0219

02/29/08

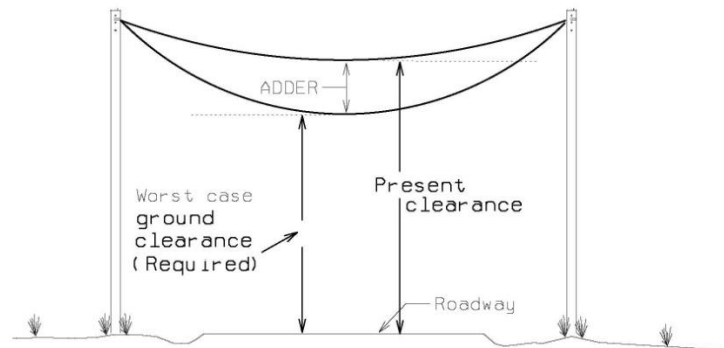
OSAG196 / We#

**336.4 KCM QUADRUPLIX SECONDARY CABLE LONG  
SPAN – ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
120	10	8	7	5	4
125	11	9	7	5	3
130	12	10	8	6	4
135	13	11	9	7	5
140	14	12	9	7	5
145	15	12	10	8	6
150	16	13	11	8	6
155	17	14	11	9	6
160	18	15	12	9	6
165	19	15	12	9	6
170	20	17	14	10	7
175	21	17	14	10	7
180	23	18	15	11	8
185	24	20	16	12	8
190	25	21	17	13	9
195	27	22	18	14	10
200	28	23	19	14	10
205	29	24	19	15	10
210	30	25	20	15	10
215	33	27	22	16	12
220	34	27	22	17	12
225	35	29	24	18	12
230	37	31	25	19	13
235	38	31	25	19	13
240	40	33	26	20	14
245	42	34	27	21	14
250	44	36	29	22	16

Maximum loaded tension for guying – 3225 lbs.



## Example of Roadway clearance

Span Length 150', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 13"  
 Required clearance @ 40 degrees F

18'6"  
 +1'1"  
 19'7"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG200 / We#

**#2 ACSR NEUTRAL SHORT SPAN UNDERBUILD FOR 1/0  
ACSR PRIMARY SHORT SPAN - SAG TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		3	4	6	8	10		4	6	8	10	11	13	11
110		4	5	7	10	12		5	7	10	12	13	16	14
120		4	6	9	12	15		6	9	11	14	15	19	16
130		5	7	10	14	17		7	10	13	16	18	22	19
140		6	9	12	16	20		8	12	15	19	21	25	22
150		7	10	14	19	23		9	13	18	22	24	29	25
160		8	11	16	21	26		10	15	20	24	27	33	29
170		9	13	18	24	29		11	17	23	28	31	37	33
180		10	14	20	27	33		13	19	26	31	34	42	37
190		11	16	22	30	37		14	22	28	35	38	47	41
200	RS	12	17	25	33	41		16	24	32	38	42	52	45
210		13	19	27	36	45		17	26	35	42	47	57	50
220		14	21	30	40	49		19	29	38	46	51	62	55
230		16	23	33	44	54		21	32	42	51	56	68	60
[4]240		17	25	36	48	58		23	34	45	55	61	74	65
[4]250		18	27	39	52	63		25	37	49	60	66	81	70
TENSION lbs		545	367	259	195	158		405	268	203	168	152	125	825

MAXIMUM LOADED TENSION FOR GUYING – 1271 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The sags on this page are to be used when you are trying to sag a #2 ACSR neutral to approximate the sag of 1/0 ACSR. See [Line Work Method 2001](#). For spans 240' and longer, the 14" required midspan vertical clearance shall be met by limiting span length or increasing the vertical separation at the poles.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	9.37 ft.
Breaking Load	3640 lbs
Diameter	.325 in.
Strands	7 Alum./1 Steel
Cross-Sectional Area	.0654 sq. in.
Standard Reel	5622 ft. (600 lbs)
Code Word	Sparate
Stock Code No.	133-0228

02/29/08

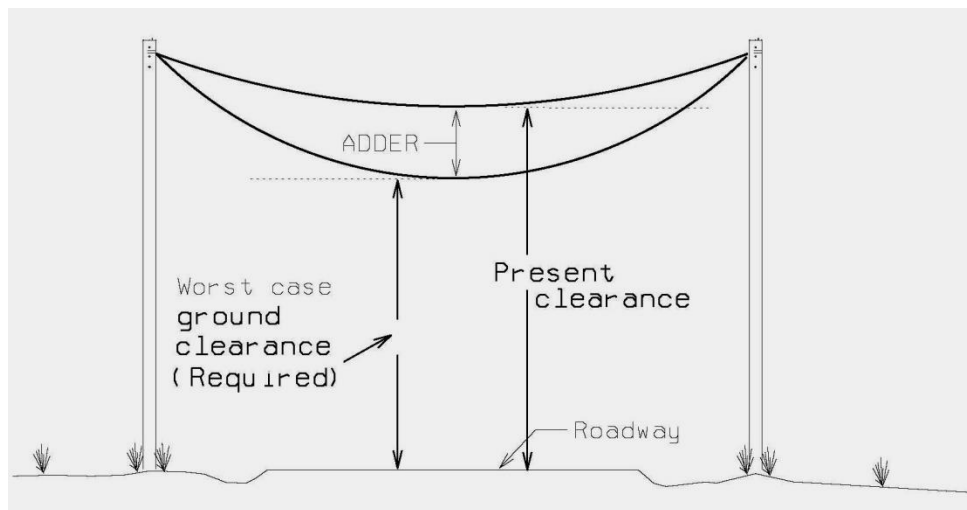
OSAG201 / We#

#2 ACSR NEUTRAL SHORT SPAN UNDERBUILD FOR 1/0  
ACSR PRIMARY SHORT SPAN – ADDER TABLE

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	9	7	5	3	2
110	11	9	6	4	3
120	13	10	8	5	4
130	15	12	9	6	4
140	17	13	10	6	4
150	20	16	11	7	5
160	23	18	13	9	6
170	26	20	14	9	6
180	29	23	16	11	8
190	33	25	19	12	9
200	36	28	20	14	10
210	40	31	22	15	10
220	43	33	24	16	11
230	47	36	26	17	12
240	51	40	29	19	13
250	56	44	32	21	15

Maximum loaded tension for guying – 1271 lbs.



#### Example of Roadway clearance

Span Length 160', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 18"  
 Required clearance @ 40 degrees F

18'6"  
 +1'6"  
 20'0"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.



02/29/08

OSAG205 / We#

**#2 ACSR NEUTRAL LONG SPAN UNDERBUILD FOR 1/0  
ACSR PRIMARY LONG SPAN - SAG TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
150		4	5	6	8	10		6	8	11	12	13	16	17
160		4	5	7	9	11		7	10	12	13	15	18	19
170		5	6	8	10	13		8	11	13	15	17	20	22
180		6	7	9	11	14		9	12	15	17	19	22	24
190		6	8	10	13	16		10	14	17	19	21	25	27
200		7	9	11	14	18		11	15	19	21	23	28	30
210		8	9	12	15	20		12	17	21	23	25	31	33
220		8	10	13	17	22		14	18	23	25	28	34	37
230		9	11	14	19	24		15	20	25	28	30	37	40
240		10	12	16	20	26		16	22	27	30	33	40	44
250		11	13	17	22	28		18	23	29	33	36	43	47
260		12	15	18	24	30		19	25	32	35	39	47	51
270		13	16	20	26	33		21	27	34	38	42	51	55
280		14	17	21	28	35		22	29	37	41	45	54	59
290		15	18	23	30	38		24	32	39	44	48	58	64
300		16	19	24	32	40		25	34	42	47	52	62	68
310		17	21	26	34	43		27	36	45	50	55	67	73
320		18	22	28	36	46		29	38	48	54	59	71	77
330		19	23	29	38	49		31	41	51	57	62	76	82
340		20	25	31	41	52		33	43	54	60	66	80	87
[4]350	RS	21	26	33	43	55		34	46	57	64	70	85	93
[4]360		22	28	35	45	58		36	49	60	68	74	90	98
[4]370		24	29	37	48	61		39	51	64	72	78	95	103
[4]380		25	31	39	51	65		41	54	67	75	83	100	109
[4]390		26	33	41	53	68		43	57	71	80	87	105	115
[4]400		28	34	43	56	72		45	60	75	84	92	111	121
[4]410		29	36	45	59	75		47	63	78	88	96	117	127
[4]420		31	38	48	62	79		50	66	82	92	101	122	133
TENSION lbs		927	747	595	458	359		570	427	344	307	281	232	1231

MAXIMUM LOADED TENSION FOR GUYING – 1836 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. The sags on this page are to be used when you are trying to sag a #2 ACSR neutral to approximate the sag of 1/0 ACSR. See [Line Work Method 2001](#). For spans 350' and longer, the 14" required midspan vertical clearance shall be met by limiting span length or increasing the vertical separation at the poles.
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	9.37 ft.
Breaking Load	3640 lbs
Diameter	.325 in.
Strands	7 Alum./1 Steel
Cross-Sectional Area	.0654 sq. in.
Standard Reel	6012 Ft (600 lbs)
Code Word	Sparate
Stock Code No.	133-0228

02/29/08

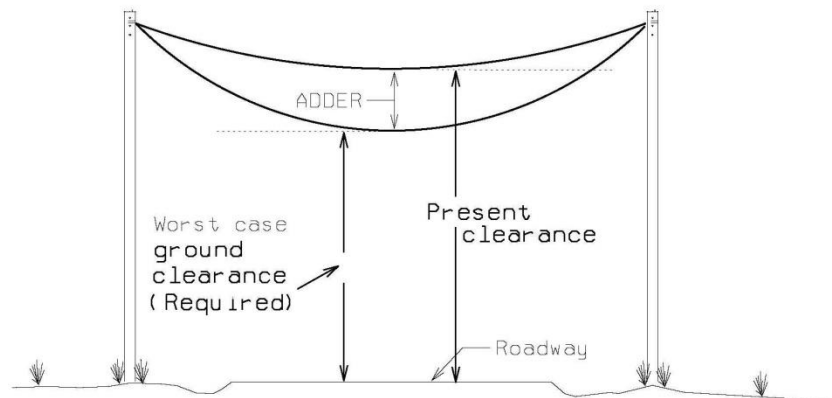
OSAG206 / We#

**#2 ACSR NEUTRAL LONG SPAN UNDERBUILD FOR 1/0  
ACSR PRIMARY LONG SPAN – ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
150	11	9	6	5	4
160	12	9	7	6	4
170	14	11	9	7	5
180	15	12	9	7	5
190	17	13	10	8	6
200	19	15	11	9	7
210	21	16	12	10	8
220	23	19	14	12	9
230	25	20	15	12	10
240	28	22	17	14	11
250	29	24	18	14	11
260	32	26	19	16	12
270	34	28	21	17	13
280	37	30	22	18	14
290	40	32	25	20	16
300	43	34	26	21	16
310	46	37	28	23	18
320	48	39	29	23	18
330	51	41	31	25	20
340	54	44	33	27	21
350	59	47	36	29	23
360	62	49	38	30	24
370	64	52	39	31	25
380	68	55	42	34	26
390	72	58	44	35	28
400	76	61	46	37	29
410	80	64	49	39	31
420	83	67	51	41	32

Maximum loaded tension for guying – 1836 lbs.



Example of Roadway clearance

Span Length 270', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 28"  
 Required clearance @ 40 degrees F

18'6"  
 +2'4"  
 20'10"

Present clearance @ 40 degrees F  
 Clearance **OK**

21'8"

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG210 / We#

**1/0 ACSR NEUTRAL SHORT SPAN UNDERBUILD FOR  
336.4 ACSR PRIMARY SHORT SPAN - SAG TABLE**

Page 1 of 1

SPAN FEET		INITIAL SAG – INCHES					FINAL SAG - INCHES								
		CONDUCTOR TEMPERATURE (°F)					CONDUCTOR TEMPERATURE (°F)								
		0	32	60	90	120	0	32	60	90	120	140 [2]	194 [2]	32 w/ ice [3]	
100		4	6	8	10	11	6	8	10	11	12	13	14	12	
110		5	7	9	12	14	7	10	12	13	14	15	17	14	
120		6	8	11	14	16	8	12	14	16	17	18	20	17	
130		7	10	13	16	19	10	14	17	19	20	21	24	20	
140		8	11	15	19	22	11	16	19	22	23	25	28	23	
150		9	13	17	22	26	13	18	22	25	27	28	32	27	
160		10	15	20	25	29	15	21	25	28	31	32	36	30	
170		12	17	22	28	33	17	23	29	32	35	36	41	34	
180		13	19	25	31	37	19	26	32	36	39	41	46	38	
190		14	21	28	35	41	21	29	36	40	43	45	51	43	
200	RS	16	23	31	39	46	23	32	40	44	48	50	56	47	
210		18	26	34	42	50	25	36	44	49	53	55	62	52	
220		19	28	37	47	55	28	39	48	53	58	61	68	57	
230		21	31	41	51	60	30	43	52	58	63	66	74	63	
[4]240		23	34	44	56	66	33	46	57	64	69	72	81	68	
[4]250		25	36	48	60	71	36	50	62	69	75	78	88	74	
TENSION lbs		543	373	282	226	191	380	270	219	197	182	174	155	889	

MAXIMUM LOADED TENSION FOR GUYING – 1378 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The sags on this page are to be used when you are trying to sag a 1/0 ACSR neutral to approximate the sag of 336.4 ACSR. See [Line Work Method 2001](#). For spans 240' and longer, the 14" required midspan vertical clearance shall be met by limiting span length or increasing the vertical separation at the poles.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	6.88 ft.
Breaking Load	4380 lbs
Diameter	.398 in.
Strands	6 Alum./1 Steel
Cross-Sectional Area	.0968 sq. in.
Standard Reel	6089 ft. (885 lbs)
Code Word	Raven
Stock Code No.	133-0345

02/29/08

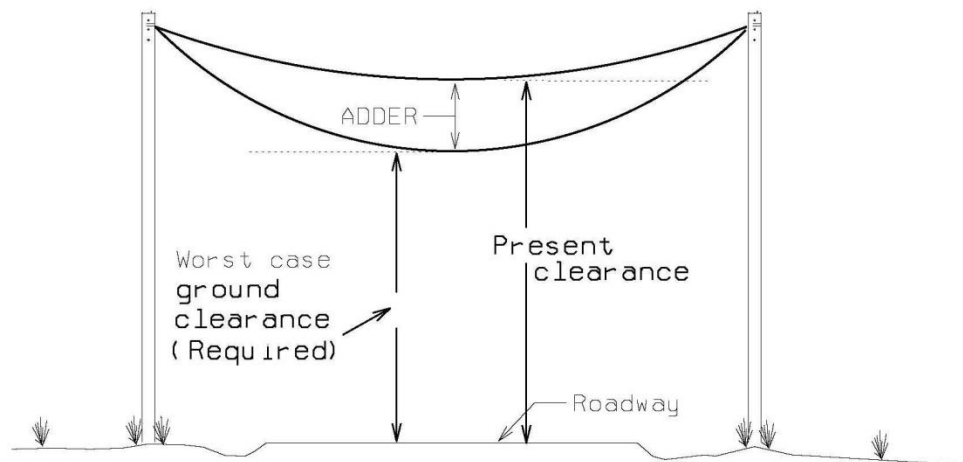
OSAG211 / We#

**1/0 ACSR NEUTRAL SHORT SPAN UNDERBUILD FOR  
336.4 ACSR PRIMARY SHORT SPAN – ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG						
SPAN FEET	AMBIENT TEMPERATURE (°F)					
	0-31	32-59	60-89	90-119	120-139	140>
100	8	6	4	3	2	1
110	10	7	5	4	3	2
120	12	8	6	4	3	2
130	14	10	7	5	4	3
140	17	12	9	6	5	3
150	19	14	10	7	5	4
160	21	15	11	8	5	4
170	24	18	12	9	6	5
180	27	20	14	10	7	5
190	30	22	15	11	8	6
200	33	24	16	12	8	6
210	37	26	18	13	9	7
220	40	29	20	15	10	7
230	44	31	22	16	11	8
240	48	35	24	17	12	9
250	52	38	26	19	13	10

Maximum loaded tension for guying – 1378 lbs.



#### Example of Roadway clearance

Span Length 170', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 18"  
 Required clearance @ 40 degrees F

18'6"  
 +1'6"  
 20'0"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

01/01/13

OSAG212 / We#

**1/0 ACSR NEUTRAL MEDIUM SPAN UNDERBUILD FOR  
336.4 ACSR PRIMARY MEDIUM SPAN - SAG TABLE**

Page 1 of 1

SPAN FEET		INITIAL SAG – INCHES					FINAL SAG - INCHES								
		CONDUCTOR TEMPERATURE (°F)					CONDUCTOR TEMPERATURE (°F)								
		0	32	60	90	120	0	32	60	90	120	140	194 [2]	32 w/ ice [3]	
150		7	10	12	15	18	11	14	17	19	20	21	24	22	
160		8	11	14	18	21	12	16	20	21	23	24	27	25	
170		9	13	16	20	24	14	18	22	24	26	27	30	28	
180		10	14	18	22	26	16	21	25	27	29	31	34	31	
190		12	16	20	25	29	17	23	28	30	33	34	38	35	
200		13	17	22	28	33	19	25	31	34	36	38	42	38	
210		14	19	24	30	36	21	28	34	37	40	42	46	42	
220		15	21	27	33	39	23	31	37	41	44	46	51	46	
230		17	23	29	36	43	25	34	40	44	48	50	55	51	
240		18	25	32	40	47	28	37	44	48	52	54	60	55	
250		20	27	35	43	51	30	40	48	52	57	59	66	60	
260		22	29	38	47	55	32	43	52	57	61	64	71	65	
270	RS	23	32	40	50	59	35	46	56	61	66	69	76	70	
280		25	34	44	54	64	38	50	60	66	71	74	82	75	
290		27	36	47	58	69	40	53	64	71	76	79	88	81	
300		29	39	50	62	73	43	57	69	76	81	85	94	86	
310		31	42	53	66	78	46	61	73	81	86	91	101	92	
320		33	44	57	71	84	49	65	78	86	91	97	107	98	
330		35	47	60	75	89	52	69	83	91	98	103	114	104	
340		37	50	64	80	94	55	73	88	97	104	109	121	111	
[4]350		37	53	68	84	100	59	78	94	103	110	115	129	117	
TENSION lbs		682	502	392	316	267	454	342	285	259	241	231	208	1102	

MAXIMUM LOADED TENSION FOR GUYING – 1675 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The sags on this page are to be used when you are trying to sag a 1/0 ACSR neutral to approximate the sag of 336.4 ACSR. See [Line Work Method 2001](#). For spans longer than 350', the 14" required midspan vertical clearance shall be met by limiting span length or increasing the vertical separation at the poles. For the table above, 60" of clearance between the phase and neutral wires will allow for the minimum 14" of clearance under worst case (phase conductor at 194 degrees and neutral at 90 degrees
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.
- The 336.4 ACSR Medium Span sag table was introduced on January 1, 2012. For conductors installed previous to this date, refer to the 1/0 ACSR Neutral Medium Span Underbuild for 336.4 ACSR Long Span Sag Table (OSAG215) or the 1/0 ACSR Neutral Medium Span Underbuild for 336.4 ACSR Short Span Sag Table (OSAG210).

Specifications	
Cross-Sectional Area	.0968 sq. in.
Standard Reel	6089 Ft (885 lbs)
Code Word	Raven
Stock Code No.	133-0345

01/01/13

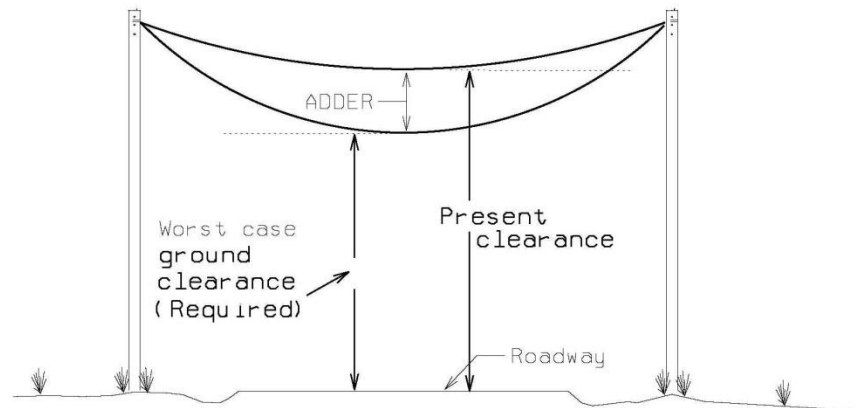
OSAG213 / We#

**1/0 ACSR NEUTRAL MEDIUM SPAN UNDERBUILD FOR  
336.4 ACSR PRIMARY MEDIUM SPAN - ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
150	13	10	7	5	4
160	15	11	7	6	4
170	16	12	8	6	4
180	18	13	9	7	5
190	21	15	10	8	5
200	23	17	11	8	6
210	25	18	12	9	6
220	28	20	14	10	7
230	30	21	15	11	7
240	32	23	16	12	8
250	36	26	18	14	9
260	39	28	19	14	10
270	41	30	20	15	10
280	44	32	22	16	11
290	48	35	24	17	12
300	51	37	25	18	13
310	55	40	28	20	15
320	58	42	29	21	16
330	62	45	31	23	16
340	66	48	33	24	17
350	70	51	35	26	19

Maximum loaded tension for guying – 1675 lbs.



Example of Roadway clearance

Span Length 270', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions):

Adder: 30"

Required clearance @ 40 degrees F:

18'6"

+2'6"

21'0"

Present clearance @ 40 degrees F:

22'4"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG215 / We#

**1/0 ACSR NEUTRAL LONG SPAN UNDERBUILD FOR 336.4  
ACSR PRIMARY LONG SPAN - SAG TABLE**

Page 1 of 1

SPAN FEET	INITIAL SAG – INCHES						FINAL SAG - INCHES								
	CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)								
	0	32	60	90	120		0	32	60	90	120	140	194 [2]	32 w/ ice [3]	
150	6	8	10	13	15		10	13	15	16	17	18	20	19	
160	7	9	12	14	17		11	14	17	18	20	21	23	22	
170	8	11	13	16	19		13	16	19	21	22	23	26	25	
180	9	12	15	18	22		14	18	21	23	25	26	29	28	
190	10	13	17	20	24		16	20	24	26	28	29	32	31	
200	11	15	18	23	27		17	22	26	29	31	32	36	34	
210	12	16	20	25	30		19	25	29	32	34	35	39	37	
220	13	18	22	27	32		21	27	32	35	37	39	43	41	
230	15	19	24	30	35		23	30	35	38	41	42	47	45	
240	16	21	26	33	39		25	32	38	41	44	46	51	49	
250	17	23	29	35	42		27	35	41	45	48	50	56	53	
260	19	25	31	38	45		29	38	45	49	52	54	60	57	
270	20	27	33	41	49		32	41	48	52	56	58	65	62	
280	22	29	36	44	53		34	44	52	56	60	63	70	67	
290	23	31	39	48	56		36	47	56	60	65	67	75	71	
[4]300	25	33	41	51	60		39	50	60	65	69	72	80	76	
[4]310	27	35	44	54	64		42	54	64	69	74	77	85	82	
[4]320	RS	29	37	47	58	69	44	57	68	74	79	82	91	87	
[4]330		30	40	50	62	73	47	61	72	78	84	87	97	93	
[4]340		32	42	53	65	77	50	65	77	83	89	93	103	98	
[4]350		34	45	56	69	82	53	68	81	88	94	98	109	104	
[4]360		36	47	60	73	87	56	72	86	93	100	104	115	110	
[4]370		38	50	63	78	92	59	76	91	98	105	110	122	116	
[4]380		40	53	66	82	97	63	81	96	104	111	116	128	123	
[4]390		42	56	70	86	102	66	85	101	109	117	122	135	129	
[4]400		45	58	73	91	107	69	89	106	115	123	128	142	136	
[4]410		47	61	77	95	113	73	94	111	121	129	135	150	143	
[4]420		49	64	81	100	118	77	99	117	127	136	142	157	150	
TENSION lbs	780	595	474	384	325		502	389	329	303	283	271	245	1242	

MAXIMUM LOADED TENSION FOR GUYING – 1870 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

- See the [Section CL Standards](#) for the code required clearances.
- These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
- These are the sags to use for determining clearances with ice @ 32 degrees F.
- The sags on this page are to be used when you are trying to sag a 1/0 ACSR neutral to approximate the sag of 336.4 ACSR. See [Line Work Method 2001](#). For spans 300' and longer, the 14" required midspan vertical clearance shall be met by limiting span length or increasing the vertical separation at the poles.
- See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Cross-Sectional Area	.0968 sq. in.
Standard Reel	6089 Ft (885 lbs)
Code Word	Raven
Stock Code No.	133-0345

02/29/08

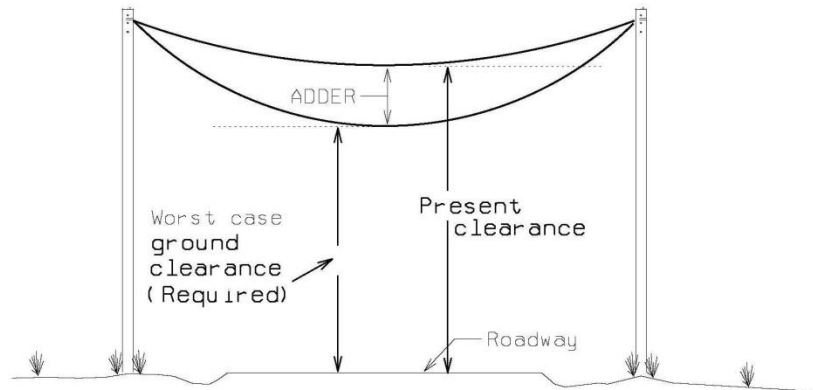
OSAG216 / We#

**1/0 ACSR NEUTRAL LONG SPAN UNDERBUILD FOR 336.4  
ACSR PRIMARY LONG SPAN – ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG						
SPAN FEET	AMBIENT TEMPERATURE (°F)					
	0-31	32-59	60-89	90-119	120-139	140>
150	10	7	5	4	3	2
160	12	9	6	5	3	2
170	13	10	7	5	4	3
180	15	11	8	6	4	3
190	16	12	8	6	4	3
200	19	14	10	7	5	4
210	20	14	10	7	5	4
220	22	16	11	8	6	4
230	24	17	12	9	6	5
240	26	19	13	10	7	5
250	29	21	15	11	8	6
260	31	22	15	11	8	6
270	33	24	17	13	9	7
280	36	26	18	14	10	7
290	39	28	19	15	10	8
300	41	30	20	15	11	8
310	43	31	21	16	11	8
320	47	34	23	17	12	9
330	50	36	25	19	13	10
340	53	38	26	20	14	10
350	56	41	28	21	15	11
360	59	43	29	22	15	11
370	63	46	31	24	17	12
380	65	47	32	24	17	12
390	69	50	34	26	18	13
400	73	53	36	27	19	14
410	77	56	39	29	21	15
420	80	58	40	30	21	15

Maximum loaded tension for guying – 1870 lbs.



Example of Roadway clearance

Span Length 270', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 24"  
 Required clearance @ 40 degrees F

18'6"  
 +2'0"  
 20'6"

Present clearance @ 40 degrees F  
 Clearance **OK**

21'8"

If a code violation exists, report it to the Field Application Engineer.



02/29/08

OSAG220 / We#

**4/0 ACSR SHORT SPAN UNDERBUILD FOR 795AA  
PRIMARY SHORT SPAN - SAG TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		6	8	10	12	14		7	9	11	13	14	16	12
110		7	10	12	15	17		8	11	14	16	17	20	14
120		8	12	15	17	20		10	13	16	19	20	24	17
130		9	14	17	20	24		11	16	19	22	24	28	20
140		11	16	20	24	27		13	18	22	26	28	32	23
150		13	18	23	27	31		15	21	25	30	32	37	27
160		14	22	26	31	36		17	24	29	34	36	42	30
170		16	23	29	35	40		19	27	33	38	41	47	34
180	RS	18	26	33	39	45		21	30	37	43	46	53	38
190		20	29	36	44	50		24	33	41	47	51	59	43
[4]200		22	32	40	48	56		26	37	45	52	56	66	48
[4]210		25	35	44	53	61		29	41	50	58	62	72	52
[4]220		27	39	49	59	67		32	45	55	64	68	79	58
[4]230		30	42	53	64	74		35	49	60	69	75	87	63
[4]240		32	46	58	70	80		38	53	65	76	81	95	68
[4]250		35	50	63	76	87		41	58	71	82	88	103	74
TENSION lbs		782	546	433	361	313		660	472	385	333	309	266	1202

MAXIMUM LOADED TENSION FOR GUYING – 1815 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#))
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. The sags on this page are to be used when you are trying to sag a 4/0 ACSR neutral to approximate the sag of 795 AA. See [Line Work Method 2001](#). For spans 200' and longer, the 14" required midspan vertical clearance shall be met by limiting span length or increasing the vertical separation at the poles
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	3.44 ft.
Breaking Load	8350 lbs
Diameter	.563 in.
Strands	6 Alum./1 Steel
Cross-Sectional Area	.1939 sq. in.
Standard Reel	3195 ft./885 lbs or 6390 ft./1770 lbs
Code Word	Penguin
Stock Code No.	133-0404

02/29/08

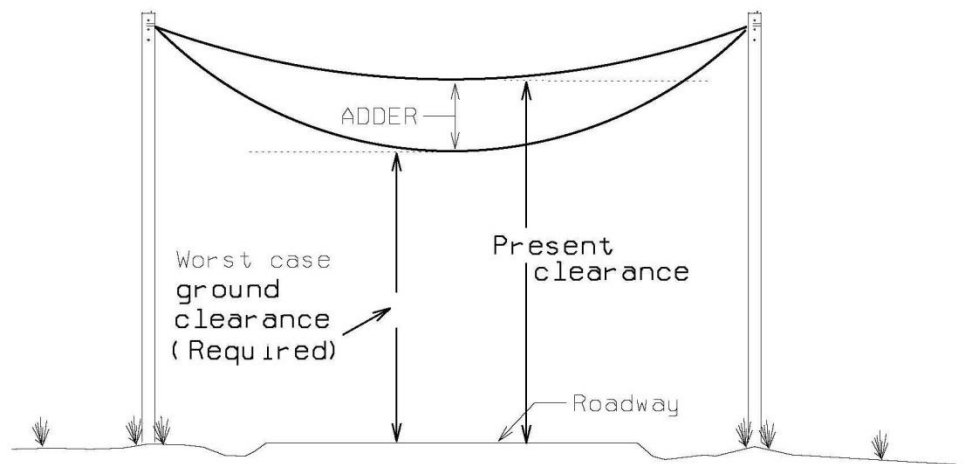
OSAG221 / We#

**4/0 ACSR SHORT SPAN UNDERBUILD FOR 795AA  
PRIMARY SHORT SPAN – ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	9	7	5	3	2
110	12	9	6	4	3
120	14	11	8	5	4
130	17	12	9	6	4
140	19	14	10	6	4
150	22	16	12	7	5
160	25	18	13	8	6
170	28	20	14	9	6
180	32	23	16	10	7
190	35	26	18	12	8
200	40	29	21	14	10
210	43	31	22	14	10
220	47	34	24	15	11
230	52	38	27	18	12
240	57	42	30	19	14
250	62	45	32	21	15

Maximum loaded tension for guying – 1815 lbs.



## Example of Roadway clearance

Span Length 170', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 20"  
 Required clearance @ 40 degrees F

18'6"  
 +1'8"  
 20'2"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

02/29/08

OSAG225 / We#

**336.4 ACSR NEUTRAL SHORT SPAN UNDERBUILD FOR  
1272 KCM AA PRIMARY SHORT SPAN - SAG TABLE**

Page 1 of 1

		INITIAL SAG – INCHES						FINAL SAG - INCHES						
		CONDUCTOR TEMPERATURE (°F)						CONDUCTOR TEMPERATURE (°F)						
SPAN FEET		0	32	60	90	120		0	32	60	90	120	194 [2]	32 w/ ice [3]
100		10	12	14	16	18		11	13	15	17	18	21	15
110		12	15	17	20	22		13	16	18	20	22	25	18
120		14	18	21	23	26		15	19	22	24	26	30	21
130		17	21	24	27	30		18	22	25	28	31	35	25
140		19	24	28	32	35		21	26	29	33	36	40	29
150		22	28	32	37	40		24	29	34	38	41	46	33
160		25	32	37	42	46		27	34	38	43	47	53	37
170		29	36	42	47	52		31	38	43	48	53	60	42
180	RS	32	40	47	53	58		35	42	48	54	60	67	47
190		36	45	52	59	65		39	47	54	60	66	74	53
200		40	50	58	65	72		43	52	60	67	74	82	59
[4]210		44	55	63	72	79		47	58	66	74	81	91	65
[4]220		48	60	70	79	87		52	63	72	81	89	100	71
[4]230		53	66	76	86	95		56	69	79	89	97	109	78
[4]240		57	72	83	94	103		62	75	86	97	106	119	84
[4]250		62	78	90	102	112		67	82	94	105	115	129	92
TENSION lbs		552	440	381	337	305		513	418	366	327	298	266	1129

MAXIMUM LOADED TENSION FOR GUYING – 1695 LBS.

THE SPAN BETWEEN THE DASHED LINES IS THE RULING SPAN (RS).

## □ Notes:

1. See the [Section CL Standards](#) for the code required clearances.
2. These are the sags to be used when maximum conductor operating temperature exceeds 120 degrees F. (See Field Application Engineer or [Std OHC20](#)).
3. These are the sags to use for determining clearances with ice @ 32 degrees F.
4. The sags on this page are to be used when you are trying to sag a 336.4 ACSR neutral to approximate the sag of 1272 AA. See [Line Work Method 2001](#). For spans 210' and longer, the 14" required midspan vertical clearance shall be met by limiting span length or increasing the vertical separation at the poles
5. See Std OSAG245 for span length limitations for 6 pin crossarm, 8 pin crossarm and fiberglass arm construction and deadending 8 pin crossarm construction.

Specifications	
Feet per lb.	2.74 ft.
Breaking Load	8680 lbs
Diameter	.684 in.
Strands	18 Alum./1 Steel
Cross-Sectional Area	.2789 sq. in.
Standard Reel	3878 ft./1385 lbs or 5824 ft./2080 lbs
Code Word	Merlin
Stock Code No.	133-0460

02/29/08

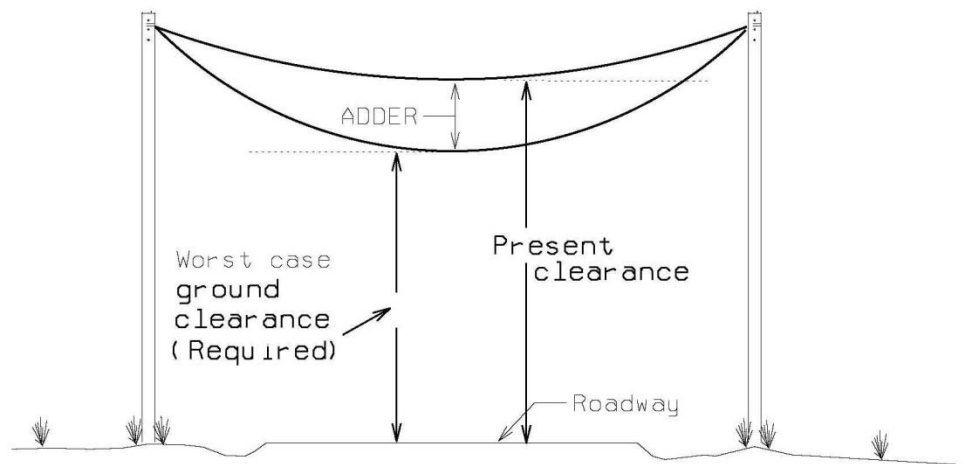
OSAG226 / We#

**336.4 ACSR NEUTRAL SHORT SPAN UNDERBUILD FOR  
1272 KCM AA PRIMARY SHORT SPAN – ADDER TABLE**

Page 1 of 1

ADDER – INDICATED IN INCHES, BASED ON FINAL SAG					
SPAN FEET	AMBIENT TEMPERATURE (°F)				
	0-31	32-59	60-89	90-119	120>
100	10	8	6	4	3
110	12	9	7	5	3
120	15	11	8	6	4
130	17	13	10	7	4
140	19	14	11	7	4
150	22	17	12	8	5
160	26	19	15	10	6
170	29	22	17	12	7
180	32	25	19	13	7
190	35	27	20	14	8
200	39	30	22	15	8
210	44	33	25	17	10
220	48	37	28	19	11
230	53	40	30	20	12
240	57	44	33	22	13
250	62	47	35	24	14

Maximum loaded tension for guying – 1695 lbs.



## Example of Roadway clearance

Span Length 170', Temp 40 degrees F  
 Code Clearance required (see [Std CL5](#))  
 (at worst case sag conditions)  
 Adder 22"  
 Required clearance @ 40 degrees F

18'6"  
 +1'10"  
 20'4"

Present clearance @ 40 degrees F

21'8"

Clearance **OK**

If a code violation exists, report it to the Field Application Engineer.

## We Energies and Wisconsin Public Service Electric Distribution Standards

02/29/08

OSAG230 / We#

SLACK SPAN - #2 AND 1/0 ACSR - SAG TABLE

Page 1 of 1

#2 ACSR												
CONDUCTOR TEMPERATURE (°F)												
	0		32		60		90		120		194	
Span Length Ft.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.
50	3	162	6	70	8	48	10	40	11	36	14	29
60	5	112	9	63	12	49	14	42	15	39	18	33
70	9	85	13	59	16	49	18	44	19	41	22	35
80	14	73	18	57	21	50	23	45	24	43	27	38
*****												
90	20	66	24	55	26	50	28	46	30	44	33	40
100	26	62	30	54	32	50	34	47	36	45	39	41
110	33	60	36	54	39	50	41	47	43	46	46	42
120	40	58	44	53	46	50	49	48	50	46	54	43

1/0 ACSR												
CONDUCTOR TEMPERATURE (°F)												
	0		32		60		90		120		194	
Span Length Ft.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.
50	5	114	8	67	10	54	11	48	12	44	15	37
60	9	92	12	66	14	56	15	51	16	48	19	42
70	13	82	16	65	19	58	20	54	21	51	24	45
*****												
80	18	76	21	65	24	59	25	56	26	53	29	48
90	24	73	27	64	30	60	31	57	32	55	35	50
100	31	71	34	64	36	60	38	58	39	56	42	52
110	38	69	41	64	43	61	45	59	46	57	49	54
120	46	68	49	64	51	61	53	60	54	58	57	55

Note:

- Maximum guying tension is 500 lbs.
- The span lengths above the “ \* ” line can use 6-pin or 8-pin crossarms, and below the “ \* ” line can only use 8-pin crossarms.
- No ruling span is applied because each span is a single span application.
- Final sags and tensions are used for these tables.

**We Energies and Wisconsin Public Service Electric Distribution Standards**

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**OSAG235 / We#**

**SLACK SPAN – 4/0 AND 336.4 ACSR - SAG TABLE**

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4/0 ACSR												
CONDUCTOR TEMPERATURE (°F)												
	0		32		60		90		120		194	
Span Length Ft.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.
50	9	125	11	96	13	84	14	79	15	74	17	65
60	13	118	16	99	18	89	19	84	20	80	22	72
70	19	114	21	100	23	93	24	89	25	85	28	78
*****												
80	25	112	28	101	29	95	31	92	32	89	34	82
90	32	110	35	102	37	97	38	94	39	91	41	86
100	40	109	43	103	45	98	46	96	47	94	50	89
110	49	109	52	103	53	100	55	97	56	95	58	91

336.4 ACSR												
CONDUCTOR TEMPERATURE (°F)												
	0		32		60		90		120		194	
Span Length Ft.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs.
50	11	130	13	107	15	95	16	88	16	84	18	76
60	16	126	18	110	20	101	21	95	22	91	24	83
*****												
70	22	124	24	112	26	105	27	99	28	96	30	90
80	29	123	31	114	33	107	34	103	35	100	37	94
90	36	122	39	115	41	110	42	106	43	103	45	98
100	45	121	48	115	50	111	51	108	52	106	54	101

Note:

1. Maximum guying tension is 500 lbs.
2. The span lengths above the “ \* ” line can use 6-pin or 8-pin crossarms, and below the “ \* “ line can only use 8-pin crossarms.
3. No ruling span is applied because each span is a single span application.
4. Final sags and tensions are used for these tables.

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**OSAG240 / We#****SLACK SPAN – 795 AA - SAG TABLE**

Page 1 of 1

795 AA												
CONDUCTOR TEMPERATURE (°F)												
	0		32		60		90		120		194	
Span Length Ft.	Sag Inches	Tension Lbs.	Sag Inches	Tension Lbs	Sag Inches	Tension Lbs	Sag Inches	Tension Lbs	Sag Inches	Tension Lbs	Sag Inches	Tension Lbs
50	16	178	17	162	19	150	20	140	21	132	24	117
*****												
60	23	178	24	165	26	157	27	149	29	142	32	128
70	31	177	33	168	34	161	36	155	37	149	40	137
80	41	177	42	170	44	164	45	159	47	154	50	144
90	52	176	54	171	55	166	57	162	58	158	62	149

## Note:

1. Maximum guying tension is 500 lbs.
2. The span lengths above the “ \* ” line can use 6-pin or 8-pin crossarms, and below the “ \* ” line can only use 8-pin crossarms.
3. No ruling span is applied because each span is a single span application.
4. Final sags and tensions are used for these tables.

These are allowable span lengths when installing 6-pin arms, 8-pin arms and the 134-1310 fiberglass arms to maintain adequate horizontal clearances.

NOTE: The spans' ranges are indicated to match up with spans on the individual sag pages. For spans that are longer than those listed in the sag tables, sags and horizontal clearances shall be obtained from the Material & Standards group.

When deadending 8-pin crossarm construction with preassembled crossarms or 6-pin crossarm deadends, the span length adjacent to the deadend shall be within the span lengths for 6-pin crossarm construction.

Conductor Size	Page No.	Span Range for 6-Pin Arms (ft)	Span Range for 8-Pin Arms (ft)	Span Range for Fiberglass Arms (ft)
#6 MHD Sol CU TBWP	OSAG5	70 to 180	NA	70 to 180
#4 MHD Sol CU TBWP	OSAG10	70 to 180	NA	70 to 180
#4 HD 7 Str Bare CU	OSAG15	50 to 200	NA	50 to 200
#1 Solid Bare CU	OSAG20	50 to 200	NA	50 to 200
#2 Str MHD CU TBWP	OSAG25	70 to 200	NA	70 to 200
1/0, 2/0, 4/0 & 250 HD CU TBWP	OSAG30	70 to 200	NA	70 to 200
#2, 1/0, 2/0 & 4/0 7 Str MHD & HD Bare CU	OSAG35	100 to 250	NA	100 to 240
#3/12 CW	OSAG40	200 to 420	NA	200 to 420
#3/10 CW	OSAG45	200 to 420	NA	200 to 420
#8A CW	OSAG50	200 to 380	381 to 420	200 to 350
#6A CW	OSAG55	200 to 400	401 to 420	200 to 380
#4A CW	OSAG60	200 to 420	NA	200 to 420
#4 ACSR Short Span	OSAG65	100 to 250	NA	100 to 250
#2 ACSR Short Span	OSAG70	100 to 250	NA	100 to 250
#2 ACSR Long Span	OSAG75	150 to 360	361 to 420	150 to 340
1/0 ACSR Short Span	OSAG80	100 to 250	NA	100 to 250
1/0 ACSR Medium Span	OSAG85	150 to 280	281 to 350	150 to 300
1/0 ACSR Long Span	OSAG90	150 to 360	361 to 420	150 to 340
4/0 AA Bare	OSAG95	100 to 250	NA	100 to 250
4/0 ACSR Short Span	OSAG100	100 to 250	NA	100 to 240
4/0 ACSR Long Span	OSAG105	150 to 410	411 to 420	150 to 390
336.4 AA Bare	OSAG110	100 to 250	NA	100 to 250
336.4 AA Poly	OSAG115	100 to 250	NA	100 to 250
336.4 ACSR Short Span	OSAG120	100 to 250	NA	100 to 250
336.4 ACSR Medium Span	OSAG125	150 to 300	301-350	150 to 280
336.4 ACSR Long Span	OSAG130	150 to 330	331 to 420	150 to 310
795 AA Bare	OSAG135	100 to 230	231 to 250	100 to 220
1272 AA Bare	OSAG140	100 to 200	201 to 250	100 to 190
2 ACSR Slack	OSAG230	50 to 80	81 to 120	50 to 80
1/0 ACSR Slack	OSAG230	50 to 70	71 to 120	50 to 70
4/0 ACSR Slack	OSAG235	50 to 70	71 to 110	50 to 70
336.4 ACSR Slack	OSAG235	50 to 60	61 to 100	50 to 60
795 AA Bare Slack	OSAG240	50	51 to 90	50