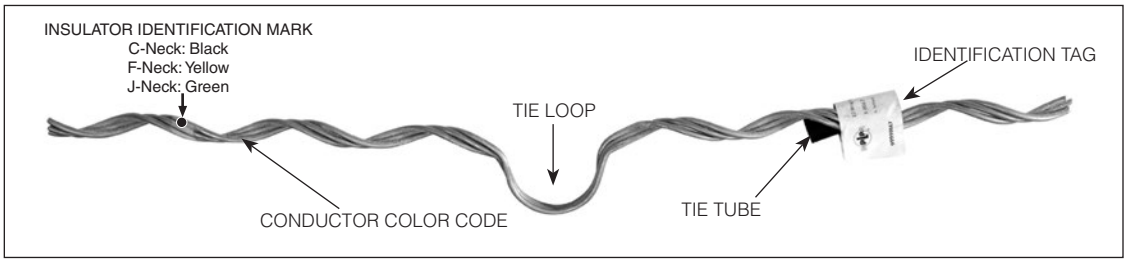
Alloy Side Tie

NOMENCLATURE



Tie Tube: For bare conductor, each tie is furnished with a Tie Tube Component. The Tie Tube is detached and applied over the bare conductor.

Identification Tape: Shows catalog number, nominal sizes.

Insulator Identification Mark: Identifies the correct insulator headstyle by colors corresponding to information on catalog pages.

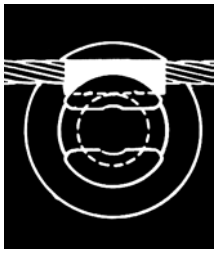
Color Code: Assists in identification of conductor size, corresponding to tabular information appearing on catalog pages.

GENERAL RECOMMENDATIONS

INTENDED USE: Alloy Side Ties secure conductors in the side groove of interchangeable headstyle insulators. The Alloy Side Tie is manufactured from an aluminum alloy material which makes it ideal for corrosive environments.

Alloy Side Ties provide an improved method of securing conductor compared to clamp-top insulators or hand ties over Armor Rods.

Alloy SIDE TIE: Alloy Side Ties provide superior abrasion protection over hand tie wire for the conductor under all types of motion, including low-frequency sway oscillation, high-frequency aeolian vibration and galloping.



The tube component surrounds the bare conductor with a resilient cushion where the conductor would come into contact with the insulator. In the case of Alloy Side Ties applied over plastic jacketed conductors, the tube can be discarded because contact with the bare conductor is prevented by the jacketing itself.

VIBRATION DAMPERS: While the Alloy Side Tie is superior to hand tie wire, there may be conditions where excessive conductor movement requires the use of supplemental dampers.

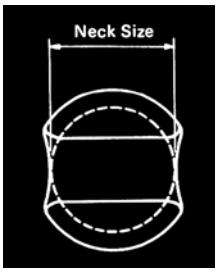
For excessive **aeolian vibration** on conductors up to .760" OD, the Spiral Vibration Damper is recommended. Typically 2 SVD/span on distribution construction is adequate for protection, although more may be required depending upon a number of factors.

For **conductor galloping**, the Air Flow Spoiler is recommended. Use of the proper size and quantity of AFS per span can eliminate or minimize the effects of galloping. Quantity per span is based upon total span length and other factors.

Review the Motion Control section and/or consult PLP for engineering recommendations for Air Flow Spoilers, and if necessary SVD's.

MECHANICAL STRENGTH: The Alloy Side Tie is designed to provide longitudinal holding strength in excess of values required by the National Electric Safety Code. The holding strength is usually sufficient to contain the broken conductor to a single span, however, the Alloy Side Tie is designed to relieve the load before severe damage is done to the pole's structural components. **TM-200E** covers the mechanical testing of the Alloy Side Tie and is available upon request.

INTERCHANGEABLE HEADSTYLE INSULATOR:
To insure proper fit and service life, it is recommended that only insulators corresponding to C-Neck, F-Neck, or J-Neck be used. These neck-diameters and groove-height dimensions appear on ANSI standards.



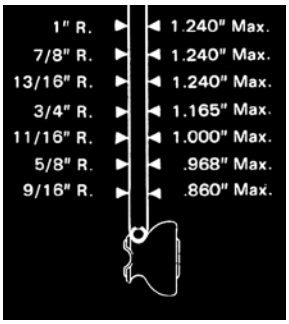
(Continued)

Alloy Side Tie

GENERAL RECOMMENDATIONS CONTD.

Consult PLP for engineering recommendations on non-interchangeable headstyle insulators. A sample of the insulator in question is desirable.

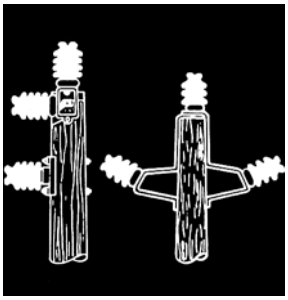
CONDUCTOR SIZE: The Alloy Side Tie exactly matches the DISTRIBUTION Ties' ranges, which means identical color codes on armless construction. Conductor sizes up to 1.240" O.D. can be accommodated depending on the insulator's side groove radius.



The Alloy Side Tie is designed to permit controlled movement of unbroken conductor, reducing cantilever loading at the base of the insulator or bracket, then restore itself. We refer to this unique feature as "resilience."

RADIO INTERFERENCE:
The RIV/TVI characteristics of Alloy Side Ties are equivalent to those of a well-made hand tie when originally installed. During service life the precontoured Alloy Side Tie assures continued fit, which would have better RIV/TVI performance than a loosened tie wire.

TAPPING: Compared to the use of protective rods, placing hot-line clamps directly over the applied legs of Alloy Side Ties cannot be recommended. Tapping over protective rods will remain permissible, however, there are now stirrups available that provide a superior method of making hot-line taps.



LINE ANGLES GENERAL GUIDELINES: On horizontally-mounted insulators, Alloy Side Ties can normally accommodate line angles up to **10°**. On vertically-mounted insulators, line angles up to **40°** can normally be achieved. When insulators are mounted at various degrees of cant between the horizontal and the vertical, line angles between 0° and 40° may be accommodated depending upon the actual cant of the insulator.

In all cases, the conductor should rest in the preferred insulator groove, independently of the tie, so the tie is not required to force the conductor to remain in that groove. The largest practical angle a tie can accommodate depends upon limiting factors such as conductor size, tension, span lengths, sag angles, insulator style and orientation, etc. Consult PLP® for further guidance on line angle issues not covered in the above test report.

SAFETY CONSIDERATIONS

1. This product is intended for a single (one-time) use and for the specified application. CAUTION: DO NOT REUSE OR MODIFY THIS PRODUCT UNDER ANY CIRCUMSTANCES.
2. This product is intended for use by trained craftspeople only. This product SHOULD NOT BE USED by anyone who is not familiar with and trained in the use of it.
3. When working in the area of energized lines with this product, EXTRA CARE should be taken to prevent accidental electrical contact.
4. For PROPER PERFORMANCE AND PERSONAL SAFETY be sure to select the proper size Alloy Side Tie before application.
5. Alloy Side Ties are precision devices. To insure proper performance, they should be stored in cartons under cover and handled carefully.

Alloy Side Tie

For use on:
ACAR, ACSR,
All-Aluminum, AWAC®
Compacted ACSR,
Aluminum Alloy

C-Neck Interchangeable Headstyle Insulators

ANSI 55-2 PIN
ANSI 55-3 PIN

2-1/4" Neck Diameter

Catalog Number	Diameter Range (Inches)		Nominal Conductor Size	Units	Wt./Lbs.	Approx. Applied Length (Inches)	Insulator Identification Mark	Color Code
	Min.	Max.		Per Carton				
9/16" R. GROOVE (See Note 2)								
ASC-5102	.245	.277	#4, 6/1 7/1 #4, 7W, Alum. Alloy	100	18	23	Black	Orange
ASC-5103	.278	.315	#3, 7W, Alum. Alloy #2, 7W, All Alum.	100	18	24	Black	Purple
ASC-5104	.316	.357	#2, 6/1 - 7/1 #2, 7W, Alum. Alloy #1, 6/1	100	19	25	Black	Red
ASC-5105	.358	.405	1/0, 7W All Alum. 1/0, 6/1 1/0, 7W, Alum. Alloy	100	21	23	Black	Yellow
ASC-5106	.406	.459	2/0, 7W All Alum. 2/0, 6/1 2/0, 7W Alum. Alloy	100	22	25	Black	Blue
ASC-5107	.460	.520	3/0, 7W All Alum. 3/0, 6/1 3/0, 7W, Alum. Alloy	100	24	27	Black	Orange
ASC-5108	.521	.588	4/0, 7W All Alum. 4/0, 6/1 4/0 7W, Alum Alloy	100	30	28	Black	Red
ASC-5109	.589	.665	266.8, 37W All Alum. 266.8, 18/1 336.4, 19W All Alum.	100	34	31	Black	Purple
ASC-5110	.666	.755	336.4, 37W All Alum. 336.4, 18/1 397.5, 19W All Alum. 400, 19W, 37W All Alum.	100	35	33	Black	Brown
ASC-5111	.756	.858	477, 19W, 37W, All Alum. 477, 18/1, 24/7, 26/7	50	29	35	Black	Red
5/8" R. GROOVE (See Note 2)								
ASC-5112	.859	.968	556.5, 26/7, 636, 18/1 700, 37W, 61W, All Alum.	50	35	36	Black	Blue
11/16" R. GROOVE (See Note 2)								
ASC-5113	.969	1.096	795, 37W, 61W, All Alum. 715.5, 24/7 795, 54/7	50	38	38	Black	Green
3/4" R. GROOVE (See Note 2)								
ASC-5114	1.097	1.240	954, 36/1, 54/7 1033.5, 37W, 61W, All Alum.	50	38	39	Black	Yellow

Right-hand lay standard

EXPLANATORY NOTES:

(1) Nominal Conductor size indicates one of various conductors within each range.
(2) For the succeeding ranges, the insulator's side groove radius should be at least as large as shown above.
(3) AWAC is a registered trademark of the Copperweld Co.

Alloy Side Tie

For use on:
ACAR, ACSR,
All-Aluminum, AWAC®
Compacted ASCR,
Aluminum Alloy

F-Neck Interchangeable
Headstyle Insulators

ANSI 53-4 Spool
ANSI 53-5 Spool
ANSI 55-4 Pin
ANSI 55-5 Pin
ANSI 57-1 Post
ANSI 57-2 Post
ANSI 57-3 Post

2-7/8"
Neck Diameter

Catalog Number	Diameter Range (Inches)		Nominal Conductor Size	Units Per Carton	Wt./Lbs. Per Carton	Applied Length (Inches)	Insulator Identification Mark	Color Code
	Min.	Max.						
9/16" R. GROOVE (See Note 2)								
ASF-5202	.245	.277	#4, 6/1, 7/1 – #4, 7W Alum. Alloy	100	18	23	Yellow	Orange
ASF-5203	.278	.315	#3, 7W Alum. Alloy – #2, 7W All Alum.	100	18	24	Yellow	Purple
ASF-5204	.316	.357	#2, 6/1, 7/1 – #2, 7W Alum. Alloy #1, 6/1	100	19	25	Yellow	Red
ASF-5205	.358	.405	1/0, 7W All Alum. 1/0, 6/1 1/0, 7W Alum. Alloy	100	21	23	Yellow	Yellow
ASF-5206	.406	.459	2/0, 7W All Alum. 2/0, 6/1 2/0, 7W Alum. Alloy	100	22	25	Yellow	Blue
ASF-5207	.460	.520	3/0, 7W All Alum. 3/0, 6/1 3/0, 7W Alum. Alloy	100	24	27	Yellow	Orange
ASF-5208	.521	.588	4/0, 7W All Alum. 4/0, 6/1 4/0, 7W Alum. Alloy	100	30	28	Yellow	Red
ASF-5209	.589	.665	266.8, 37W All Alum. 266.8, 18/1 336.4, 19W All Alum.	100	34	31	Yellow	Purple
ASF-5210	.666	.755	336.4, 37W All Alum. 336.4, 18/1 397.5, 19W All Alum. 400, 19W, 37W All Alum.	100	34	34	Yellow	Brown
ASF-5211	.756	.858	477, 19W, 37W, All Alum. 477, 18/1, 24/7, 26/7	50	54	36	Yellow	Red
5/8" R. GROOVE (See Note 2)								
ASF-5212	.859	.968	556.5, 26/7, 636, 18/1 700, 37W, 61W, All Alum.	50	36	37	Yellow	Blue
11/16" R. GROOVE (See Note 2)								
ASF-5213	.969	1.096	795, 37W, 61W, All Alum. 715.5, 24/7 795, 54/7	50	39	39	Yellow	Green
3/4" R. GROOVE (See Note 2)								
ASF-5214	1.097	1.240	954, 36/1, 54/7 1033.5, 37W, 61W, All Alum.	50	40	40	Yellow	Yellow

Right-hand lay standard

EXPLANATORY NOTES:

(1) Nominal Conductor size indicates one of various conductors within each range.
(2) For the succeeding ranges, the insulator's side groove radius should be at least as large as shown above.
(3) AWAC is a registered trademark of the Copperweld Co.

Alloy Side Tie

For use on:
ACSR, ACAR, All-Aluminum, AWAC®, Compacted ACSR, Aluminum Alloy

J-Neck Interchangeable Headstyle Insulators

ANSI 55-6
Single Skirt Pin
ANSI 55-7
Single Skirt Pin
ANSI 56-1
Double Skirt Pin

3-1/2" Neck Diameter

Catalog Number	Diameter Range (Inches)		Nominal Conductor Size	Units Per Carton	Wt./Lbs. Per Carton	Applied Length (Inches)	Insulator Identification Mark	Color Code
	Min.	Max.						
9/16" R. GROOVE (See Note 2)								
ASJ-5402	.245	.277	#4, 6/1 - 7/1 #3, 7W, All Alum.	100	19	26	Green	Orange
ASJ-5403	.278	.315	#3, 7W, Alum. Alloy #2, 7W, All Alum.	100	20	27	Green	Purple
ASJ-5404	.316	.357	#2, 6/1 - 7/1 #2, 7W, Alum. Alloy #1, 6/1	100	21	28	Green	Red
ASJ-5405	.358	.405	1/0, 7W, 19W All Alum. 1/0, 6/1 1/0, 7W, Alum. Alloy	100	23	26	Green	Yellow
ASJ-5406	.406	.459	2/0, 7W, 19W, All Alum. 2/0, 6/1	100	25	28	Green	Blue
ASJ-5407	.460	.520	3/0, 7W, 19W, All Alum. 3/0, 6/1 3/0, 7W, Alum. Alloy	100	26	30	Green	Orange
ASJ-5408	.521	.588	4/0, 6/1 4/0, 7W, All Alum. 4/0, 7W, Alum Alloy 250, 19W, 37W All Alum.	100	35	31	Green	Red
ASJ-5409	.589	.665	266.8, 19W-37W All Alum. 300, 19W, 37W, All Alum. 266.8, 26/7	100	38	34	Green	Purple
5/8" R. GROOVE (See Note 2)								
ASJ-5410	.666	.755	336.4, 37W, All Alum. 397.5, 19W, 37W, All Alum.	50	40	36	Green	Brown
ASJ-5411	.756	.858	397.5, 24/7, 26/7 477, 19W, 37W, All Alum. 477, 18/1, 24/7, 26/7	50	31	38	Green	Red
ASJ-5412	.859	.968	556.5, 61W All Alum. 556.5, 26/7 636, 18/1	50	38	39	Green	Blue
ASJ-5413	.969	1.096	636, 24/7, 26/7, 30/19 715.5, 36/1, 24/7, 26/7	50	40	41	Green	Green
ASJ-5414	1.097	1.240	954, 54/7 1033.5, 45/7 1113, 61W All Alum. 954, 37W Alum. Alloy	50	43	42	Green	Yellow

Right-hand lay standard

EXPLANATORY NOTES:

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