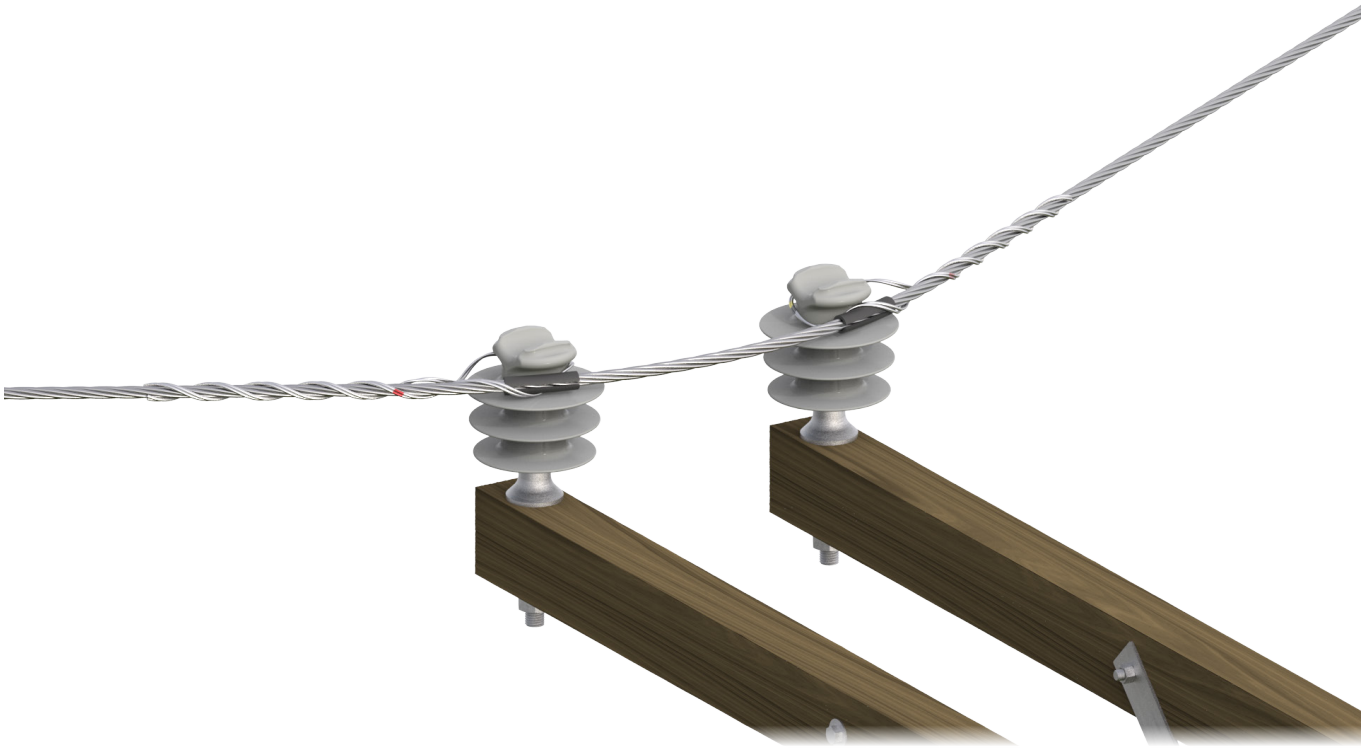


ALLOY DOUBLE SIDE TIE

Alloy Double Side Ties are manufactured out of aluminum alloy wire and are designed for corrosive environments to secure conductors on double-arm construction in the side groove of interchangeable headstyle insulators. Alloy Double Side Ties feature a elastomeric tube which surrounds the bare conductor with a resilient cushion, providing superior abrasion protection under all types of conductor motion including low-frequency galloping and high-frequency aeolian vibration. As a result, Alloy Double Side Ties with tie tubes provide better protection than hand ties over protective rods by providing an armoring layer that eliminates abrasion damage of the conductor and insulator caused by conductor motion, extending the life of the electrical system and reducing maintenance.

FEATURES AND BENEFITS

- Superior corrosive-resistance when compared to standard aluminized steel ties
- Ideal for corrosive environments like coastal areas
- Applicable to interchangeable headstyle insulators - C, F, and J-Neck
- Accommodates conductors from 0.245" - 1.240" diameter
- Pre-contoured Tie ensures tight fit
- Mitigates long-term issues caused by Radio Influence Voltage (RIV)
- Accommodates line angles up to 80-degrees (40-degrees per Insulator)
- Exceeds NESC requirements for unbalanced load
- Reduces or eliminates abrasion caused by vibration
- Resiliency of the tie protects the conductor
- Test reports available upon request

DESIGN CONSIDERATIONS

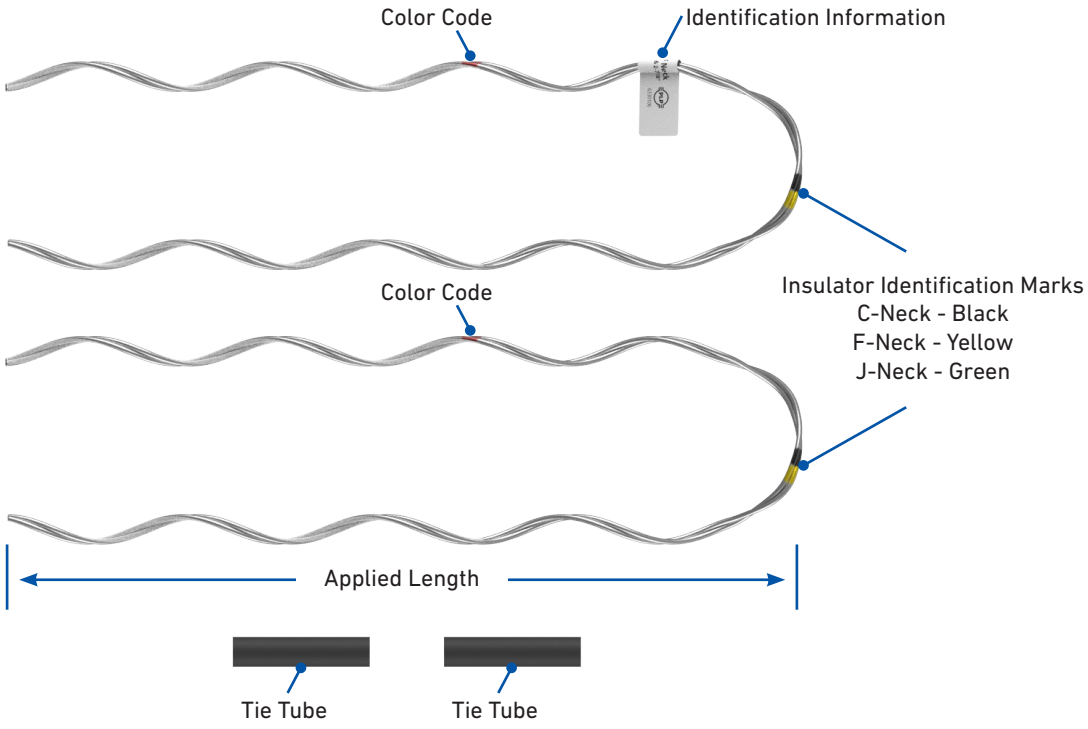
Description	Details
Interchangeable Headstyle Insulator	To ensure proper fit and service life, it is recommended that only insulators corresponding to C-Neck, F-Neck, or J-Neck be used. These neck-diameter and groove-height dimensions appear in the appropriate ANSI C29 standards. Consult PLP for engineering recommendations on non-interchangeable headstyle insulators. A sample of the insulator in question is required.
Conductor Size	Conductor sizes up to 1.240" OD can be accommodated depending on the insulator's side groove radius.
Radio Influence (RIV)	The Radio Influence Voltage (RIV)/Television Interference (TVI) characteristics of Alloy Double Side Ties are equivalent to those of a well-made hand tie, as originally installed. During service life the pre-contoured loop and formed legs of the Alloy Double Side Tie ensures continued fit, which would have better RIV/TVI performance than a loosened tie wire.
Line Angles - General Guidelines	On vertically mounted insulators, Alloy Double Side Ties can normally accommodate line angles up to 80-degrees, with no more than a 40-degree angle at each insulator. When insulators are mounted at various degrees of cant from the vertical, various line angles may be accommodated. 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.
Mechanical Strength	The Alloy Double 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 and minimize the damage to the conductor and the pole's structural components. **TR-956-E** covers the mechanical testing of the Alloy Double Side Tie and is available upon request. The Alloy Double Side Tie is designed to permit controlled and limited movement of unbroken conductor and, under certain conditions, return the conductor to its original position. The ability of the Tie to give and return under differential loading conditions is called "**resiliency**" and is designed into each Alloy Double Side Tie.
Vibration Dampers	By using Alloy Double Side Ties with the tie tube, conductor abrasion is greatly reduced or eliminated thus stopping fatigue of the conductor due to abrasion. However, for lines where experience indicates that prolonged periods of severe vibration might lead to fatigue of the conductor, cause inner wire fretting, or score the insulator's glaze, vibration dampers (SVD or VORTX™) are recommended. See the Guidelines in the **Overhead Distribution Line Repair Manual**.
Tapping	Compared to the use of protective rods, placing hot-line clamps directly over the applied legs of the Double Side Ties **CANNOT** be recommended. Tapping over protective rods (Armor Rods, Line Guards, Tap Rods, and Protector Rods) will remain permissible.

Additional Resources

For additional information regarding the use and installation of Alloy Double Side Ties, scan or click the QR code below.

Alloy Double Side Tie
Webpage

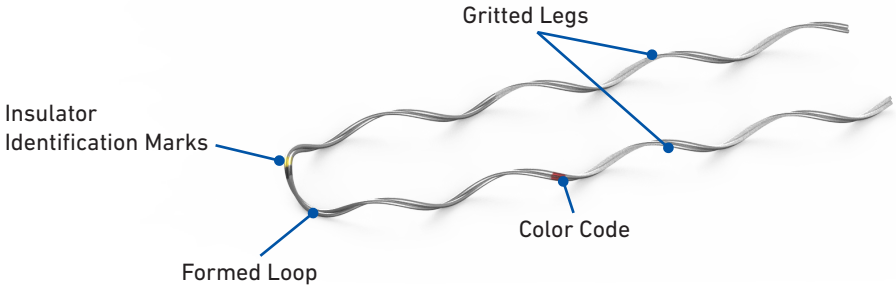
SPECIFICATIONS



Alloy Double Side Tie Assembly

Alloy Double Side Tie

Component	Description
Tie Assembly	An Alloy Double Side Tie assembly consists of two metal tie components plus two tie tubes.
Tie Tube	Each Alloy Double Side Tie assembly is supplied with two elastomer tie tubes, designed for abrasion protection. The Tie Tube is detached and applied over the conductor.
Identification Information	Shows catalog number and pertinent tie information. Printed on a tie flag or printed on the tie tube.
Color Code	Assists in identification of conductor diameter corresponding to tabular information on the catalog pages.
Insulator Identification Mark	Identifies the correct insulator(s) head style. Black/yellow are for C and F-Neck insulators. Green is for J-Neck insulators only.
Gritted Leg	Gritted helical legs retain the conductor in place and prevent the conductor from shifting over the insulator.
Formed Loop	Allows the tie to form properly around the neck of the insulator.
Applied Length	Assists in identification of conductor size corresponding to tabular information appearing on catalog pages.



Alloy Double Side Tie

ORDERING INFORMATION

Alloy Double Side Tie: C-Neck/F-Neck and J-Neck Interchangeable Headstyle Insulators

Diameter Range[1] in		Nominal Conductor Size[2]	Units per Carton	C- and F-Neck Insulators (Black and Yellow)		J-Neck Insulators (Green)		Conductor Color Code
				Catalog Number	Applied Length in	Catalog Number	Applied Length in	
Minimum	Maximum							
9/16" R. Groove[4]								
0.245	0.277	#4, 6/1, 7/1; #4, 7W Alum. Alloy	50	ADBST-0100	16	ADBST-0300	19	Orange
0.278	0.315	#3, 7W Alum. Alloy; #2, 7W All Alum.	50	ADBST-0101	16	ADBST-0301	17	Purple
0.316	0.357	#2, 6/1, 7/1; #2, 7W Alum. Alloy; #1, 6/1 ACSR	50	ADBST-0102	17	ADBST-0302	22	Red
0.358	0.405	1/0, 7W All Alum.; 1/0, 6/1 ACSR; 1/0, 7W Alum. Alloy	50	ADBST-0103	16	ADBST-0303	21	Yellow
0.406	0.459	2/0, 7W All Alum.; 2/0, 6/1 ACSR; 2/0, 7W Alum. Alloy	50	ADBST-0104	18	ADBST-0304	19	Blue
0.460	0.520	3/0, 7W All Alum.; 3/0, 6/1 ACSR; 3/0, 7W Alum. Alloy	50	ADBST-0105	19	ADBST-0305	20	Orange
0.521	0.588	4/0, 7W All Alum.; 4/0, 6/1 ACSR; 4/0, 7W Alum. Alloy	50	ADBST-0106	19	ADBST-0306	21	Red
0.589	0.665	266.8, 37W All Alum.; 266.8, 18/1	50	ADBST-0107	20	ADBST-0307	24	Purple
0.666	0.755	336.4, 19W All Alum.; 336.4, 18/1; 397.5, 19W All Alum.	50	ADBST-0108	20	ADBST-0308	25	Brown
0.756	0.858	477, 19W, 37W All Alum.; 477, 18/1 24/7, 26/7	50	ADBST-0109	20	ADBST-0309	24	Red
5/8" R. Groove[4]								
0.859	0.968	556.5, 26/7; 636, 18/1; 700, 37W, 61W All Alum.	50	ADBST-0110	22	ADBST-0310	23	Blue
11/16" R. Groove[4]								
0.969	1.096	795, 37W All Alum.; 795, 61W All Alum.; 715.5, 24/7; 795, 54/7	50	ADBST-0111	24	ADBST-0311	23	Green
3/4" R. Groove[4]								
1.097	1.240	954, 36/1, 54/7; 1033.5, 37W, 61W All Alum.	50	ADBST-0112	24	ADBST-0312	25	Yellow

Right-hand lay standard

NOTES:

[1] Diameter Range indicates the size of conductors that utilize the same tie.
[2] Nominal Conductor Size indicates one or more of various conductors within each range.
[3] The loop of the Alloy Double Side Tie can accommodate either C, F, or J-Neck insulators as indicated in the table.
[4] For the succeeding ranges the insulator's side groove radius should be at least as large as shown above.