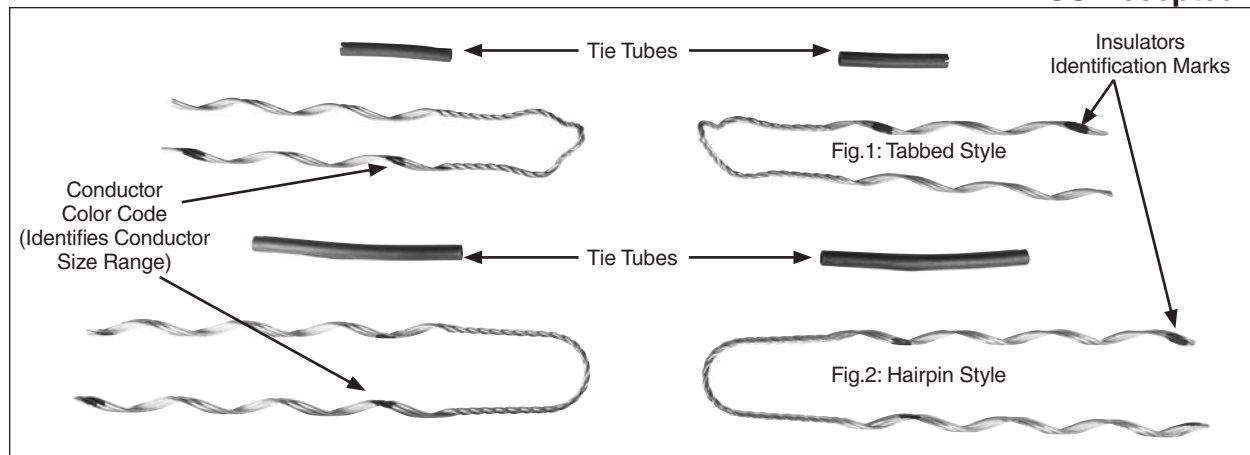


# Double Support Tie

## NOMENCLATURE



**Tie Assembly:** A Double Support Tie assembly consists of two metal tie components plus two tie tubes.

**Tie Tube:** Each Double Support Tie assembly is supplied with two elastomeric tie tubes, designed for abrasion protection.

**Color Code:** Identifies proper conductor size, corresponding to tabular information appearing in this section, and designates leg cross-over location.

**Insulator Identification Mark:** Identifies the correct insulator headstyle by color corresponding to information on Catalog Specification pages.

**Identification Tape:** Shows catalog number, proper insulator type, and nominal conductor sizes.

**Applied Length:** Describes length of each tie component after installation, plus assists in product identification.

## GENERAL RECOMMENDATIONS

**INTENDED USE:** The Double Support Tie is intended for use on aluminum based conductors with diameters from .245" to 1.240". Each Double Support Tie covers a range of conductor diameters as outlined in the catalog tables of this section.

**INTERCHANGEABLE Headstyle INSULATORS:** Double Support Ties are designed for installation on double insulator construction in the top groove of interchangeable insulators. To insure proper fit and service life, it is recommended only insulators with uniform dimensions as described by the ANSI insulator standards be used. Consult PLP for application on nonstandard insulators.

**TIE DESIGN:** The loop of the Double Support Tie has been engineered so "C" and "F" insulators can be accommodated by a single tie design. A separate design is required for "J" neck insulators. Each Double Support Tie is supplied with elastomeric tie tubes designed to minimize abrasion to bare conductor and insulators. For applications on jacketed conductors, the tube may be discarded.

**MECHANICAL STRENGTH:** The Double Support Tie is designed to provide superior mechanical strength and resiliency during conductor motion and cyclic loading conditions. Longitudinal holding strengths consistently exceed the requirements of the National Electric Safety Code. **TM-882-E** covers the mechanical testing of the Double Support Tie and is available upon request.

**RADIO INTERFERENCE:** The RIV/TVI characteristics of Double Support Ties are equivalent to those of a well made hand tie, as originally installed. The precontoured loop and formed legs of the Double Support Tie assures continued fit, which will provide better RIV/TVI performance than a loosened hand-tie wire.

**VIBRATION DAMPERS:** The Double Support Tie is designed to outperform other tie devices during conductor motion activity, such as aeolian vibration and galloping. However, on some lines the use of dampers may be required to prevent damage. Utilities that have experienced conductor motion or expect to, should consider adding dampers. Consult PLP® for general guidelines and advice concerning conductor motion and dampers. Also, consult the Motion Control Section in this catalog.

(Continued)



# Double Support Tie

## GENERAL RECOMMENDATIONS CONTD.

**INSULATOR MOUNTING:** The Double Support Tie is designed to be used when the conductor is located in the top groove of the insulators, regardless of insulator orientation, as long as the conductor will rest in the top groove by itself. If the conductor will not remain in the top groove by itself, it will be necessary to relocate it to the side groove, and will require an appropriate Side or Double Side Tie.

**LINE ANGLES - GENERAL GUIDELINES:** On vertically-mounted insulators at double crossarms or brackets, the Double Support Tie can normally accommodate line angles up to a total of  $20^{\circ}$ , with no more than a  $10^{\circ}$  angle at each insulator. Larger angles may be accommodated when the insulators are mounted at varying degrees of cant from the vertical, depending upon the actual cant of the insulator.

A technical report (**TM-197E**) is available which describes these permissible line angles for Double Support Ties as a function of the insulator's cant.

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.

**TAPPING:** Taps should not be made directly over the legs or loop of the Double Support Tie.

**CONDUCTOR COMPATIBILITY:** Double Support Ties should be used only on the size, type, and lay direction of conductor for which they are designed. When using conductors not mentioned in the T&D Catalog, consult PLP.

During installation and at all times, care should be taken to avoid gouging or damaging the wires of the Double Support Tie or conductor.

Double Support Ties should not be used as tools, i.e., come-alongs, pulling-grips, etc.

Consult the Double Support Tie Application Procedure for additional installation information.

When in doubt about usage of Double Support Ties, consult your PLP Sales Representative or Preformed Line Products.

## 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 Double Support Tie before application.
5. Double Support Ties are precision devices. To insure proper performance, they should be stored in cartons under cover and handled carefully.

# Double Support Tie

For use on:

**ACSR, All-Aluminum, AWAC<sup>®</sup>, Aluminum Alloy, Compacted All-Aluminum Compacted ACSR**

**C-Neck & F-Neck Interchangeable Headstyle Insulators**

**ANSI 55-2 Pin**

**ANSI 55-3 Pin**

**ANSI 55-4 Pin**

**ANSI 55-5 Pin**

**ANSI 57-1 Post**

**ANSI 57-2 Post**

**ANSI 57-3 Post**

**2-1/4" & 2-7/8"  
Neck Diameters**

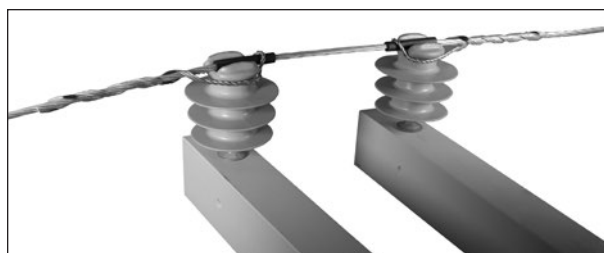


Fig. 1: Tabbed Style



Fig. 2: Hairpin Style

Catalog Number C & F Neck	Diameter Range (Inches)		Nominal Conductor Size	Units Per Carton	Wt./ Lbs.	Approx. Applied Length- Each Tie (Inches)	Insulator Identification Mark	Color Code	Tie Type
	Min.	Max.							
<b>9/16" R. GROOVE (See Note 4)</b>									
DST-0150	.245	.277	#4, 6/1, 7/1 #4, 7W Alum. Alloy	50	11	13	Black/Yellow	Orange	Fig. 1
DST-0151	.278	.315	#3, 7W Alum. Alloy #2, 7W All Alum.	50	11	13	Black/Yellow	Purple	
DST-0152	.316	.357	#2, 6/1, 7/1 #2, 7W Alum. Alloy #1, 6/1	50	15	14	Black/Yellow	Red	
DST-0153	.358	.405	1/0, 7W All Alum. 1/0, 6/1 1/0, 7W Alum. Alloy	50	16	14	Black/Yellow	Yellow	
DST-0154	.406	.459	2/0, 7W All Alum. 2/0, 6/1 2/0, 7W Alum. Alloy	50	16	15	Black/Yellow	Blue	
DST-0155	.460	.520	3/0, 7W All Alum. 3/0, 6/1 3/0, 7W Alum. Alloy	50	23	16	Black/Yellow	Orange	
DST-0156	.521	.588	4/0, 7W All Alum. 4/0, 6/1 4/0, 7W Alum. Alloy	50	23	17	Black/Yellow	Red	
DST-0157	.589	.665	266.8, 37W All Alum. 266.8, 18/1 336.4, 19W All Alum.	50	26	17	Black/Yellow	Purple	
<b>9/16" R. GROOVE (See Note 4)</b>									
DST-0158	.666	.755	336.4, 18/1, 26/7 397.5, 19W, All Alum. 400, 19W, 37W All Alum.	50	28	18	Black/Yellow	Brown	Fig. 1
DST-0159	.756	.858	477, 19W, 37W All Alum. 477, 18/1, 24/7, 26/7	25	21	20	Black/Yellow	Red	Fig. 2
<b>5/8" R. GROOVE (See Note 4)</b>									
DST-0160	.859	.968	556.5, 26/7 636, 18/1	25	26	21	Black/Yellow	Blue	Fig. 2
<b>3/4" R. GROOVE (See Note 4)</b>									
DST-0161	.969	1.096	795, 37W, 61W All Alum. 715.5, 24/7 795, 54/7	25	28	22	Black/Yellow	Green	Fig. 2
DST-0162	1.097	1.240	954, 54/7, 36/1 1033.5, 45/7 795, 26/7 954, 37W All Alum.	25	28	23	Black/Yellow	Yellow	

Right-hand lay standard

**EXPLANATORY NOTES:**

- (1) Diameter Range indicates the size of conductors that utilize the same tie.
- (2) "Nominal Conductor Size" indicates one of various conductors within each range.
- (3) The loop of the Double Support Ties on this page can accommodate either C or F neck insulators.
- (4) For the succeeding ranges, the insulator's top groove radius should be at least as large as shown above.
- (5) AWAC is a registered trademark of the Copperweld Co.



# Double Support Tie

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

**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 Diameters**

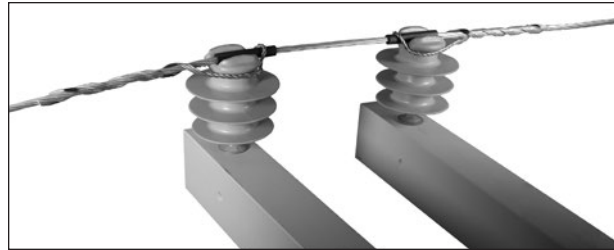


Fig. 1: Tabbed Style



Fig. 2: Hairpin Style

Catalog Number J Neck	Diameter Range (Inches)		Nominal Conductor Size	Units Per Carton	Wt./ Lbs.	Approx. Applied Length- Each Tie (Inches)	Insulator Identification Mark	Color Code	Tie Type
	Min.	Max.							
<b>9/16" R. GROOVE (See Note 4)</b>									
DST-0350	.245	.277	#4, 6/1, 7/1 – #4, 7W Alum. Alloy	50	12	14	Green	Orange	Fig. 1
DST-0351	.278	.315	#3, 7W Alum. Alloy – #2, 7W All Alum.	50	12	14	Green	Purple	
DST-0352	.316	.357	#2, 6/1, 7/1 – #2, 7W Alum. Alloy – #1, 6/1	50	16	15	Green	Red	
DST-0353	.358	.405	1/0, 7W All Alum. 1/0, 6/1 1/0, 7W Alum. Alloy	50	17	15	Green	Yellow	
DST-0354	.406	.459	2/0, 7W All Alum. 2/0, 6/1 2/0, 7W Alum. Alloy	50	17	16	Green	Blue	
DST-0355	.460	.520	3/0, 7W All Alum. 3/0, 6/1 3/0, 7W Alum. Alloy	50	25	16	Green	Orange	
DST-0356	.521	.588	4/0, 7W All Alum. 4/0, 6/1 4/0, 7W Alum. Alloy	50	25	18	Green	Red	
DST-0357	.589	.665	266.8, 37W All Alum. 266.8, 18/1 336.4, 19W All Alum.	50	30	18	Green	Purple	
<b>9/16" R. GROOVE (See Note 4)</b>									
DST-0358	.666	.755	336.4, 18/1, 26/7 397.5, 19W, All Alum. 400, 19W, 37W All Alum.	50	30	19	Green	Brown	Fig. 1
DST-0359	.756	.858	477, 19W, 37W All Alum. 477, 18/1, 24/7, 26/7	50	33	21	Green	Red	Fig. 2
<b>5/8" R. GROOVE (See Note 4)</b>									
DST-0360	.859	.968	556.5, 26/7 636, 18/1	25	26	22	Green	Blue	Fig. 2
<b>3/4" R. GROOVE (See Note 4)</b>									
DST-0361	.969	1.096	795, 37W, 61W All Alum. 715.5, 24/7 795, 54/7	25	28	23	Green	Green	Fig. 2
DST-0362	1.097	1.240	954, 54/7, 36/1 1033.5, 45/7 795, 26/7 954, 37W All Alum.	25	28	24	Green	Yellow	

Right-hand lay standard

**EXPLANATORY NOTES:**

- (1) Diameter Range indicates the size of conductors that utilize the same tie.
- (2) "Nominal Conductor Size" indicates one of various conductors within each range.
- (3) The loop of the Double Support Ties on this page can accommodate J-neck insulators.
- (4) For the succeeding ranges, the insulator's top groove radius should be at least as large as shown above.
- (5) AWAC is a registered trademark of the Copperweld Co.