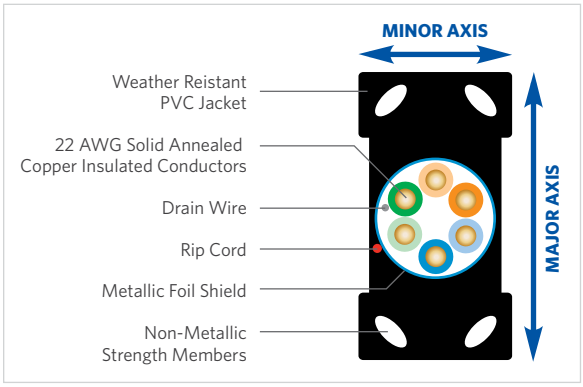
ADP S / ADP NMS

Application Guide

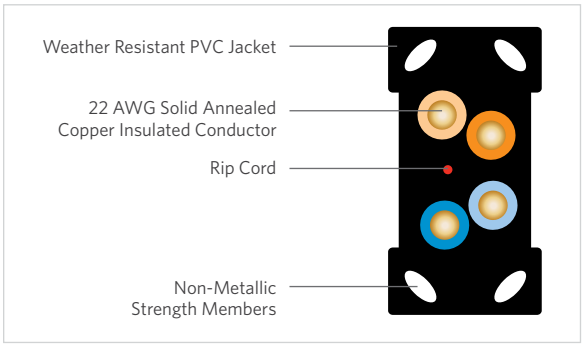
Superior Essex manufactures a wide variety of designs and configurations of Outside Plant (OSP) cable and wire. This document provides installation recommendations for the ADP S (Aerial Shielded) and ADP NMS (Aerial Non-Shielded) service wire.

Installation personnel should be familiar with applicable codes or established practices for their locale.

ADP S



ADP NMS



Installation Practices

There are certain limitations to shielded aerial service wire performance that must be respected during installation. In general, the four most critical characteristics are: tensile strength, bend radius, crush resistance, and temperature rating. These characteristics vary among wire types, sizes, and even manufacturers. It is critical for the designer and installer to be familiar with these criteria prior to installation start.

TENSILE STRENGTH AND MINIMUM BEND RADIUS

Pair Count	Maximum Allowable Tension		Minimum Bend Radius in (mm)
	Short Term (Storm Loading) lbs (N)	Long Term lbs (N)	
1-3-Pair ADP NMS and ADP S and ADP NMS Compact Design 6 X 24	365 (1624)	80 (356)	3.25 (82.6)
5-6-Pair ADP NMS and ADP S	475 (2113)	200 (890)	3.50 (76.2)

GR-3163 CORE/ICEA 5-89-648

Crush Resistance

Crush resistance is an important attribute, which is easily quantifiable in a test laboratory, yet difficult to predict in an installation environment. Crushing a shielded aerial service wire can cause many issues from temporary, intermittent anomalies to permanent failure. The best rule is to avoid actions, routes, guides, mounting devices, etc., that deform the shape of the jacket.

TEMPERATURE RATINGS

Environment	Temperature Range °F (°C)
Storage	-40 to +176 (-40 to +80)
Install	-30 to +140 (-22 to +60)

Recommended Installation Tools

- Protective gloves
- Diagonal cutters (oblique pliers)
- Splicer's knife or splicer's/electricians snips (5" scissors)
- Needle-nose pliers (optional)

Installation Hardware Options

Listed below are available drop clamps from several vendors that may be used in the installation of ADP S and ADS NMS service wire. Drop clamps that include dimpled shims are highly recommended, as they tend to minimize slippage. The design of ADP S aerial service wire requires the larger drop wire clamp to make attachments at poles, buildings or other distribution points, even with the 3-pair version.

ADP S

THIRD PARTY MANUFACTURER	DESCRIPTION	PART NUMBER	PAIR COUNT
Thomas & Betts (Diamond/Sachs)	Drop Wire Clamp – Aluminum	23-4441	1-Pair
Thomas & Betts (Diamond/Sachs)	Drop Wire Clamp – Aluminum	23-82351	3-5-Pair
Senior Industries (MSI)	Drop Wire Clamp – Removable	SI-0956	1-Pair
Senior Industries (MSI)	Drop Wire Clamp – Removable	SI-0966	3-5-Pair
Allied Bolt, Inc.	3-5-Pair Drop Wire Clamp Dimpled Shim	909	1-Pair
Allied Bolt, Inc.	3-5-Pair Drop Wire Clamp Dimpled Shim	963	3-5-Pair

ADP NMS

THIRD PARTY MANUFACTURER	DESCRIPTION	PART NUMBER
Thomas & Betts (Diamond/Sachs)	1-3 Pair Drop Wire Clamp – Aluminum	23-8885
Thomas & Betts (Diamond/Sachs)	5-6 Pair Drop Wire Clamp - Aluminum	23-82351
Senior Industries (MSI)	1-3 Pair Drop Wire Clamp – Stainless	SI-0956
Senior Industries (MSI)	5-6 Pair Drop Wire Clamp - Stainless	SI-0966
Allied Bolt, Inc.	1-2 Pair Drop Wire Clamp - Stainless	909
Allied Bolt, Inc.	3-6 Pair Drop Wire Clamp - Stainless	963

NOTE: Manufacturers' installation recommendations should be followed. This list is believed accurate at time of publication and is provided for convenience purposes only. Always check current compatibility.

ADP NMS Compact Design 6X24

THIRD PARTY MANUFACTURER	DESCRIPTION	PART NUMBER
Thomas & Betts (Diamond/Sachs)	6-Pair Drop Wire Clamp – Aluminum	23-8885
Senior Industries (MSI)	6-Pair Drop Wire Clamp – Stainless	SI-0956
Allied Bolt, Inc.	6-Pair Drop Wire Clamp – Stainless	909

Preparation and Termination Procedure

Cable Entry

ADP S / ADP NMS aerial service wires are equipped with a rip cord to facilitate separation of the jacket from the insulated conductors. Superior Essex places the rip cord on the opposite side of the indent print.

1. Determine the length of jacket to be removed allowing an extra 3 to 4 inches to start the wire insulation removal and mark the wire at that length.

2. Using diagonal cutters, cut each side of the aerial service wire (the portion containing the fiberglass strength members). The cut should be 3 to 4 inches from the end to be terminated. Insure that the cut is sufficiently deep to cut through the fiberglass strength members. Do not be concerned if an underlying conductor is nicked because it will be removed prior to final installation (see step 7). Note: 5" snips may also be used.

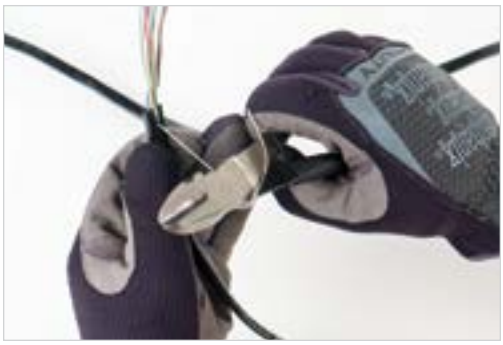
3. Using the diagonal cutters, cut the jacket on the top and bottom to complete the jacket separation (mostly necessary on the 6-pair).

4. Secure the aerial service wire in both hands and remove the severed jacket section by pulling.

5. Separate the rip cord from the insulated conductors. The rip cord will be on opposite side of indent print. Ensure that the rip cord is not entangled with the insulated conductors.

   (Note that the 6-pair utilizes a core binder that should not be confused with the rip cord.)

6. Wrap rip cord around the diagonal cutters (or Needle-nose Pliers). Two or three wraps will be sufficient. Pull rip cord to slit desired length of jacket. A small starting notch will make starting the rip cord easier. Carefully pull the insulated conductors out of the jacket, maintaining the twist in conductors.



7. Remove jacket and cut the insulated conductors to required length for termination, ensuring removal of the first three to four inches (see step 1).

Bonding and Grounding (ADP S Only)

It is recommended that both ends of the ADP S aerial service wire (the distribution terminal end and the premises network interface end) are bonded and grounded using the procedures described below. Bonding and grounding are required to insure any interfering signals or voltages are shunted to ground.

The drain wire may be utilized as a ground medium and is an easier method to bond and ground that will not create a bulky bond/ground point on the wire. This is the recommended method for bonding and grounding the ADP S aerial service wire since it requires no additional materials and takes less time to install.

Recommended Method

1. As the ADP S aerial service wire is prepared and terminated according to standard procedures, expose enough length of bare drain wire to reach the local grounding point within the distribution terminal or premises network interface.
2. Securely attach drain wire to desired ground point.

Alternate Method

Third party supplied mechanical shield bond connectors are available that do a good job of bonding to the metallic foil shield and then extending a ground lead to the local ground medium at each termination point. Procedural and technical support is readily available from each product's supplier.

1. After the desired lengths of conductors are exposed, prepare the metallic foil shield according to manufacturer's guidelines for shield bond connector/clamp installation.
2. Position the metallic foil shield according to the bond connector/clamp manufacturer's recommendation and attach connector/clamp to the metallic foil shield.
3. Securely attach ground wire to desired ground point.

THIRD PARTY MANUFACTURER	DESCRIPTION	PART NUMBER
Electric Motion Company	Shielded Aerial Service Wire Connector	EM 2081
	Shielded Aerial Service Wire Ground Kit	EM 2082
Thomas & Betts	ADSL Aerial Drop Bond Clasp Kit 18"	ADSL 18

NOTE: This list is believed accurate at time of publication and is provided for convenience purposes only. Always check current compatibility. Manufacturers' installation recommendations should be followed.

Wire Termination - ADP S Only

Wire termination must accommodate bonding of the metallic foil shield or use of the drain wire.

1. Extend the core wrap beyond the end of the metallic foil shield to provide dielectric protection between the shield and cable pairs. The exact length the core wrap extends beyond the metallic foil shield depends on the desired spacing between the shield connection and terminating point or device for the particular installation.
2. Extend the wire pairs beyond the end of the core wrap to allow for individual pair termination.

The Aerial Service Wires are ready for final termination.