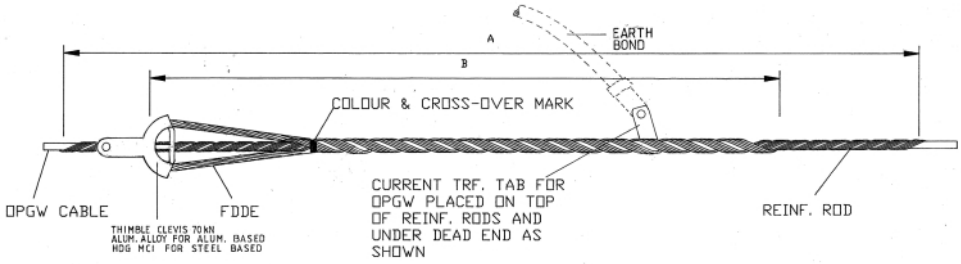
FIBERLIGN® Dielectric Dead-end



The FIBERLIGN® Dielectric Dead-end system has been designed specifically for use on overhead dielectric cables. A unique combination of elements is used to provide the required mechanical and structural integrity.

The FIBERLIGN® Dielectric Dead-end system is comprised of three main components: A Structural Reinforcing Layer (SRL), a Formed Dead-end Component and a Thimble Clevis. The SRL effectively transfers axial tensile forces from the cable's internal high-strength elements through the lower-strength plastic jacket and into the Dead-end itself. This transition zone provides a balance between the different materials which have varying performance characteristics under tension and environmental conditions. The SRL also distributes the radial compressive forces over a wider area to achieve high holding strength and to prevent damage to the internal optical fibers.

This Dead-end system is also suitable for use on OPGW where the working tension is a maximum of 60% of the RBS of the OPGW.

Note: An appropriately sized Thimble Clevis (or equivalent) is required to ensure proper application and performance of the FIBERLIGN® Dielectric Dead-end. Consult PREFORMED™ Line Products Company for recommendations.

Catalogue No.: FDDE

Ordering Instructions: Contact PREFORMED™ Line Products Company and provide detailed information on the dielectric cable and the line design.

Be sure to read and completely understand this procedure before applying product. Be sure to select the proper PREFORMED™ product before application.

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Dead-end

CATALOGUE NO.	REINFORCING RODS A	RODS/ SET	FDDE B	RODS/ SET	COLOUR CODE
OPGW					
350/399 ST/RH	1118	11	851	8	GREEN
400/453 ST/RH	1245	14	902	6	BROWN
450/504 ST/RH	1380	13	990	8	ORANGE
512/536 ST/RH	1473	14	1067	8	BLACK
543/579 ST/RH	2336	15	1816	6	BROWN
450/504 AL/RH	1380	13	990	8	ORANGE
512/536 AL/RH	2209	15	1638	6	BLACK
543/579 AL/RH	1820	14	1300	7	BROWN
591/609 AL/RH	1600	14	1143	8	BLUE
611/680 AL/RH	2290	15	1650	8	RED
667/710 AL/RH	2159	14	1613	8	YELLOW
756/830 AL/RH	2311	15	1715	7	BLACK
350/399 AL/RH	1244	12	815	8	PINK
400/449 AC/RH	1118	12	900	8	WHITE
450/504 AC/RG	1372	13	1150	8	ORANGE
505/555 AC/RH	1473	15	1067	6	BROWN
556/610 AC/RH	1600	14	1143	8	BROWN
611/680 AC/RH	2290	15	1650	8	RED
687/680 AC/RH	2159	16	1613	8	WHITE
ADSS					
371 AD/S	1950	13	1403	7	GREEN
452/492 AD/S	2921	13	2320	7	WHITE
482/510 AD/S	2210	13	1562	7	WHITE
543/577 AD/S	2260	15	1626	6	BLACK
511/542 AD/S	2420	14	1651	7	BROWN
614/651 AD/S	2163	16	1816	8	RED
738/784 AD/S	2667	20	1868	9	BLACK

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Application Procedure & Safety Considerations FIBERLIGN® Helical Wire Dead-end for OPGW

1. Nomenclature

1.1 Dead-end Component (required, included).

1.2 Structural Reinforcing Rod (SRR) Component (required, included)

1.3 Thimble Clevis (required, Included).

1.4 Current Transfer Tab.

2. Description

2.1 FIBERLIGN® Formed Wire Dead-ends for Optical Ground Wire (OPGW) terminate optical ground wire cable, keeping the cable under the required tension while preserving the desired sag.

2.2 FIBERLIGN® Helical Wire Dead-ends are specially designed to develop the required holding strength while minimizing compressive stresses that may be transferred to the fibre optic elements.

3. Installation Issues

3.1 **Dead-end Design:** FIBERLIGN® Formed Wire Dead-ends are manufactured with a specific number of rods (wires) and length specified by PREFORMED™ in order to provide necessary holding strength.

Caution: Alterations to the number or length of the rods may prevent the product from functioning properly. Do not alter the rods in any way.

3.2 **Structural Reinforcing Rod (SRR):** This layer of helically formed rods transfers the load between the cable outer wire strength member and the dead-end component. SRRs are specially designed to transfer these axial tensile forces.

3.3 **Dead-end Component:** Dead-end helically formed rods transfer the load from the SRR to the structure. Attachment to the structure is provided with the convenient built-in loop of the Dead-end. The Dead-end component transfers the axial tensile forces without distortion to the SRR and cable.

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3.4 **Associated Hardware:** There are two additional components associated with the FIBERLIGN® Formed Wire Dead-end.

3.4.1 **Thimble Clevis:** A clevis of proper size and strength is required In order to support the Dead-end's loop and connect the Dead-end to the structure or other fittings.

3.4.2 **Current Transfer Tab:** Is provided for grounding.

3.5 **Re-appllcation:** FIBERLIGN® Formed Wire Dead-ends for Optical Ground Wire may be used only once as a pulling-in-grlp, removed then reapplied only once more for permanent installation, for a total of two applications. DO NOT reuse after initial permanent installation is completed.

Caution: Fibre failures can occur during dead-ending. Therefore, it is important to understand the above Installation Issues and the following application procedures.

4. Structural Reinforcing Rod Application

4.1 Before applying the structural reinforcing rods, loop the FIBERLIGN® Formed Wire Dead-end component through the thimble clevis and position it parallel to the cable.

4.2 Mark the cable at the colour-coded crossover mark on the Dead-end. This will be the reference mark for positioning the structural reinforcing rod (SRR) subsets on the cable.

Note: Be sure to provide clearance for complete application of SRR near the structure. Blocks or other hardware should be pushed back toward the structure to allow wrapping of the SRR subsets onto the OPGW.

4.3 Notice that the colour mark of the SRRs is offset from the centre (the length from one end of the subset to the mark is shorter than the other). With the short length positioned near the structure, align the colour code mark to the reference mark you just made on the cable.

SRRs are best installed starting at the colour mark of the rods for proper location and ease of application. Begin at the colour mark of the subset and apply them while pulling the rod legs up and away from the cable as you wrap them on.

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4.4 Wrap the rods of the first subset completely on to the cable and snap the ends into place, although you may leave portions of this subset temporarily unwrapped if convenient.

4.5 Align the colour mark of a second subset with the first subset.

4.6 Wrap the second subset on the cable for four to six pitch lengths, leaving the ends loose.

PLP Tip: It aids installation if you wrap a subset on the cable into a previously applied subset. Wrapping away from a previously applied subset can increase the gap between subsets and cause application problems at the ends of the unapplied subsets. Wrapping all unapplied subsets at the same time can also help avoid this problem.

4.7 Apply remaining subsets as outlined in steps 4.5 and 4.6

4.8 To complete application, wrap unapplied subsets into previously applied subsets or use both hands to wrap subsets simultaneously into position. First wrap one end, then wrap the other end. To assure a strong reinforcement, make sure that rods are not crossed and that all rods are evenly spaced. MAKE SURE ALL ROD ENDS ARE IN PLACE. Do not use tools that can damage the cable.

5. FIBERLIGN® Formed Wire Dead-End Application

5.1 Insert FIBERLIGN® Formed Wire Dead-end loop through a proper size and strength Thimble Clevis.

5.2 Align the crossover mark of the Dead-end with the colour mark of the SRR. Begin application by wrapping two pitches (wraps) of the Dead-end legs over the SRR starting at the crossover marks.

5.3 Position the L-shaped Current Transfer Tab against the SRR. Continue the installation by wrapping the legs around the SRR and compressing the Transfer Tab against the SRR. Whether you wrap one leg at a time or both simultaneously, make sure the gap between both legs Is evenly spaced.

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5.4 To ease final installation, do not apply the last two leg pitches. Split the legs, then apply them completely. Make sure all rod ends are snapped into place.

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6. Earth Bond and Downlead Clamps

PLP CAN PROVIDE THE Earth Bond strap and Downlead Clamp as optional extras on request.

Safety Considerations

1. This Application Procedure is not intended to supersede any company construction or safety standards. This procedure is offered only to illustrate safe application for the individual. CAUTION: FAILURE TO FOLLOW THESE PROCEDURES AND RESTRICTIONS MAY RESULT IN PERSONAL INJURY OR DEATH.
2. This product is intended for a single permanent installation as described in paragraph 3.5 and for the specified application. CAUTION: DO NOT REUSE OR MODIFY THIS PRODUCT UNDER ANY CIRCUMSTANCES.
3. 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.
4. When working in the area of energized lines with this product, EXTRA CARE should be taken to prevent accidental electrical contact.
5. For PROPER PERFORMANCE AND PERSONAL SAFETY be sure to select the proper type and size FIBERLIGN® Formed Wire Dead-end before application.
6. FIBERLIGN® Formed Wire Dead-ends for OPGW are precision devices. To insure proper performance, they should be stored in cartons under cover and handled carefully.

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