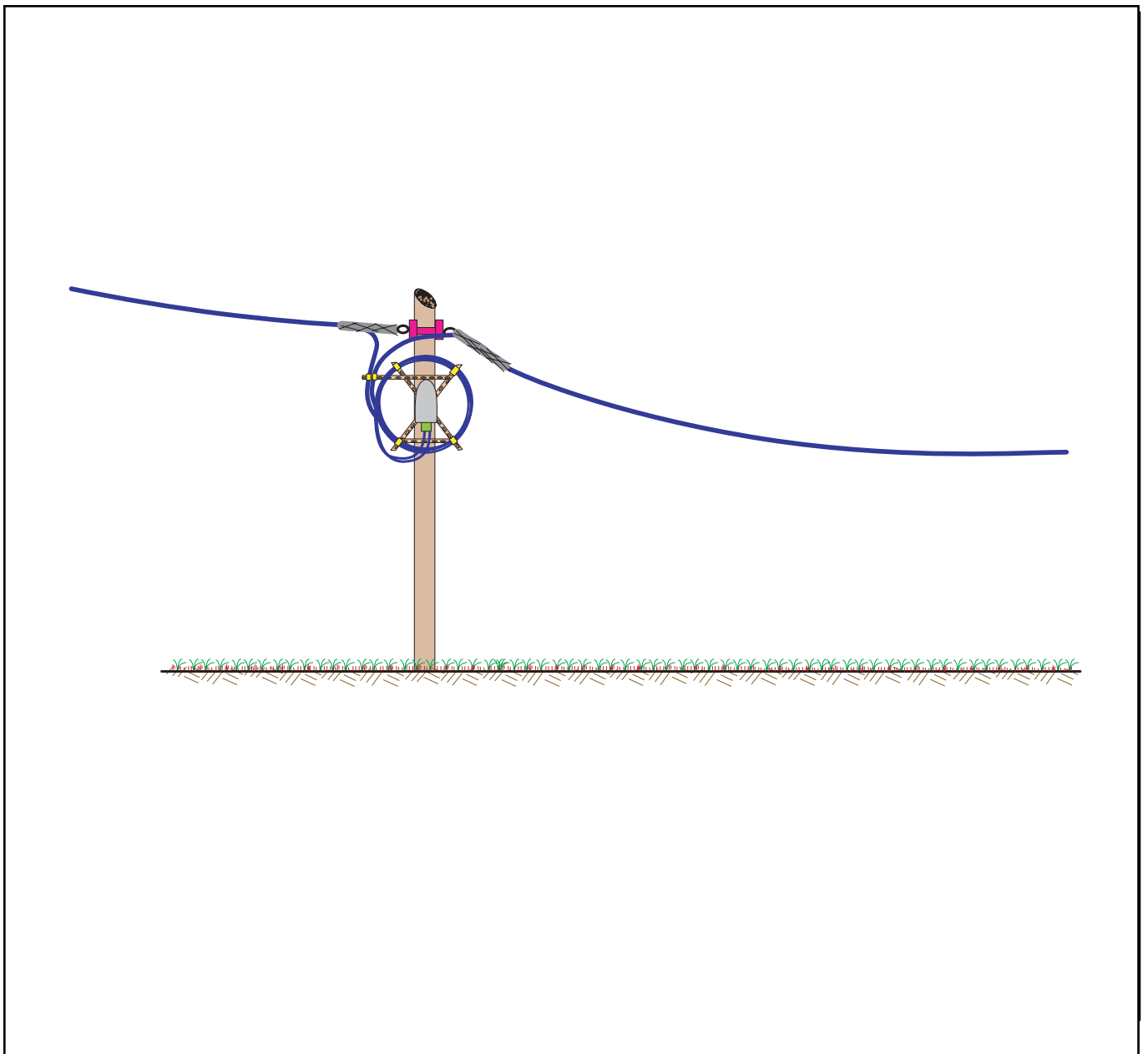


Installation Instructions (project specific)

Installation of fiber-optic aerial cables (ADSS) on wooden pole lines with maximum pole spacing of 70 m



1. Introduction

ADSS cables are installed on wooden poles using tension and suspension fittings. The closures preferred for inline and branching applications are universal closures of type UCN C 7-220.

For the fittings specified in these installation instructions the maximum permissible pole spacing is 70 m.

2. Basic design of the cable

Example:
Aerial cable A-D(T)2Y...

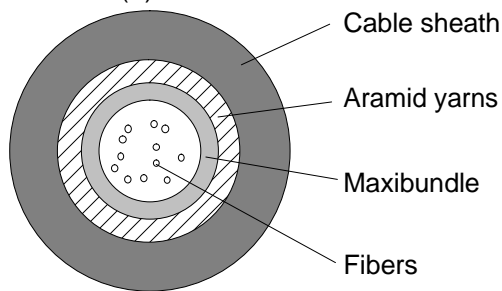


Fig. 1

3. Equipment and tools

- o Winching rope (length depends on the max. cable length to be laid).
- o Cable winch
- o Laying rollers (A1), diam. approx. 300 mm, laying rollers must be equipped with a (detachable) stirrup to prevent the winching rope or the cable running out of the roller. Width of groove at least 40 mm.
- o Twist compensator (between winching rope and cable)
- o Radio sets
- o Protective helmet
- o Safety harness with security rope
- o Tensioning tool
- o Toolset for fiber-optic cable installation

4. Installation material

- o Steel band
- o Label holder (large), U stirrup, shackle, thimble terminating helix
- o Label holder (small), swing hooks, shackle, PE spiral tube (chafing protection), Conductor supporting helix
- o Aerial-cable cross
 - hexagonal wood screws M8x80 mm, nonrusting, 2x
 - washers A8,4, nonrusting, 2x
- o Cable guards, pipe clamp RSGU

4.1 Accessories

Adhesive woven tape (e.g. Tesaband)
Adhesive aluminum foil.

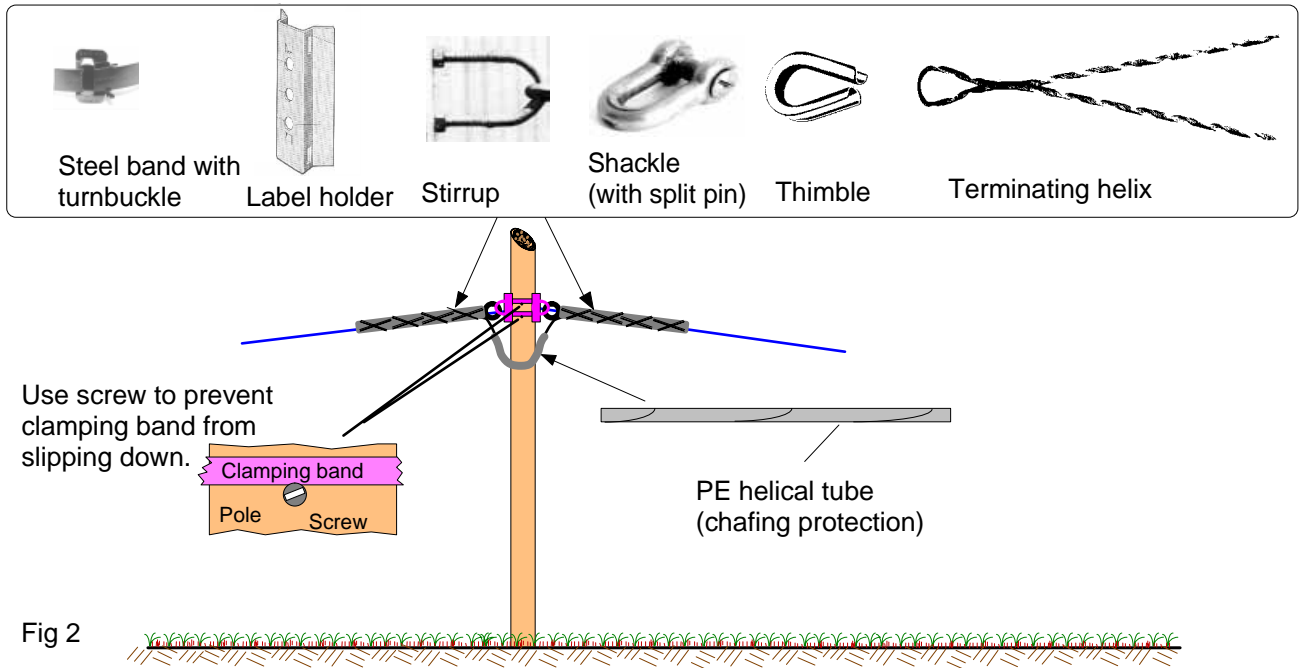
5. Additional installation instructions required

Aerial-cable cross.....S46999-L4180-P431
Hood sleeve.....S46999- A13-P423

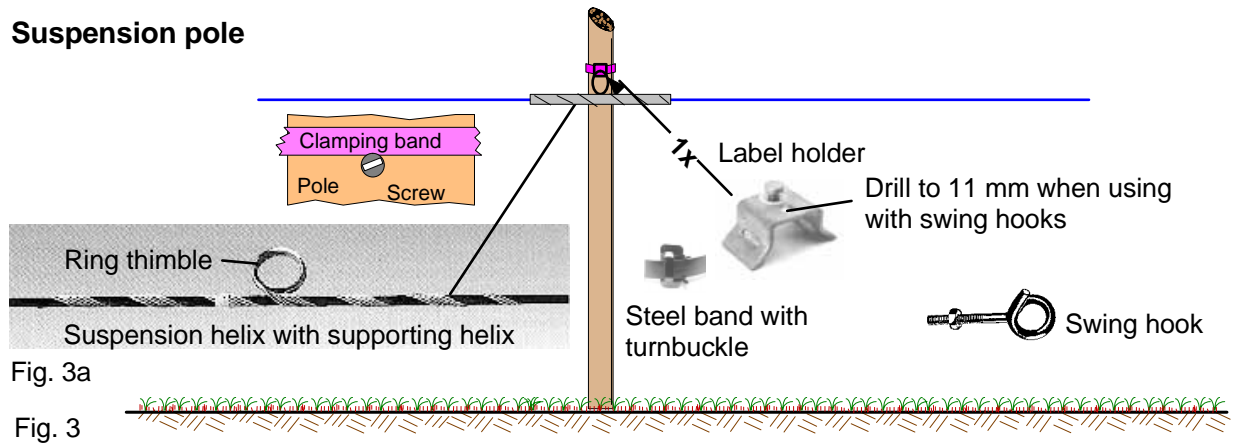
Caution: Observe the accident prevention regulations!

6. Cabling on wood pole

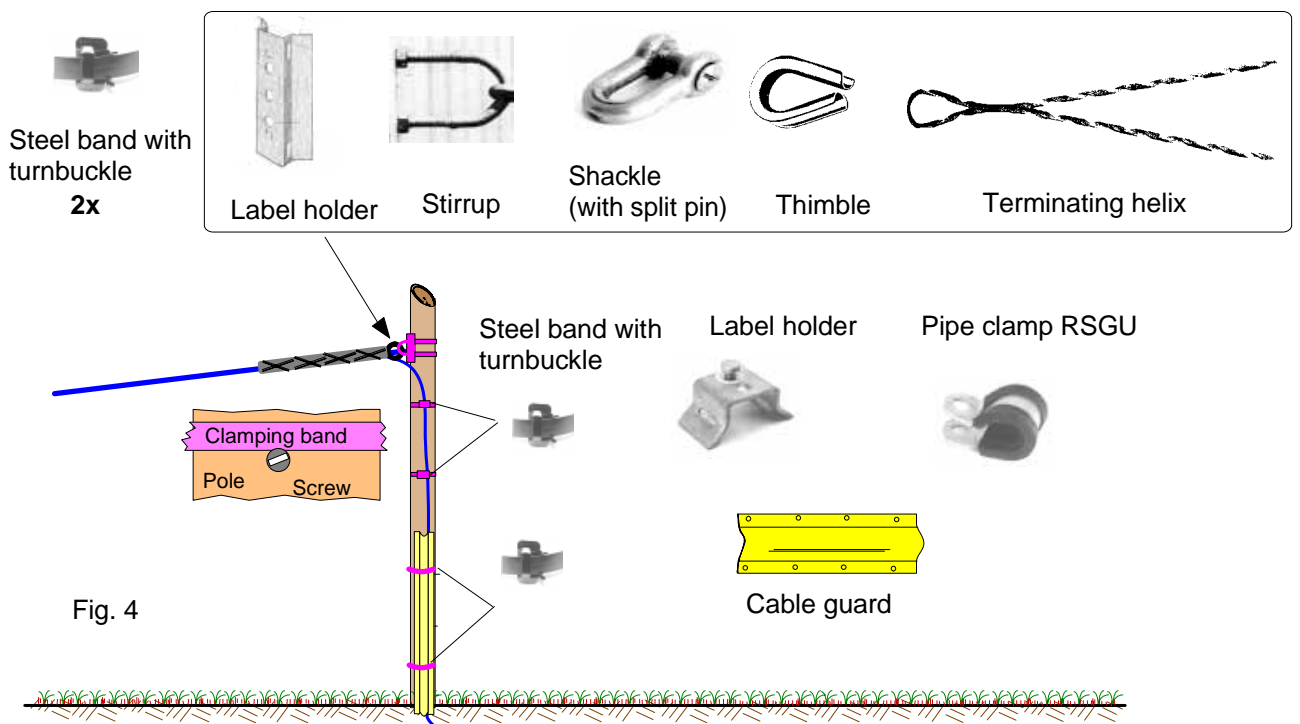
6.1 Tensioning pole



6.2 Suspension pole



6.3 End pole



6.4 Closure pole

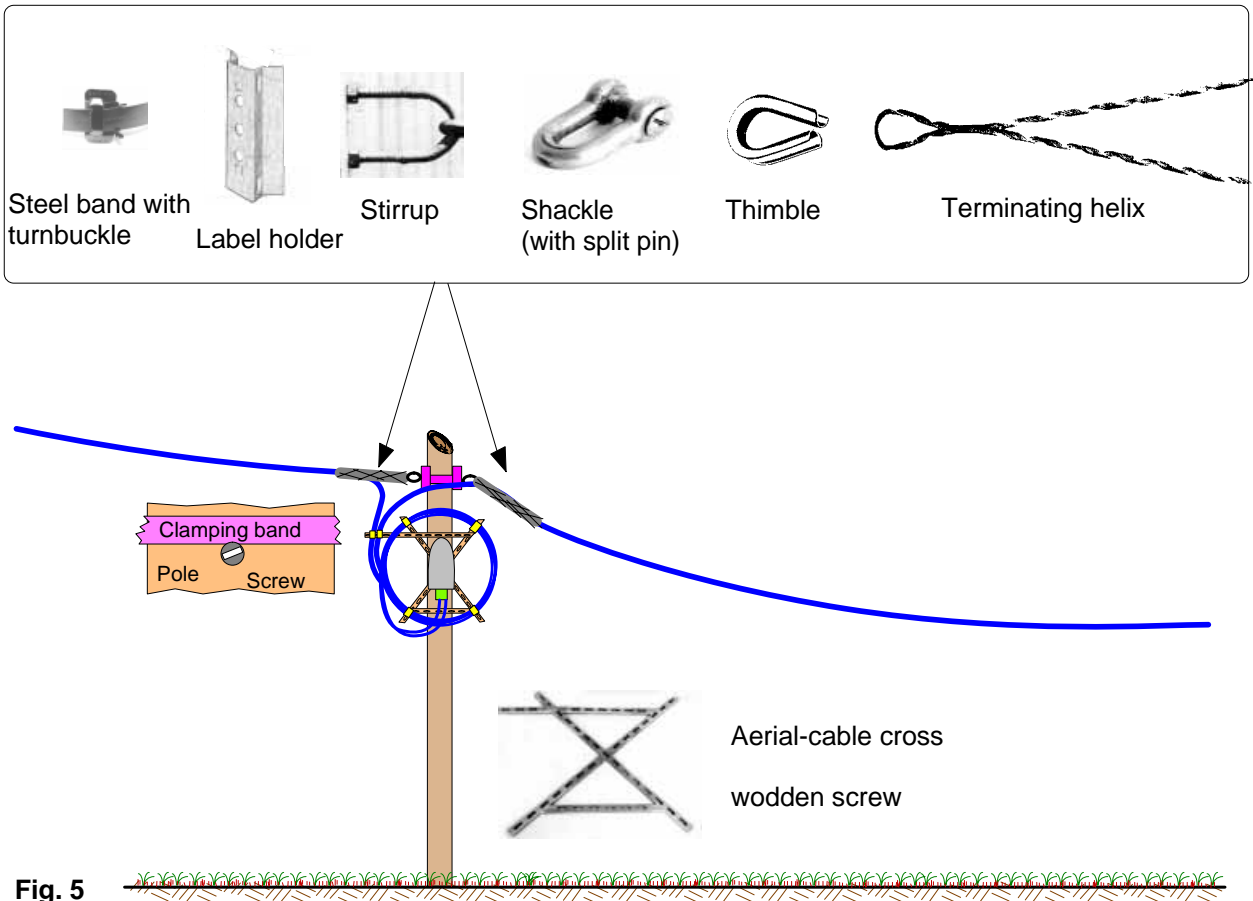


Fig. 5

7. Helixes

7.1 Selection of terminating helixes, suspension helixes with supporting helixes

Attention:

The choice of helixes (suspension-helixes, terminating helixes) depends on the cable types used and must be made in each individual case!

7.2 Installation instructions for fitting the helixes

7.2.1 General

- o Terminating and suspension helixes are mounted at the cables **without** under-helixes.
- o In order to prevent damage to the cable sheath, apply a layer of adhesive aluminum foil at the ends of the helix for a length of about 60 mm.

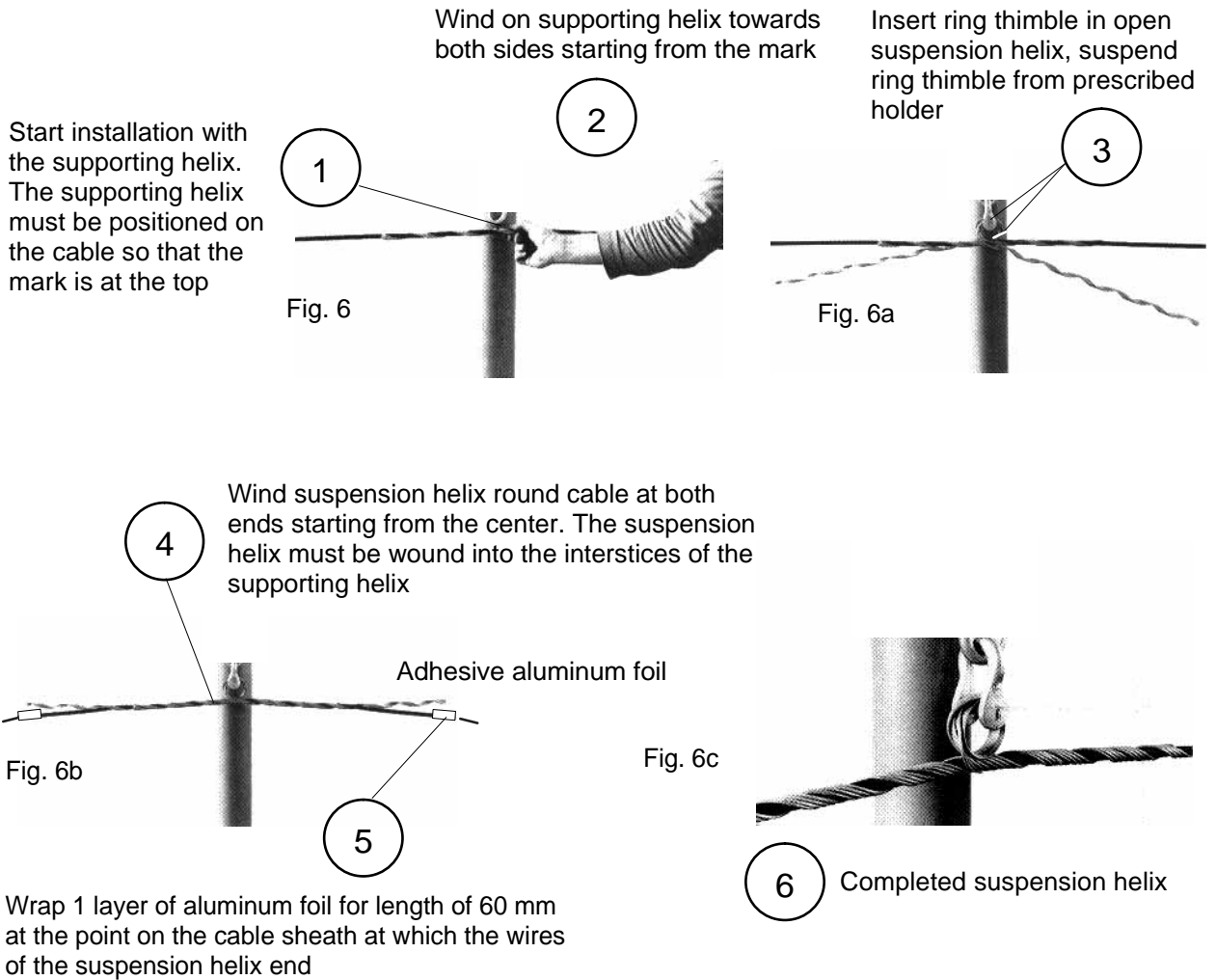
8.2.2 Installing a suspension helix

The numbers (1) ... in the Figs. refer to the sequence of installation steps.

General:

Installation can be carried out with the cable relaxed or under tension.

In addition to the suspension helix consisting of 3 adhesively bonded helical wires, a supporting helix which is 50 % shorter and consisting of 4 helical wires is also required.



8.2.3 Installing a terminating helix

General:

The terminating helix is supplied bent in the form of a loop. The individual helical wires are glued together in a bundle which is sanded on its inner surface. There is a colored mark close to the loop on both arms marking the position at which the two arms of the fitting are to be first wrapped round the cable (see arrow in Fig. 7).

The terminating helix must only be fitted once and must not be pushed backwards and forwards on the cable.

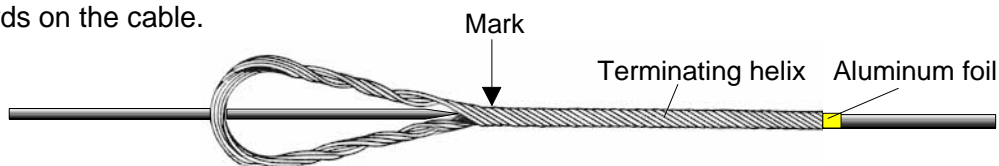


Fig. 7 Completed terminating helix

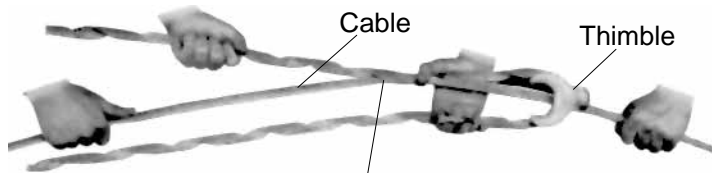


Fig. 7a

1

Insert cable in one of the two arms of the terminating helix at the crossover mark. Wind on arm of the helix one turn onto the under-helix

Insert the second arm of the terminating helix at the crossover mark and wrap on one or two turns in the same way

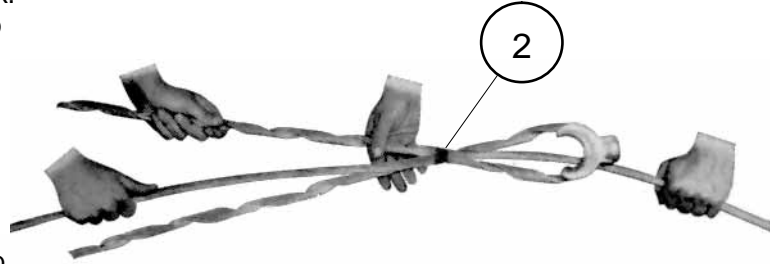


Fig. 7b

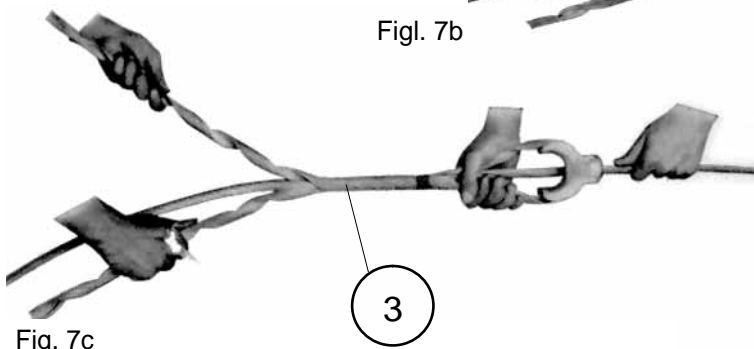


Fig. 7c

Wind together both arms except for about 2 windings

Wrap 1 layer of aluminum foil for a length of about 60 mm at the point on the cable sheath at which the wires of the terminating helix end

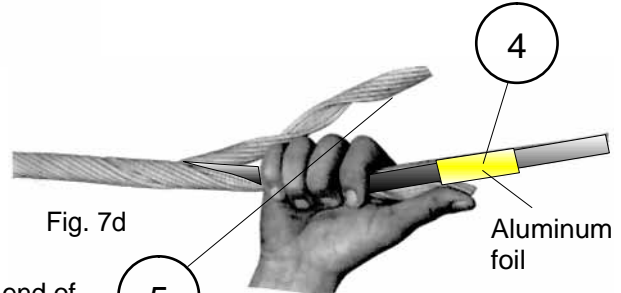


Fig. 7d

Now wind on the end of each arm separately

5

The bundled helix ends generally spring into their preformed position of their own accord. If this does not happen, the wires can be inserted individually, if necessary with a screwdriver. The unequal lengths of the ends facilitate location of the two arms during dismantling.

8. Aerial cable installation

8.1 Crossing roads

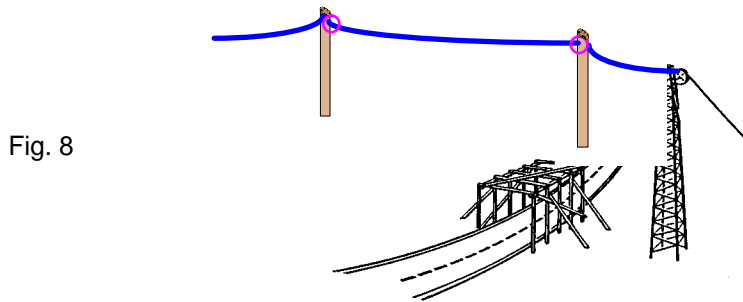


Fig. 8

Traffic routes which are to be crossed with the cable must be covered during the installation by wire mats or latticework in the form of a tunnel

8.2 Preparation for cable installation at the pole

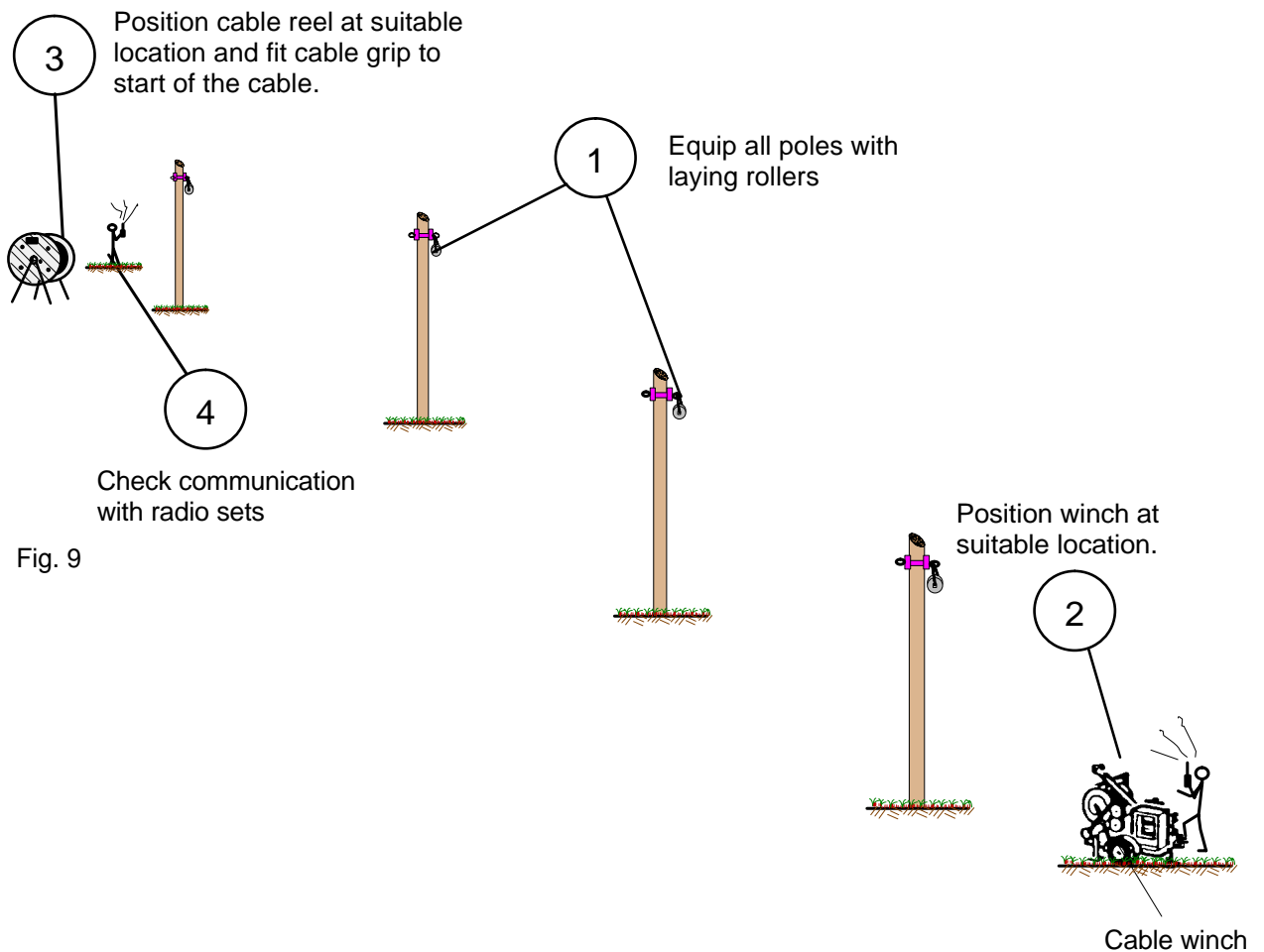
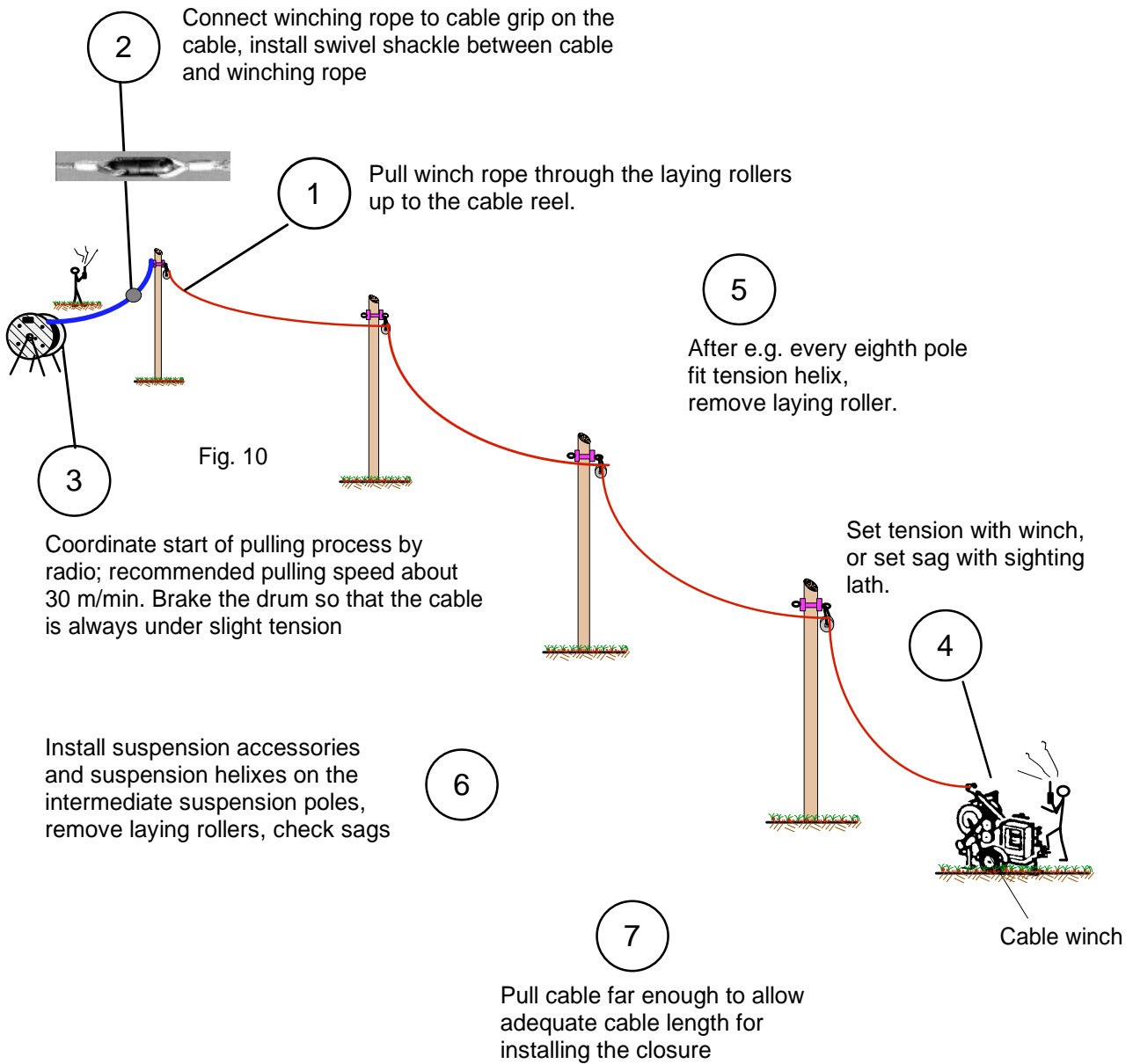


Fig. 9

8.3 Laying



Important: Ensure that adequate cable slack is provided at the closure poles!

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