



Instructions for crimping the pulling eye to cable.

Choosing the appropriate pulling eye

For multi stranded gel filled cable use a **CGP5** type pulling eye, it has an ejector port for the grease. It is essential to remove the grub screw that has been fitted to allow the grease to bleed out of this port whilst crimping.

For multi stranded communication cable that requires pressurizing, use a **CHV5** type pulling eye. It has a hole down through the middle of the spike with an air valve near the head. This is so the air can pass the crimped area and flow into the cable.

For multi stranded communication cable with no gel or reason for pressurization the **CHE5** eye should be used.

For multi cored power cable use the **CES7** type eye.

Take note of the different preparation details in the fitting instructions before you place this pulling eye onto the cable.

For single core XLPE insulated power cable a **CEC6** type eye with no spike can be easily fitted if pulling tension requirements are low. For heavier duty applications; ordering a pulling eye with a thicker tube will provide for a higher level of strength.

Further details available from manufacturer.

For single or multi core power cable, submarine cable or where high pulling tensions are required an **RPE** type eye should be used. This eye only requires crimping if an extension tube has been added to cover the outer sheath of the cable.



Pulling Eye



Re-usable Pulling Eye


Selecting your components.

Product codes	Code ext	Cable OD Ø	Crimper rope	Crimper die	Rope ODØ	Crimping pressure Mpa
CGP5, CHE5, CHV5, CEC8, CES7	-28	22-23	CR-5540	30	9.5	14
CGP5, CHE5, CHV5, CEC8, CES7	-29	24-27	CR-5540	30	9.5	17
CGP5, CHE5, CHV5, CEC8, CES7	-32	28-30	CR-6580	40	9.5	17
CGP5, CHE5, CHV5, CEC8, CES7	-35	30-33	CR-6580	40	9.5	22
CGP5, CHE5, CHV5, CEC8, CES7	-38	33-36	CR-6580	40	11	22
CGP5, CHE5, CHV5, CEC8, CES7	-42	37-40	CR-8580	50	14	30
CGP5, CHE5, CHV5, CEC8, CES7	-45	41-43	CR-8580	50	14	30
CGP5, CHE5, CHV5, CEC8, CES7	-48	44-46	CR-8580	50	14	30
CGP5, CHE5, CHV5, CEC8, CES7	-51	46-49	CR-8580	60	14	30
CGP5, CHE5, CHV5, CEC8, CES7	-54	50-52	CR-8740	60	14	35
CGP5, CHE5, CHV5, CEC8, CES7	-57	53-55	CR-8740	60	14	35
CGP5, CHE5, CHV5, CEC8, CES7	-60	56-58	CR-10740	70	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-63	59-61	CR-10740	70	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-66	62-64	CR-10740	70	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-69	65-67	CR-10740	70	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-72	68-70	CR-10740	80	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-75	69-73	CR-10740	80	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-78	72-76	CR-10740	80	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-80	77-78	CR-10740	90	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-83	79-81	CR-10780	90	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-86	82-84	CR-10780	90	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-89	85-87	CR-10780	100	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-92	88-90	CR-10840	100	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-95	91-93	CR-10840	100	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-98	94-96	CR-10840	110	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-101	97-99	CR-10840	110	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-104	100-102	CR-10900	110	19	42
CGP5, CHE5, CHV5, CEC8, CES7	-107	103-105	CR-10900	110	19	49
CGP5, CHE5, CHV5, CEC8, CES7	-110	106-108	CR-10106	120	19	49
CGP5, CHE5, CHV5, CEC8, CES7	-114	109-112	CR-10106	120	19	49
CGP5, CHE5, CHV5, CEC8, CES7	-117	113-115	CR-10106	130	19	49
CGP5, CHE5, CHV5, CEC8, CES7	-120	116-118	CR-10106	130	19	49



Determining the correct size pulling eye for the cable.

Where the cable has multi conductors of copper cable used for communication there is room for a spike to be inserted prior to placing the pulling eye. This is to determine the correct expansion of the cable.

Insert the correct size centre spike or like size piece of metal that has the same diameter as the spike into the cable and measure the diameter of the cable with a circumference to diameter measuring tape.

Don't forget to remove this spike.

NB. It is important that the Inside diameter of the tube on the pulling eye does not exceed 5mm over the outside diameter of the cable.

In the case of the **CES7** pulling eye, select a tube with an inside diameter equal to the outside diameter of the cable plus the diameter of the spike
e.g. A 72mm pulling eye combined with a 19mm spike; $72\text{mm} + 19\text{mm} = 91\text{mm}$, therefore the inside diameter of the pulling eye tube should be 91mm.

Placing the pulling eye onto the cable.

In most instances you can push the pulling eye a little way into the centre of the conductors. Use a copper or rubber hammer or a steel hammer with a percussion block to knock the pulling eye all the way onto the cable. If you do not have a percussion block to fit over the pulling eye then use a block of wood or nylon between the eye and the hammer to ensure the eye is not damaged during installation.

In the case of the **CES7** pulling eye generally used on individually insulated, multi cored power cable with XLPE insulation follow the guidelines below.

You will need to slit the outer sheathing of the cable 50mm shorter than the length of the spike. This allows the insulated conductors to spread as the spike is inserted.

(DO NOT SLIT FURTHER THAN THIS)

The tube needs to be crimped against the outer sheath of the cable past this cut. This seals the cable from water and mud ingress between the conductors.

Setting up the crimping machine.

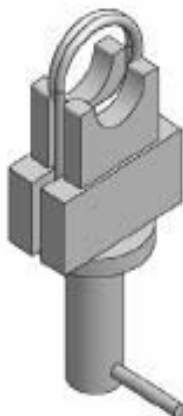


Diagram 1

Check the component chart and select the crimper die shown, choose the crimper die which is slightly larger than the OD of the tube of the pulling eye. Press this into the recess of the piston in the hydraulic cylinder
Do not use a smaller die.

Check that you have the right crimper rope for the size of the pulling eye. Insert one of the metal lugs into a retainer hole on the side of the crimper base. Form a loop in the rope before inserting the other metal lug into the other retainer hole. Secure these in place by sliding the retainer collar up to the base of the metal ends and lock in place with the grub screw. See diagram 1



Crimping the pulling eye onto the cable.

Instructions for all spike type pulling eyes.

The pulling eye has a label attached to the side of the tube. This has been placed at the correct position for starting the first crimp. This position is clearly marked with an arrow and should be placed under the loop of the crimping rope as shown in **diagram 2**.

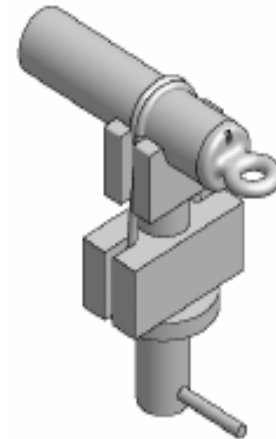
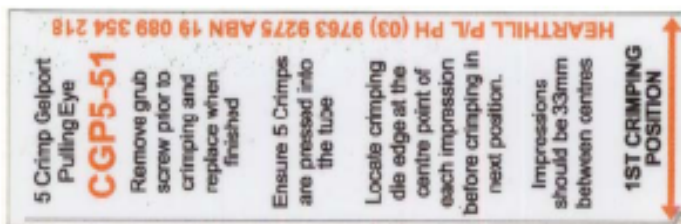


Diagram 2

If you have a pressure gauge on your pump the component chart will give you the pressure to crimp at for the size of the pulling eye.

If you don't have a pressure gauge the crimp depth should equal the width of the crimper rope.

If the pulling eye takes on the shape of a banana it has been crimped too far. To rectify, rotate the hydraulic cylinder to the opposite side and crimp again to pull the tube back into its straight shape.

As the rope only crimps about 100° to 120° of the circumference at a time you must release the pressure on the rope and rotate the cylinder around the tube 90° and crimp again and then twice more until you return to where you started. See **diagram 3** below for the hydraulic crimping tool positions.

The number of crimps will depend on the pulling specifications and the type of cable, Telstra requires 4 crimps on air core pressurized cable and 5 crimps on gel filled cable.

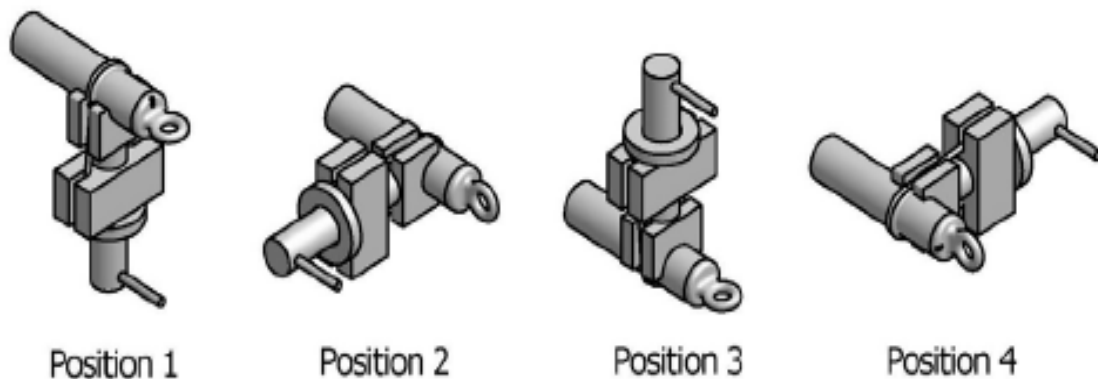


Diagram 3.



The **CES7** has an extended sleeve 70mm past the end of the spike. You must apply an extra crimp in this area to seal the cable from ingress of water and debris. Make sure the skirt of the sleeve is flat on the outer sheath of the cable when you have finished so the hauling eye doesn't get caught or damage other cables whilst being hauled.

You will notice that the start position changes for the standard spiked pulling eye, the gel ported pulling eye and end cap pulling eye with no spike.

CEC6 fitting instructions.

These hauling eyes don't have a spike, but start from the mark, 'first crimping position'.

All consecutive crimps can be made approx. 40mm apart.

The required pulling force is determined by the number of crimps you can fit onto the length of the tube. Make sure the end of the tube is laying flat against the sheath of the cable.

N.B. Contact cable or crimper manufacturer for tension requirements

Positioning of the crimper rope after the first crimp is completed.

The smaller dies up to 40mm are designed so the crimping places are directly over the hollows in the spikes which are spaced at 25mm centres.

All dies over this size have centres at 33mm. In each case there is no need to measure the spaces as the crimper dies are made to suit. After completing the first full crimp move the outer edge of the die block so it lines up with the centre point of the depression in the tube. This will line up the crimper rope in the centre of the next position on the spike.

Crimper die, Pulling eyes and Accessories.

