

### Quick and easy

The installation of heat shrink products by Kacab is quick and easy. In order to reach maximum satisfaction from the heat shrink products it is suggested to follow the instructions below.

### Tools

The heat shrink products should be shrunk with hot-air blowers (thin wall), gas heating torches (medium/heavy wall) and other equipment able to reach the temperature of over +120°C.

## Installation of heat shrink tubes thin wall, medium wall and thick wall

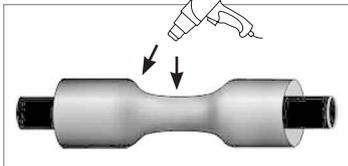


### Prepare the surface of the object on which the heat shrink tube will be installed

1. Un-dust and degrease the surface of the object, e.g. with a non-oil solvent.
2. Metal surfaces should be polished with abrasive cloth and heated up.

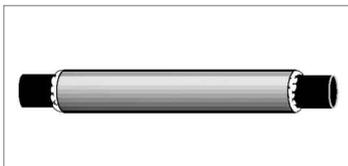
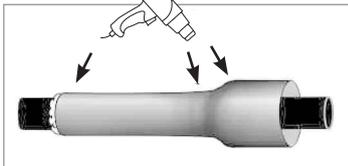
### Prepare the heat shrink tube

1. Choose the tube with the required insulation parameters and diameter (the diameter of the fully recovered heat shrink tubing shall be smaller than the diameter of the object).

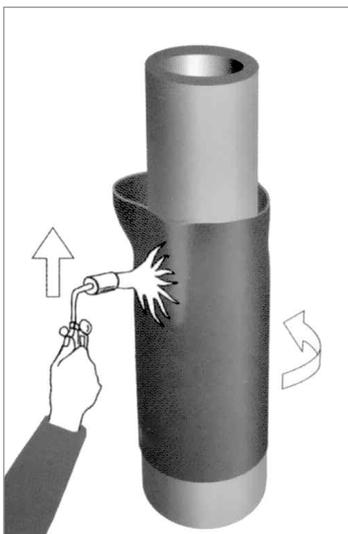


### Shrinking

1. Slide the heat shrink tube to the right position.
2. Set the temperature of the hot-air blower to the appropriate level for the material and wall-thickness of the Heat Shrink Tubing. Different materials have different minimum shrinking temperatures (+65°C up to 360°C). Higher temperatures can speed up the shrinking process. The hot-air blower should always be in constant movement (around the tube and out to the sides), be careful not to heat constant at one spot as this could cause local overheating of the material.
3. Start the shrinking process from the middle of the tube with constant round movements around the tube to achieve steady shrink. The middle part of the tube should shrink down and stick closely to the object.
4. Shrink the ends of the tube with constant movements from the middle towards the ends. The properly shrunk tube should be smooth, with no bulges and notches.
5. If the installed tube is a double layer tube - with adhesive - the adhesive should flow out at the ends of the heat shrink tube.
6. Leave the shrunk tube to cool down.



## Installation of heat shrink tube of large diameter on posts (renovation)



### Prepare the post

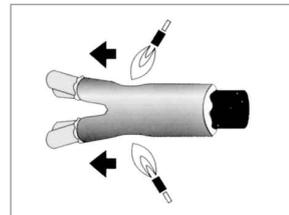
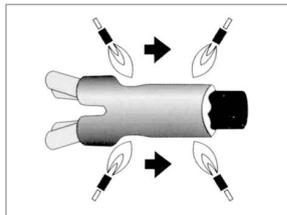
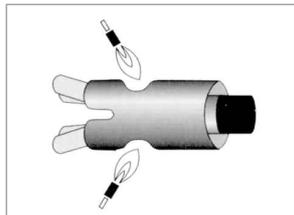
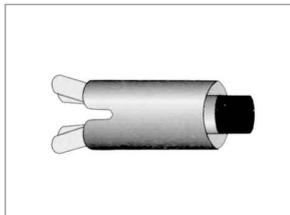
1. Dismantle all the post's elements, e.g. lighting elements, for better heat shrink tube set up.
2. Clean and apply the ground coating on the bare part of the post.

### Prepare the heat shrink tube

1. Choose the heat shrink tube with the required parameters and diameter.

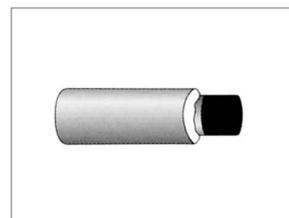
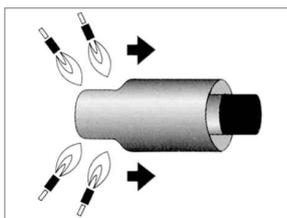
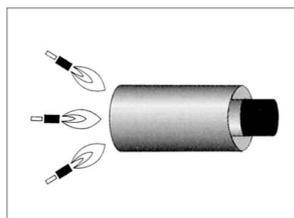
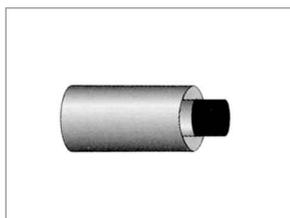
### Shrinking

1. Slide the heat shrink tube.
2. Set the temperature of the hot-air blower to the appropriate level for the material and wall-thickness of the Heat Shrink Tubing. Different materials have different minimum shrinking temperatures (+65°C up to 360°C). Higher temperatures can speed up the shrinking process. The hot-air blower should always be in constant movement (around the tube and out to the sides), be careful not to heat constant at one spot as this could cause local overheating of the material.
3. Start the shrinking process from the bottom of the tube with constant round movements around the tube to achieve steady shrink. The bottom part of the tube should shrink down and stick closely to the object.
4. Shrink the other part of the tube with constant movements from the bottom up. The properly shrunk tube should be smooth, with no bulges and notches.
5. If the installed tube is a double layer tube - with adhesive - the adhesive should flow out at the ends of the heat shrink tube.
6. Leave the shrunk tube to cool down.



### Installation of heat shrink breakout boots

Installation steps are similar to the installation of thin wall, medium wall and thick wall heat shrink tubes.



### Installation of heat shrink end caps

Start the heating of the heat shrink end cap from the top of it towards the end. Keep the continuous movements of the heat torch or blower to gain a steady shrink. After proper installation the adhesive should flow out at the end of the end cap.

## Technical details and operational properties of heat shrink tubes

### Material

Main part of the wide range of the heat shrink tubes by Kacab are made from radiated crosslinked polyolefin (e.g. polyethylene).

The excellent insulate and seal characteristics plays an important role of protective layers, anti-corroding shields and decorative elements.

Heat shrinkable tubing's protect against changing weather conditions, aggressive underground factors and makes a perfect protection against moisture.

The heat shrink tubing adopt the shape of the object on which they are shrunk down to and improves the mechanical protection.

The tubing is resistant to UV radiation, fungus, mould and other corrosive agents; urine, salts, majority of oils, petrol, alcohols and grease.

### Colours

Heat shrink tubing is available in many different colours but the most common is black.

The non-standard colours are produced on request.

Heat shrink tubes of large diameters and with heavier walls are almost always in black colour.

### Lengths

Thin wall tubes – is normally supplied on reels, on request we can cut into various length from e.g. 2 cm, 20 cm etc.

Dual wall – is supplied both on reels and in 1,22 m pcs.

Medium and heavy wall tubes have a standard length of 1,22 m / pcs, with the possibility to be cut in other lengths on request, and the medium wall without adhesive can be supplied on reel.

The cutting of tubes according to a requested length must be done with a sharp tool, and the front surface of the cut part should be equal, smooth, without burrs, etc.

On special demand, we can make tubes with custom diameters and insulation properties.

### Shrink temperature

Minimum shrink temperature is between + 65°C to + 360°C depending on material of the tubing.

Pay attention for overheating the tube.

### Storage

Based on the test result we guarantee more than 10 year's shelf life for our heat shrinkable products in the storage condition of cool, dry and away from sunlight.

The recommended storage condition is -10°C to +40°C and maximum 75% relative humidity.

*We certify that the values provided are as accurate as possible. Use of these values, however, remains the sole responsibility of the customer and cannot in any way substitute for testing the product under real conditions of use. The user must assess whether this product is suitable for a particular use. KACAB shall not be held responsible for any loss or anomaly resulting from the correct or incorrect use of this product.*