

## BASICS OF HEAT SHRINK TECHNOLOGY

Cross-linked polymers appear quite similar to the uncross linked material at room temperatures. But as the temperature is raised, the cross linked-product do not melt like their ordinary counterparts. They softens and become "rubbery". In this condition, they can be stretched. If cooled in this stretched form, heat shrink products retain the stretched shape.

## USING HEAT SHRINK PRODUCTS.

It is in this stretched shape that users receive heat shrink products.

On re-heating, the stretch forces are released and the product "recovers". Most applications require the product to have been stretched in diameter during manufacture and to reduce in diameter, or "shrink" during application of heat by the user.

## LIMITS OF SHRINKING

It must be understood that "heat shrink" products will not "shrink" to an unlimited degree. These will only "recover" to the un-stretched size. Although the commonly available shrink ratio of 2:1 and 3:1 is generally adequate, proper size selection is necessary, as in pre-engineered cable jointing "kits".

A general thumb rule is to have the supplied diameter 10% more than the largest diameter to be covered. And the fully recovered diameter should be 10% smaller than the smallest diameter to be covered.

## ADVANTAGE OF HEAT SHRINK

Heat shrink technique is only a method of installation. Although a very convenient method, the use of heat shrink materials has no correlation with material properties such as dielectric strength, tensile strength etc. These must be separately evaluated.

## QUALITY OF HEAT SHRINK

The frequently asked question "Is heat shrink technique better than method Y" therefore has an answer limited to ease of installation. Performance and durability can only be known after evaluating other material properties - electrical & mechanical - which can and do vary considerably.

*This note explains the phenomenon of heat shrink as used in cable jointing kits. Some guidelines for choosing the correct size are also given.*