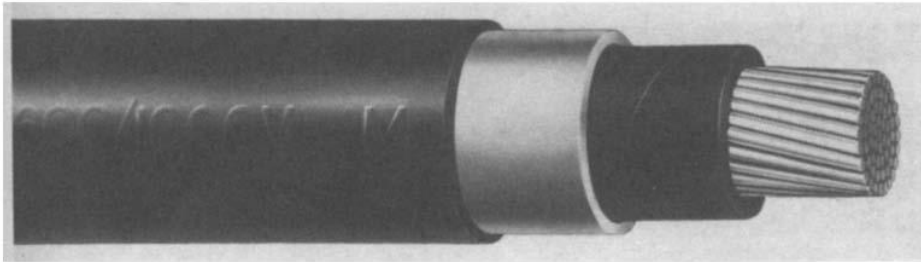
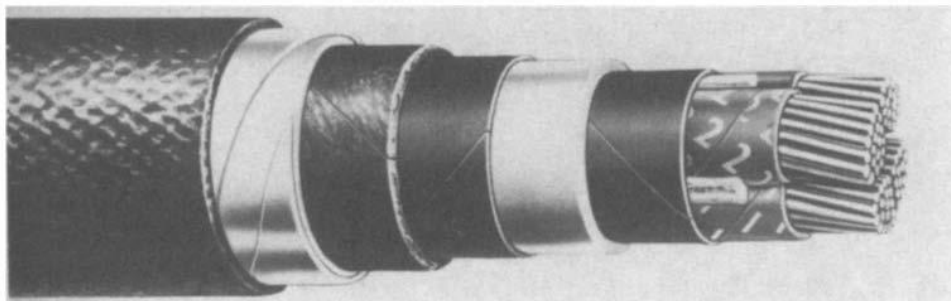


3.3 Paper Insulated Distribution Cables:

- The insulation consists of helically applied paper tapes with a small gap between turns
- The registration of tapes in relation to each other is important to avoid successive butt gaps in a radial direction
- When cables are bent for drumming and laying, the paper tapes have to slide over each other without undue creasing, wrinkling or tearing and are therefore applied with a gap between turns.
- For bending reasons the mechanical design requirements are as important as electrical aspects in relation to insulation thickness, certainly for low voltage cables.
- These mechanical requirements cover such features as the angle and lapping tension during paper application
- The conductors in multicore cables are usually sector shaped up to 11 kV and oval for 33 kV. Solid aluminium is used extensively at 1 kv



Belted construction:



- The cable design with a 'belt' of insulation over the laid-up cores is the most economical in terms of total material cost. Such cables are nearly always used up to 6.6 kV and are the most common type at 11 kV.
- The spaces between the cable cores under the belt are filled with jute or paper.
- the main insulation consists of paper tapes precisely applied, the filler insulation has to be softer and less dense so as to be compressed into the space available and is weaker electrically.
- Stresses in the fillers have to be limited to an acceptable level and therefore belted cables are not generally used at voltages greater than 11 kV.