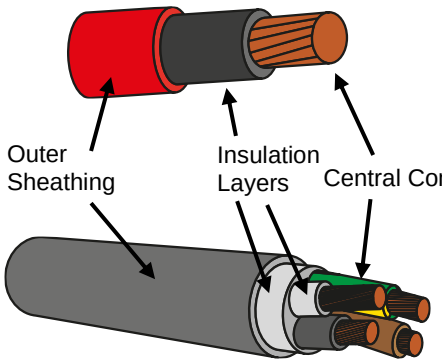
RENEWABLES INSURANCE WEEKLY MINI-SERIES EPISODE 8: SOLAR CABLING



DC String Cabling: Joins solar panels together above ground. Smallest cabling: usually 2.5mm-6mm

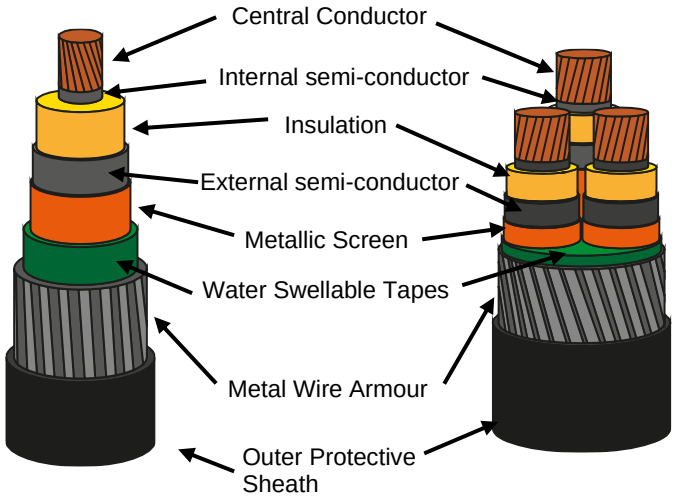
LV Cabling

AC LV Cabling: 3 phase cabling, here with green-yellow earth core. Larger than string cabling, buried underground.

XLPE (cross-linked polyethylene) is common material for cable insulation.

Central conductors can be copper or aluminium. Copper is a more efficient electrical current conductor but is more expensive & thus also more attractive to thieves.

Cable structure & composition varies with voltage but also varies with different manufacturers/ models, and can vary regionally.



MV Cabling: Three single core cables or one three-core cable

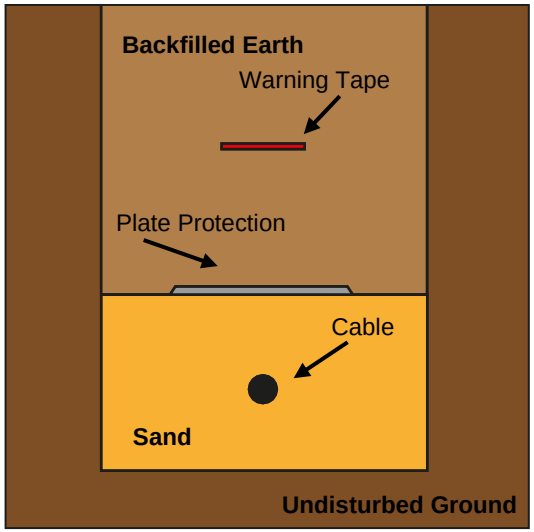
Jointing allows cable repair without complete re-laying however it can create weak-points susceptible to failure & create inefficiencies. Cables can only be jointed a limited number of times.

Some joints types are constructed to be submersible so are more robust against water ingress.

AC (alternating current) is generated and transmitted in three phases.

Cable Trenching

The cable is laid directly in the earth in this diagram but cables can also be laid within ducting.

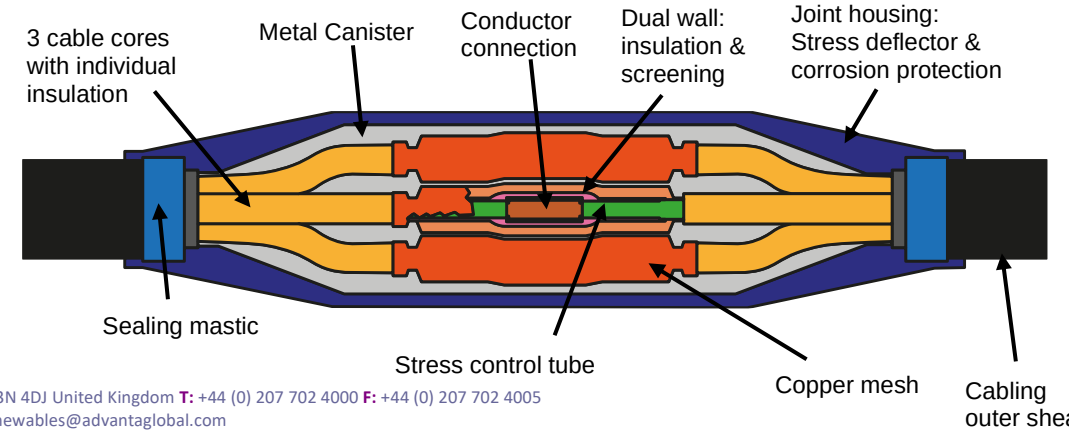


Cables are often laid manually but there are also cable laying machines – contractor experience using these is key!

Many cable losses we see are a result of contractor error in installation.

Jointing structure varies. Two main types are heat-shrink (shown here) & cold shrink.

Cable Jointing: Here a cross section of a three core joint shown



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