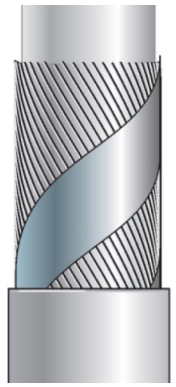
TYPES OF ARMOR

WHAT IS THE DIFFERENCE BETWEEN AWA AND SWA CABLE?

Aluminum wire armor (AWA) is used in single core cables because it is non-magnetic. When an electric current passes through a wire, it produces a magnetic field (the higher the voltage, the greater the field). The magnetic field will induce an electric current in the steel armature (eddy current), which can cause overheating in AC systems. The non-magnetic aluminum armor prevents this from happening. Both AWA and SWA cables meet the requirements of BS6724.

A galvanised round steel wire braid
F galvanised round steel wires
N galvanised steel tape



SWACS
Steel Wires + Counterspiral Steel Tape Armour

SWA
Single Layer of Galv. Steel Wire Armour

STA
Steel Tape Armour

SWB
Steel Wire Braid

ARMOR

The main function of the armor is to mechanically protect the cable from shocks, abrasions, crushing, rodents and to give greater tensile strength to the cable during laying operations.

This cable protection is also essential in ATEX explosion risk plants, especially for the EExd version where accidental breaking of the cable in the dangerous area could cause dangerous sparks.

The reinforcement is also used in "general purpose" systems for outdoor installation when it is preferable to save on assembly systems.

The solutions are various according to the application.

SWB

- Braided armor of galvanized iron wires.
- Light armor which gives the cable a good tensile strength and good protection against rodents (over 80% coverage), furthermore it allows for a small bending radius and good flexibility.

SWA

- Armor bundle of galvanized iron wires.
- Heavy armor suitable for heavy use with excellent resistance to traction, rodents (over 90% coverage), crushing, has a moderate radius of curvature and flexibility.
- It is usually made with a bundle of wires with an elementary diameter of 0.9mm to 2.00mm with heavy PET tape wrapped over it.
- In case of even heavier use, a galvanized iron tape can be wrapped over the bundle of wires.

DSTA

- Double tape armor of galvanized iron.
- Heavy armor with excellent resistance to crushing, shocks and rodents (over 120% coverage).
- It is not suitable where tensile strength is required or where a tight bend radius and some flexibility are needed.