LINK BOXES
FOR HIGH VOLTAGE CABLE SYSTEMS
Link Box is the main line of production...

EM Elektirik has a wide technical engineering background in developing and producing Link Boxes for high voltage cable systems. Link Box is the main production activity of EM Elektirik, which have supplied many Link Boxes to clients all over the world.

Beside our standard types of Link Boxes, can be developed and offered different types of Link Boxes according to customer requirements. (Tailor Made)

EM Elektirik can show with customers, his experience know-how, consultancy and commit to work towards the optimal solution. Reliable service and high quality, fast and flexible response, are the other company values of EM Elektirik.

What is the function of Link Box?

Link Box is electrically and mechanically one of the integral accessories of HV underground/above ground cable bonding system, associated with HV XHV power cable systems.

Briefly, the bonding system is so designed that the cable sheaths are bonded and earthed or with SVI in such way as to eliminate or reduce the circulating sheath currents. Link Boxes are used with cable joints and terminations to provide easy access to shield breaks for test purposes and to limit voltage buildup on the sheath. The Link Box is part of bonding system, which is essential of improving current carrying capacity and human protection.

Bonding diagram

1- Single Bonding Diagram
The simplest form of special bonding consists in arranging for the sheaths of the three cables to be connected and grounded at one point only along their length. At all other points, a voltage will appear from sheath to ground that will be a maximum at the nearest point from the ground bond. The sheaths must be adequately insulated from the ground. Since there is an opened shield circuit, [except through the sheath voltage limited] current does not normally flow longitudinally along the sheaths and no sheath circulating current loss occurs.

2- Cross Bonding And Transposition
Cross bonding consists essentially in sectionizing the sheaths into minor sections and cross connecting them so as to approximately neutralize the total induced voltage in three consecutive sections as shown below.
Link box design classification

- A-type (4-style):
  - Carbonated metal (W) (100)
  - Carbonated metal (W) (200)
  - U-shaped metal (W) (200)

- B-type (6-style):
  - Carbonated metal (W) (100)
  - Carbonated metal (W) (200)
  - U-shaped metal (W) (200)

- C-type (6-style):
  - Carbonated metal (W) (100)
  - Carbonated metal (W) (200)
  - U-shaped metal (W) (200)

Surge arresters: Shielded voltage limiters (SVL)

SVL is a protective device that reduces voltage surges on the loaded cable system due to short circuits. It is necessary to apply this device after the Surge Absorber, and it protects the equipment against overvoltages. After applying this device, it is necessary to apply the Surge Absorber. The device is a combination of a surge arrester and a ground voltage limiter. Its surge absorption capacity is 20 ka (2500 A, 8/20us) and the ground voltage capacity is 30 ka (500 A, 10ka).

There are two types of surge arresters, surge limiting type and surge protective type, which can be supplied from different manufacturers such as IEC, K Industries.