

Technical Bulletin

Condumex manufactures TRXLPE cables up to 230KV conforming to AEIC and ICEA standards.

Condumex has a CCV line with a Single point triple extrusion and computerized sophisticated control and monitoring systems. The CCV line and PLCV lines in Condumex's plant are complete with heavy duty machines for wire drawing and conductor making, laying up, armoring, and packing.

The process commences with a compacted circular conductor being fed from the pay off stands into the extruder on an elevated platform. The conductor passes through extruder's crosshead, it is covered first with semi-conducting strand shield, then the XLPE insulation, followed by the semi-conducting Auxilliary Insulation Shield, Plain Bare Copper Tapes Shielding, Mylar Separator Tape and Overall PVC Jacket. This cross head is set up to extrude three different compounds simultaneously.

Thereafter, the extruded core enters and passes through the vulcanizing line known as the CCV line (Continuous Catenary Vulcanizing) and the XLPE insulated core is cured in the process. In the CV line inert atmosphere is maintained by the Nitrogen gas which is at high pressure and high temperature.

This process is popularly known as **Single point Triple extrusion CDCC (Completely Dry Cured and Cooled Curing) Process.**

Over the cured core a Copper or Aluminum Tape Shield is provided by lapping of Copper tapes or for special requirements a layer of Copper wires is provided. Core is tested for Partial Discharge and then as per requirement; the cores are laid up with fillers, provided with inner sheath, armored and Jacketed. The Jacket can be of PVC, HDPE, FRLS, ZHFR compound.

Condumex's manufacturing plant and process ensures great XLPE cables for the new age Power sector and industry. Our modern plant takes full advantage of the new generation XLPE compounds which offer fast curing and superior electrical parameters, dimensional control and higher productivity.

Triple Extrusion and CDCC process ensure contamination free cores. All three layers are bonded and core has least eccentricity and ovality. Insulation itself is free of micro voids and with negligible moisture content.

To control the manufacturing process, the line has been provided with many sophisticated instruments and servo controls all monitored by the computer. Important systems are:

- » **X Ray Non touch sensors of SIKORA** make for thickness and dimensional control. This system continuously measures the dimensions of insulated cores. Unit has capability to measure multilayer dimensions in all directions and record and analyze the data on line.
- » **CCV tube has a Touch Less Sag control system.** This ensures no marks/lines on core unlike older lines.
- » **Computerized control system** ensures optimum efficiency, fast start up, synchronized operations of compound feeds, three extruders, CCV line gas temperature zones, pay off and takeup.

Nevertheless Condumex XLPE cables compare better than those produced with older plants when checked for Microvoids, Moisture content, PD levels, dielectric strength.

Condumex has strict Quality plan and fully equipped Testing laboratory to ensure cables of best quality are produced as per the design and specifications prescribed. Cables have been type tested as per applicable AEIC and ICEA standards.

Inventory and production plans are controlled by BANN ERP system. This ensures reliable and prompt delivery and operational efficiency.

Condumex offers variety of designs to suit different installations viz. Aerial Bunched cables, Water tight construction, Aluminum or Galvanized Steel Interlocking Armor.

Condumex has many satisfied customers from many countries and diverse industry.