SOUTHWIRE SOLUTIONS FOR HIGH VOLTAGE UNDERGROUND

CABLES

- XLPE Cables 69 through 230kV with Copper and Aluminum conductors through 4,000 kcmil
- Concentric neutrals, welded and corrugated sheathes in Copper or Aluminum and composite laminate sheathes in Copper or Aluminum cover all applications
- XLPE cables through 345 kV with cross sections up to 5,000 kcmil on special request
- Southwire has supplied over four million feet of HV cable to customers in North America
- We offer many options such as integrated or external optical fiber for distributed temperature sensing, fire retardant cable jackets and cables with the highest fault current ratings
- Special executions include long lengths and pipe retrofit cables

SERVICES

- Feasibility studies and conceptual engineering
- Ampacity Studies
- Detailed underground system design
- Pulling calculations
- Cable pulling
- Splicing and terminating services
- Sheath bonding and grounding
- Commissioning, testing
- AC Resonant and PD testing
- Construction Management
- Full turnkey projects including civil works
- Maintenance
- Fault location
- Emergency and repair services

ACCESSORIES

- Our accessories for HV cable use premolded LSR stress cone technology throughout, made by nkt cables in Germany
- Outdoor terminations with porcelain or silicone rubber composite insulators
- GIS and Transformer terminations to IEC 60859
- Dry “Plug and Socket” compact switchgear and transformer terminations through 145 kV
- Premolded cable splices
- Splice options include shield breaks, metal casing, DTS fiber integration, capacitive PD detection ports, bolted or compression connectors and cable size transition
- Transitions between different cable insulation types are available

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HTS Triax®
Superconducting Cable

MORE POWER TO MORE PEOPLE

HTS Triax® Superconducting Cable is Southwire’s unique and proprietary cable design. The Triax cable locates the three electrical phases and neutral conductor concentrically on a single core. This design drastically reduces material usage and cooling requirements of the system, and therefore cost. Applications for this advanced technology address right of way and substation congestion constraints in many of today’s urban environments.

COMPACT DESIGNS
HTS Triax allows for a retrofit of existing underground pipe and duct systems to increase power delivery, as well as reduced substation footprint in dense urban areas.

ELIMINATE EMF
HTS Triax cable is fully shielded.

THERMAL INDEPENDENCE FROM SURROUNDING ENVIRONMENT
HTS cables utilize high performance thermal insulation to maintain operating temperatures of -200°C. This isolates the cable from the surrounding environment and eliminates the need to special back-fill.

5X CURRENT CARRYING CAPACITY OF COPPER CABLES
HTS Triax operates at extremely high currents in normal, steady state conditions.

ENVIRONMENTALLY FRIENDLY COOLING MEDIUM
Liquid nitrogen cooling fluid is non-toxic and environmentally friendly.

DISTRIBUTION SUBSTATIONS TOGETHER ON LV SIDE OF TRANSFORMER
HTS cables at MV can easily carry full station load (80-150 MW) at steady state operation. Benefits include increased asset utilization (share transformer capacity between distribution substations) and increased meshing of distribution grid in dense urban areas.