

ACCC[®]

***HIGH PERFORMANCE CONDUCTORS
FOR A LOW CARBON WORLD™***

- Fastest and Most Cost-Effective Way to Increase Line Capacity
- Achieve Sustainability & Decarbonization Goals
- Improve Reliability & Resilience

ACCC® Conductor Benefits

Fastest and Most Cost-Effective Way to Increase Line Capacity

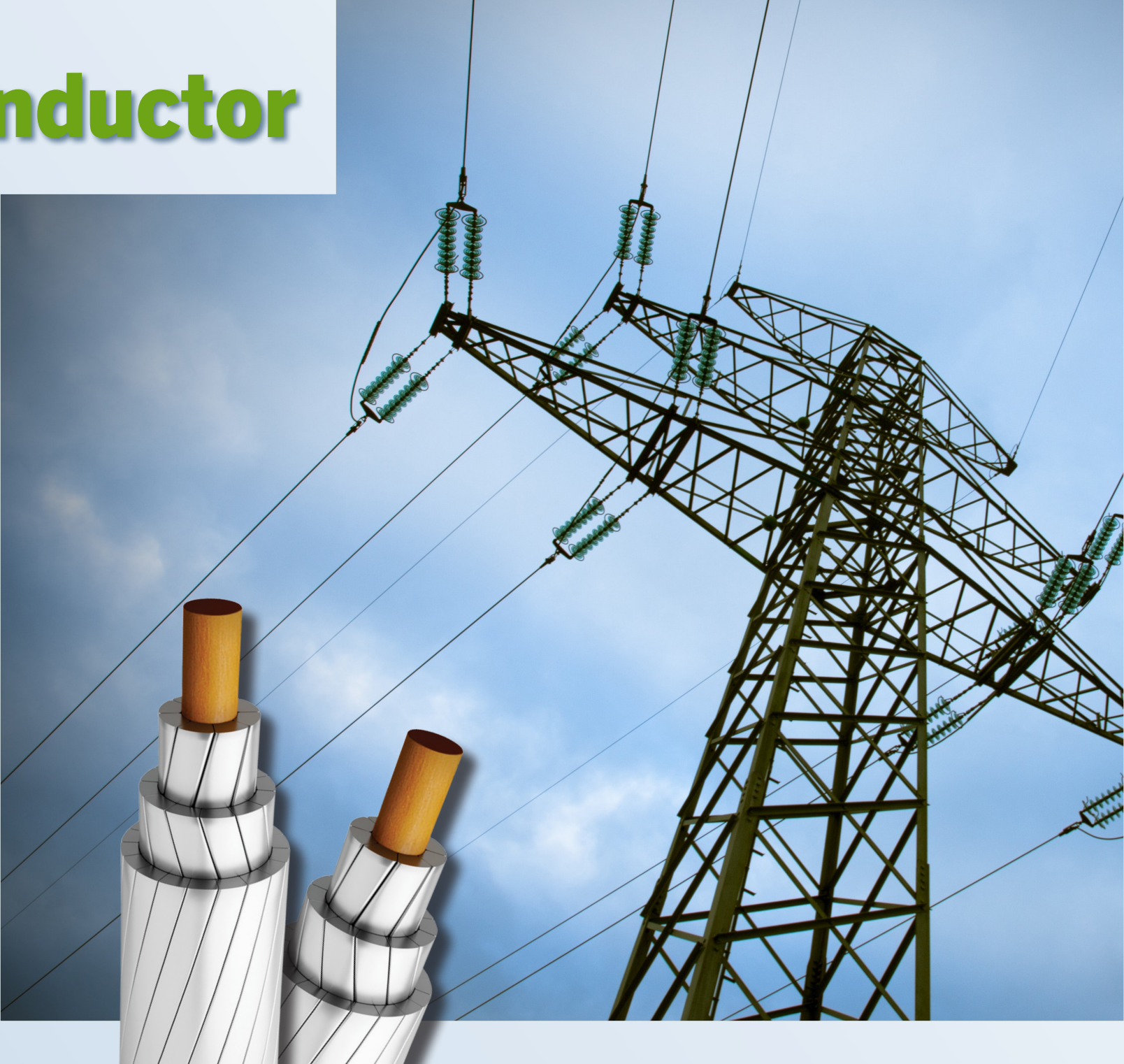
Reconductoring reduces permitting challenges and the need to replace existing structures, which saves time and money. The ACCC® Conductor can carry twice the current capacity and reduces line loss by ~30% compared to conventional ACSR conductors. Reconductoring rapidly provides substantial power line capacity increase at the lowest cost.

Achieve Sustainability And Decarbonization Goals

The ACCC® Conductor is the most energy efficient conductor on the market today. Its lighter weight composite core enables the use of nearly ~30% more aluminum. The added aluminum content reduces electrical resistance and line losses by ~30%. Reduced line loss reduces fuel consumption and associated emissions while freeing up generation capacity otherwise wasted. Use of ACCC® Conductor is helping reduce GHG emissions, globally, at an impressive rate.

Improve Reliability & Resilience

The ACCC® Conductor's high-capacity, high-strength, low-sag, and resistance to corrosion and fatigue performance are proven to increase grid reliability and resilience. Reduced sag reduces the likelihood of sag-trip outages and wildfires. High capacity can allow grid operators to reroute power through ACCC® Conductors during emergency conditions, and the composite core is so strong, it has survived direct strikes from tornado debris and hurricane force winds.



Did you know that the ACCC® Conductor Reduces Line Losses by ~30% compared to legacy ACSR and AAAC conductors of the same diameter and weight?

Reducing line losses reduces fuel consumption and associated greenhouse gas emissions. It also frees-up generation capacity otherwise wasted while helping reduce energy costs.

ACCC® VS CONVENTIONAL CONDUCTORS WITH THE SAME OVERALL DIAMETER AND WEIGHT

Data is representative of standard Drake size conductors at maximum recommended operating temperature



ENVIRONMENTAL CONDITIONS ASSUMED ARE BASED ON IEEE 738, WHICH ARE:

Ambient Temp = 25 deg C
Wind Speed = 2 ft./sec
Sun Radiation = 96 Watt/ft2

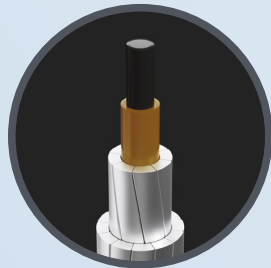
Elevation = 0
Solar Absorptivity = 0.5
Emissivity = 0.5



SCS Global Certification

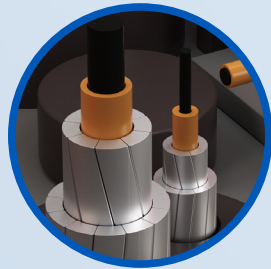
SCS Global Services (SCS) is a trusted, neutral global leader with more than three decades of experience in third-party environmental, sustainability and certification, auditing, testing and standards development. SCS verifies that the ACCC® Conductor reduces CO2 emissions associated with transmission line losses significantly compared to ACSR on a project by project basis.

Conductor Options



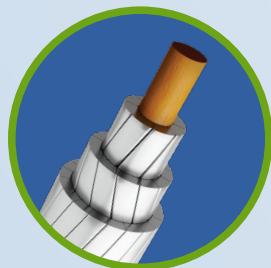
ACCC® CONDUCTOR

ACCC® (310 ksi core) uses aerospace grade carbon fiber with boron-free glass fibers and Type 1350-0 fully annealed aluminum. Excellent strength and conductivity (63% IACS)



ACCC® ULS CONDUCTOR

ACCC® ULS (375 ksi core) offers increased strength and higher modulus with 63% IACS aluminum.



ACCC® AZR CONDUCTOR

ACCC® AZR (310 ksi core) uses aluminum zirconium alloy to increase overall conductor strength.



ACCC® ULS AZR CONDUCTOR

ACCC® ULS AZR uses 375 ksi core and stronger aluminum zirconium alloy for greatest overall strength. These designs are very well suited for extreme spans and extreme ice load conditions

ACCC® InfoCore™ System

The ACCC® InfoCore™ System reduces real-world conductor installation risk experienced by utilities, contractors and linemen across the globe. These dedicated professionals know that even with the best tools, equipment and field conditions, challenges are commonplace.

By using a proprietary infrared light system, special fibers in the core, and a robust data-capture and recording methodology, the ACCC® InfoCore™ System can confirm the integrity of the conductor in minutes. While not mandatory, this capability serves to improve reliability and confidence. The system is capable of confirming very long continuous spans and is currently being utilized globally.

Case Studies

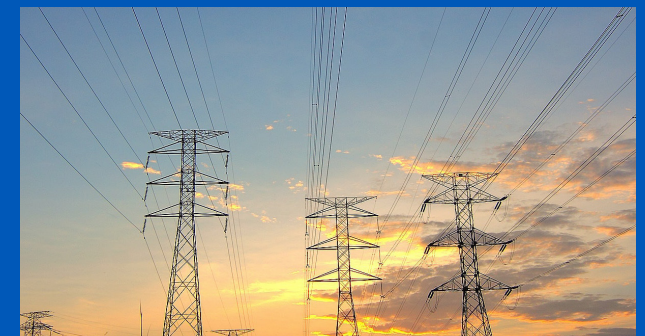


#1 RECONDUCTOR PROJECT

A major California Utility selected ACCC® Conductor to increase the capacity and mitigate sag infractions on their double circuit 230 kV Vestal to Magunden lines in the Big Creek Transmission Corridor. Reconductoring with ACCC® Conductor reduced construction time from an estimated 48 months to 18 months — freeing up their resources and crews to focus on other projects. This reconductor project increased line capacity from 936 amps to 1,520 amps and saved an estimated \$85 million dollars vs rebuild with conventional / larger conductor.

#2 SOLAR TIE LINE

Located in the State of Aguascalientes, Central Mexico, the Cubico Alten Solar PV facility grew from 290 to 540 MW. To enable the added capacity to connect with CFE's grid, Cubico replaced the existing 795 kcmil Drake size ACSR conductor with 812 kcmil Grosbeak size ACCC® Conductor. The high efficiency ACCC® Conductor also enabled more MWh to be delivered to the grid.



#3 PROVEN RESILIENCE

Picked up by the winds of an EF-5 tornado, an oil tank slammed into the side of a 125 foot tall steel monopole knocking it over to a 45 degree angle. The shockwave snapped the conductive strands of the ACCC® Conductor. Fortunately the high-strength composite core was undamaged, which allowed four men in two bucket trucks to quickly splice in a 15 foot section of ACCC® Conductor and quickly put the line back in service.

Why CTC Global?



Quality

Literally, the inventors of the advanced conductor market segment, CTC Global offers the highest performing, highest quality, and most proven composite core on the market today. While others talk, CTC delivers.



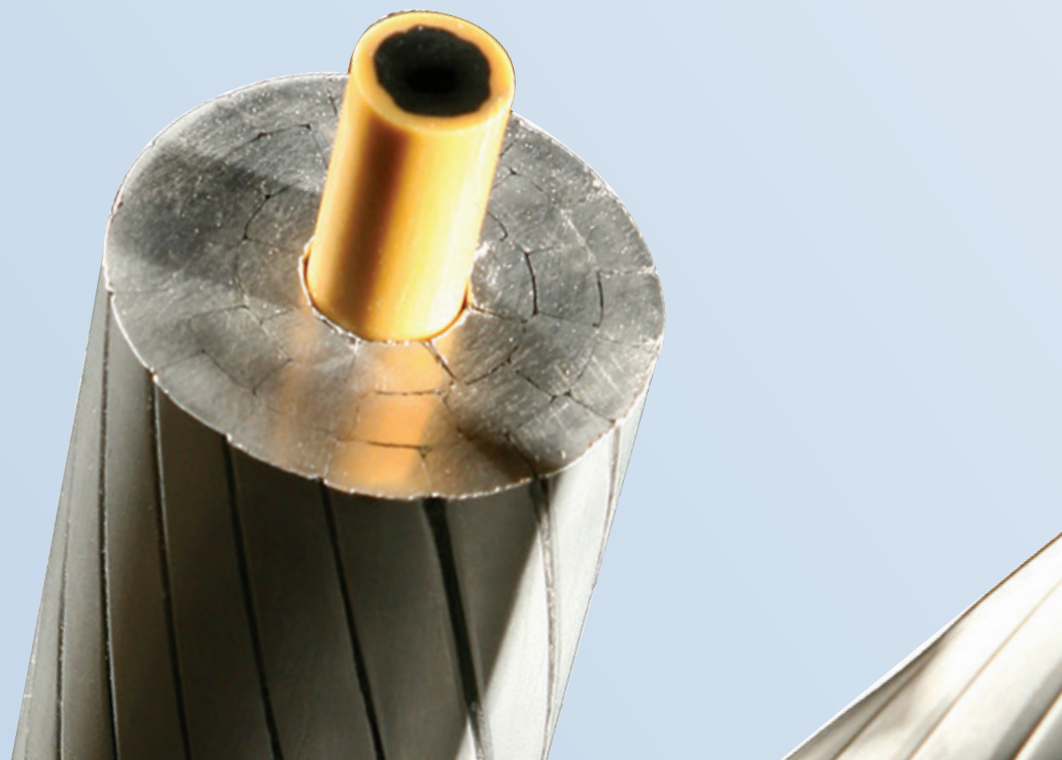
Innovation

Founded nearly 20 years ago by a team of composite, energy, communication, and aerospace engineers, CTC Global continues to raise the conductor performance bar and pave the way for continued product innovation.



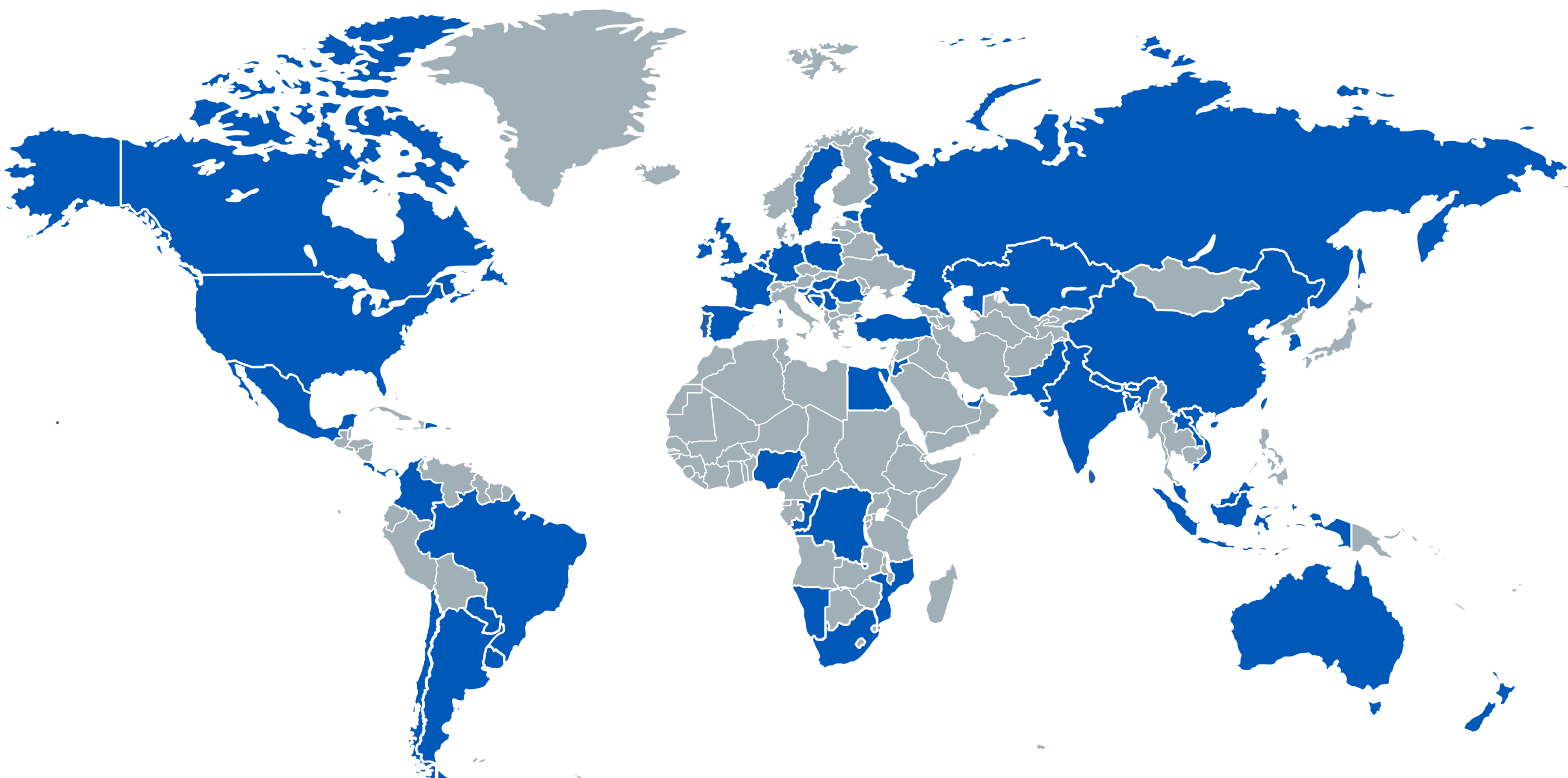
Experience & Support

Experience extends from the lab to the field and with more than 1,000 projects completed in over 60 countries our team has learned and strives to share a lot. At any given time, we support well over 50 active / queued up projects with professionalism and precision. Our application engineering, manufacturing, logistics and installation teams work around the clock to help you complete your project successfully.



ACCC® Conductor

Selected by more than 250 Utilities in 60+ countries to improve the efficiency, capacity, reliability and resilience of more than 1,000 transmission projects worldwide



CTC GLOBAL PROUDLY WORKS WITH MORE THAN 50 AUTHORIZED AND QUALIFIED CONDUCTOR AND HARDWARE MANUFACTURING PARTNERS, WORLDWIDE.

CTC GLOBAL

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