

# OKONITE

## WIND ENERGY

### CABLES



**THE  
OKONITE  
COMPANY**

*Setting the Standard in Quality Since 1878*

## WIND ENERGY IS EXPANDING

Due to aggressive renewable energy targets, Wind Energy generation is growing rapidly. Today, Wind Energy accounts for almost 10% of total utility-scale electric production in the U.S., making Wind Farms a critical part of the energy infrastructure. As this segment of the total electric production grows, so will the need for system reliability.

## YOU KNOW OKONITE

The same company that has served the utility generation market since 1878 is ready to serve your Wind Energy needs. When Thomas Edison selected Okonite Cable for the very first generating station on Pearl Street, New York City, to today with new State-of-the-Art nuclear plants, Okonite has stood the test of time.

## OKONITE QUALITY

Within the industries we serve, Okonite is considered to be the premium quality cable available on the market. This comes from years of innovation, proven reliability, and a determination to get it right the first time. Maybe that is because Okonite is an employee owned ESOP company where everyone is part of the products and solutions we provide.

During our historic legacy we have led the industry in innovations, research, and plant modernizations.

## OKONITE RELIABILITY

Okonite has been the cable standard for all the past modes of power generation - wind generation requires the same cable reliability. Okonite's Okoguard all EPR insulation system has now performed in the most demanding environments since 1967. Okoguard is the insulation system that is qualified to operate continuously at 105 °C conductor temperature. Will your cables be able to continuously conduct power to the grid under a variety of conditions including the Perfect Wind, when all turbines are producing maximum output and all cables are fully loaded?

Ironically, cable is the longest link with the highest exposure between the power source and the point of power delivery (the grid), yet a small percent of the project cost. Wind Farms deserve the same Okonite Quality Cables as all other forms of generation.

## TECHNICAL SUPPORT

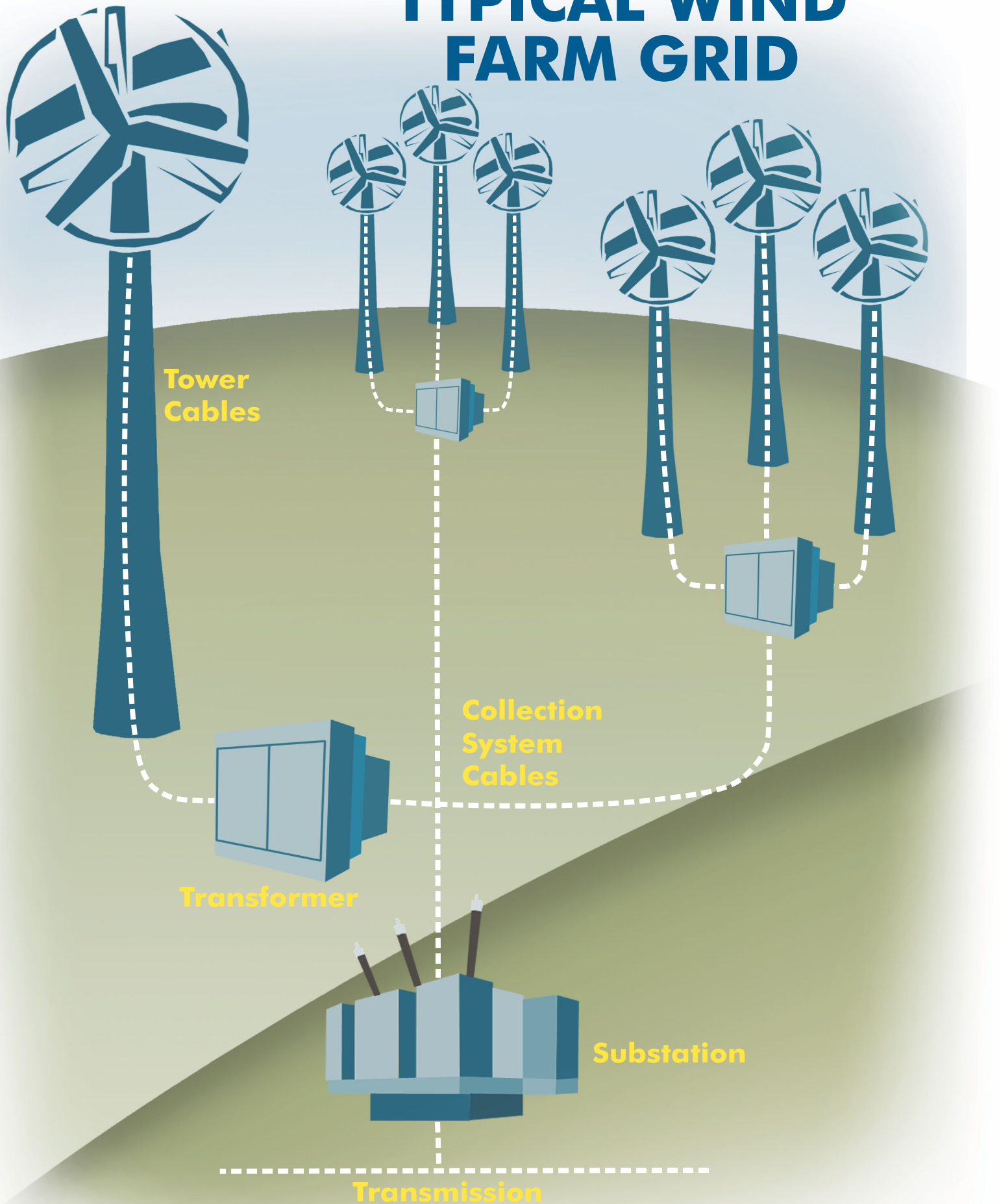
Our in-house staff of expert Applications Engineers provide a valuable service to assist customers with cable related issues. Training, on-site support, and technical support are all available. Cable design, electrical, and installation calculations are gladly provided as part of our total service and support package.



# YOUR WIND ENERGY CABLE SOURCE

	Cable Type & Voltage Range	Product Line	Insulation & Jacket Types	Industry Standards	Listings
Tower Cables					
Medium Voltage Power	1/C & M/C Power 2.4 - 35kV	Okoguard/Okoseal	EPR/PVC	UL, CSA, NEMA/ICEA, AEIC, IEEE	MV-105
		Okoguard/Okolon	EPR/CPE		CT-USE
		CLX®	EPR/PVC		MC-HL (CLX only)
Low Voltage Power	1/C & M/C Power 600V & 2kV	Okoguard/Okolon	EPR/CPE	UL, CSA, NEMA/ICEA	RHH, RHW-2, USE-2, RW-90
		Okonite-FMR/Okoseal	EPR/PVC	UL, NEMA/ICEA, cUL	TC-ER
		X-Ofene-Okoseal CLX®	XLPE/PVC XLPE/PVC	UL,NEMA/ICEA, cUL UL, CSA NEMA/ICEA	TC-ER MC-HL, RA-90
		Okonite-FMR/Okolon	EPR/CPE	UL NEMA/ICEA	TC-ER
Control Cables	Multi-Conductor 600V	Okonite-FMR/Okoseal	EPR/PVC	UL, cUL NEMA/ICEA	TC-ER
		X-Ofene/Okoseal CLX®	XLPE/PVC XLPE/PVC	UL,NEMA/ICEA, cUL UL,CSA NEMA/ICEA	TC-ER MC-HL, RA-90
Collection System Cables					
Medium Voltage Power	1/C URD Cables  15 - 35kV 1/C & M/C Power 2.4 - 35kV	Okoguard URO-J 105°C	EPR/PE	ICEA, AEIC, CSA  UL, CSA  NEMA/ICEA  AEIC, IEEE	105°C  MV-105  CT-USE  MC-HL (CLX only)
		Okoguard/Okoseal	EPR/PVC		
		Okoguard/Okolon	EPR/CPE		
		CLX®	EPR/PVC		
Low Voltage Power	1/C & M/C Power 600V & 2kV	Okoguard/Okolon	EPR/CPE	UL, CSA, NEMA/ICEA	RHH, RHW-2, USE-2, RW-90
		Okonite-FMR/Okoseal	EPR/PVC	UL NEMA/ICEA, cUL	TC-ER
		X-Ofene/Okoseal	XLPE/PVC	UL,NEMA/ICEA, cUL	TC-ER
		CLX®	XLPE/PVC	UL, CSA NEMA/ICEA	MC-HL, RA-90
Substation & Transmission Cables					
High Voltage Cable	Okoguard 69 - 138kV	Okoguard/Okoseal	EPR/PVC	ICEA, AEIC	105°C
Medium Voltage Power	1/C URD Cables  15 - 35kV 1/C & M/C Power 2.4 - 35kV	Okoguard URO-J 105°C	EPR/PE	ICEA, AEIC, CSA	105°C
		Okoguard/Okoseal	EPR/PVC	UL, CSA	MV-105
		Okoguard/Okolon	EPR/CPE	NEMA/ICEA	CT-USE
		CLX®	EPR/PVC	AEIC, IEEE	MC-HL (CLX only)
Submarine Power Cable	5 - 35kV	Okoguard Submarine Cable	EPR/PE, EPR/PVC	NEMA/ICEA, AEIC	105°C

# TYPICAL WIND FARM GRID





# MANUFACTURED WIND CABLES

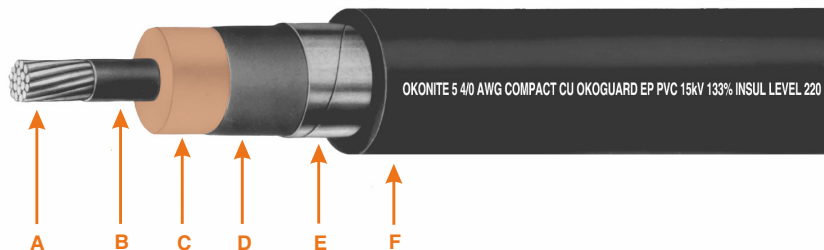
## Okoguard®-Okoseal® Type MV-105

### 15kV Shielded Power Cable

One Okopact® (Compact Stranded) Copper Conductor/105°C Rating

100% and 133% Insulation Level

For Cable Tray Use-Sunlight Resistant



- A Uncoated, Okopact (Compact Stranded) Copper Conductor
- B Strand Screen-Extruded Semiconducting EPR
- C Insulation-Okoguard EPR
- D Insulation Screen-Extruded Semiconducting EPR
- E Shield- Copper Tape
- F Jacket-Okoseal

## Okoguard®-Okoseal®

### 69kV-138kV Shielded Power Cable

Conductor/105°C Rating — 100% Insulation Level



- A Uncoated, Okopact (Compact) or Compact Stranded Copper or Aluminum Conductor
- B Strand Screen-Extruded Semiconducting EPR
- C Insulation-Okoguard EPR
- D Insulation Screen-Extruded Semiconducting EPR
- E Shield- 5 Mil Uncoated Copper Tape
- F Jacket-Okoseal

\* Okolon CPE Jacket is also available

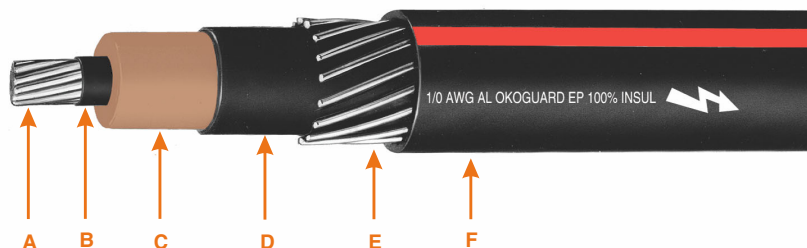
## Okoguard® URO-J

### 35kV Underground Primary Distribution Cable-Jacketed

#### Red Identification Stripes

Aluminum Conductor/105°C Rating

100% and 133% Insulation Levels



- A Conductor-Stranded Aluminum or Copper
- B Strand Screen- Extruded Semiconducting EPR
- C Insulation-Okoguard EPR
- D Insulation Screen- Extruded Semiconducting EPR
- E Concentric Conductor-Bare Copper Wires
- F Encapsulating Jacket-Okolonene with three extruded red ID stripes and NESC lightning bolt

\* XLPE Jacket is also available

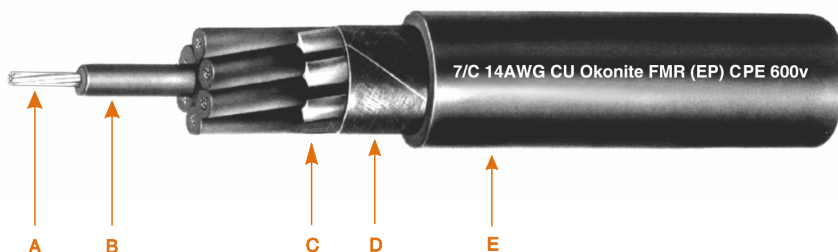
## Okonite-FMR® Okolon® Type TC Cable

### 600V Power and Control Tray Cable

Multiple Copper Conductors with or Without

Grounding Conductor/90°C Wet or Dry Rating

For Cable Tray Use - Sunlight Resistant - For Direct Burial



- A Stranded Copper Conductors
- B Okonite-FMR Insulation
- C Fillers, as necessary
- D Binder Tape
- E Black Okolon Jacket

\* Okoseal PVC Jacket is also available

### District Offices, Manufacturing Plants & Service Centers

#### Manufacturing Plants



Orangeburg, SC - Compound Facility



Orangeburg, SC - Manufacturing Plant



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