

YOUR SOLAR ENERGY CABLE SOURCE

Collection System Cables					
Medium Voltage Power	15 - 35 kV 1/C URD Cables 2.4 - 35 kV 1/C & M/C Power	Okoguard URO-J *	EPR/PE	ICEA/NEMA, AEIC	105°C
		Okoguard/Okoseal	EPR/PVC	UL, CSA	
		Okoguard/Okolon TS-CPE	EPR/TS-CPE	NEMA/ICEA	CT-USE, MV-105
Low Voltage Power	1/C & M/C Power 600 V & 2 kV	Okoguard-CLX-Okoseal	EPR/PVC	AEIC, IEEE	MC-HL (CLX only)
		1/C Okoguard/Okolon TS-CPE	EPR/TS-CPE	UL, CSA, NEMA/ICEA	RHH, RHW-2, RW-90 USE-2, VW-1
		M/C Okonite-FMR/Okoseal	EPR/PVC	UL, ABS, NEMA/ICEA	TC-ER, VW-1
		M/C X-Olene/Okoseal	XLPE/PVC	UL, NEMA/ICEA	TC
PV Cable	1/C X-OLENE UV FMR	M/C X-Olene-CLX-Okoseal	XLPE/PVC	UL, CSA, ABS, NEMA/ICEA	MC-HL, RA-90, HL, CWCMC
			XLPE	UL/ICEA	PV, RHH, RHW-2, VW-1, -40C
Substation & Transmission Cables					
High Voltage Cable	Okoguard 69 kV	Okoguard/Okoseal	EPR/PVC	ICEA, AEIC	105°C
Medium Voltage Power	15 - 35 kV 1/C URD Cables 2.4 - 35 kV 1/C & M/C Power	Okoguard URO-J *	EPR/PE	ICEA/NEMA, AEIC	105°C
		Okoguard/Okoseal	EPR/PVC	UL, CSA	MV-105
		Okoguard/Okolon TS-CPE	EPR/TS-CPE	NEMA/ICEA	CT-USE
		CLX®	EPR/PVC	AEIC, IEEE	MC-HL (CLX only)

*Also available as UL & CSA listed at 90°C rated cables.
Contact your local Okonite Sales Office for additional information.

Okonite also manufactures a full line of Instrumentation, Power & Control cables.



Okonite Cables Facilities Overview

District Offices, Manufacturing Plants & Service Centers

Manufacturing Plants



Orangeburg, SC - Compound Facility



Orangeburg, SC - Manufacturing Plant



Richmond, KY - Manufacturing Plant



Santa Maria, CA - Manufacturing Plant



Cumberland, RI - Manufacturing Plant



Paterson, NJ - Manufacturing Plant

Service Centers



Houston, TX



Kansas City, KS



New Orleans, LA



Portland, OR



Pittsburgh, PA

Corporate HDO



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OKONITE

SOLAR ENERGY CABLES



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THE OKONITE COMPANY

Setting the Standard in Quality Since 1878

SOLAR ENERGY IS POPULAR

The popularity of solar power continues to grow in the U.S. Current installed generation capacity is estimated at over 30 Gigawatts. Electric utilities are using solar energy to supplement other forms of generation while residential systems are becoming more prevalent. These sources of distributed generation are having a major impact on the traditional electric grid model and how electric utilities provide energy to their customers.

YOU KNOW OKONITE

Founded in 1878 Okonite first entered the electric utility generation market in 1882. It was also the same year Thomas Edison selected Okonite for his very first generating station on Pearl Street, New York City. In the 135 years since, Okonite continues to lead the way with its quality and expertise for the emerging new generation assets.

OKONITE QUALITY

Within the industries we serve, Okonite is considered to be the premium quality cable available. This comes from years of innovation, proven reliability, and a determination to get it right the first time. Maybe it's because we're 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 previous modes of power generation; Solar generation requires the same cable reliability. Okonite's Okoguard all EPR insulation system has now performed in the most demanding environments for over 50 years. 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 solar day, when the field is producing maximum output and all cables are fully loaded?

Ironically, cable is the longest link with the highest exposure between power source and the point of power delivery - the grid - yet a small percent of the overall project cost. Solar fields deserve the same Okonite quality cables as all other forms of generation.

TECHNICAL SUPPORT

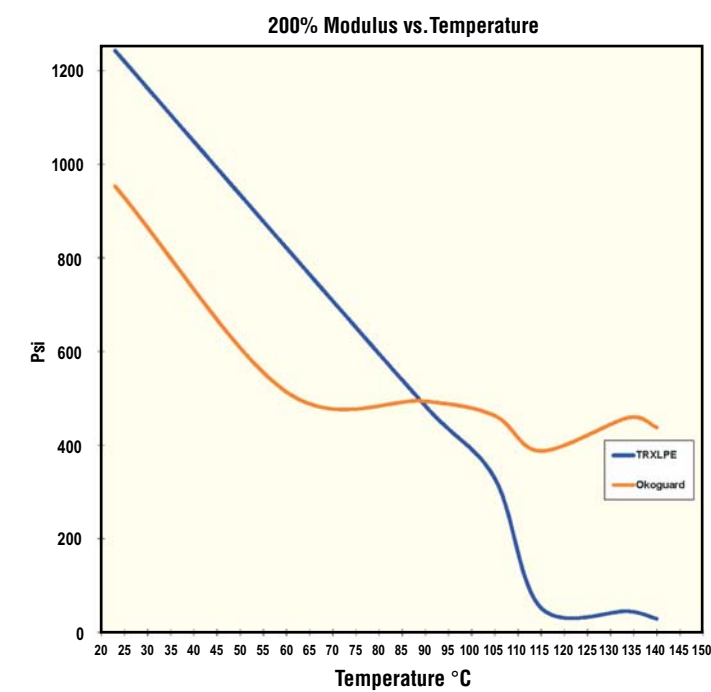
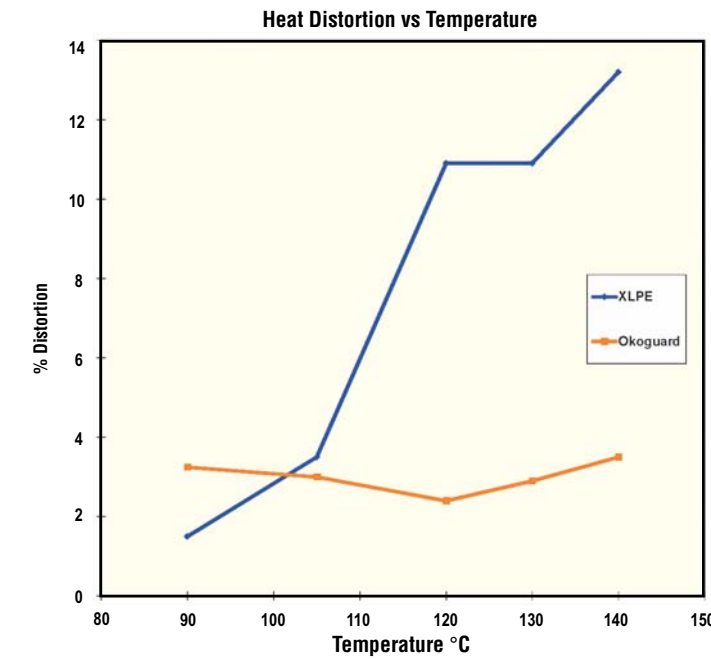
Our in-house staff of expert Applications Engineers provide valuable services to customers with cable related issues. Training, onsite support, and technical support are all available. Cable design, electrical and installation calculations are provided as part of our total service and support package.



TYPICAL SOLAR FIELDS

Utility scale solar fields are built in high sunlight intensive, desert like climates. Soil conditions and lack of soil moisture are not ideal for efficient conductor heat transfer. Soil environments can sometimes measure greater than 200 RHO. As a result, medium voltage cables will run hot during full load conditions.

There is a dramatic thermal performance difference between Okonite's all EPR medium voltage insulation system and XLPE. As shown in the accompanying charts, medium voltage polyethylene based insulation loses its physical properties above 103° C. Okonite's Okoguard all EPR insulation system maintains physical stability over a temperature range of 30° to 150° C. When all systems are "GO", make sure your medium voltage cables can take the heat. Specify, buy and install the cable whose reputation is built on reliability...Okonite.



MANUFACTURED SOLAR CABLES

X-Olene UV FMR®

Type PV/RHH/RHW-2/USE-2
600V, 1000V, 2000V
Single copper or aluminum conductors,
X-Olene UV FMR insulation
Gasolene and oil resistant -40°C



A Copper or Aluminum Conductor
B X-Olene UV FMR Insulation

Okoguard®-Okolon® TS-CPE

Type RHH or RHW-2 600V or 2kV
One bare stranded round copper conductor, composite Okoguard-Okolon® TS-CPE Insulation
For Cable Tray Use-Sunlight Resistant



A Uncoated, Copper Conductor
Composite Okoguard/Okolon
B Okoguard EPR Insulation
C Jacket Okolon TS-CPE

Okoguard®-Okoseal® Type MV-105

15 - 35kV Shielded Power Cable
One Okopact®(Compact Stranded) Copper or Aluminum 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®-Okolon® TS-CPE Type MV-105

15 - 35kV Shielded Power Cable
One Okopact®(Compact Stranded) Copper or Aluminum 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 Shielding-Coated Copper Tape
F Jacket Okolon TS-CPE

Okoguard®- 105° URO-J

15 - 35kV Concentric Neutral URD Cable
One stranded or solid aluminum or copper conductor, concentric wires, Okolene jacket/105° C rated continuous 140° C rated emergency 100% and 133% Insulation Level Sunlight Resistant



A Conductor-Compressed or Compact Round 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-Okolene with 3 extruded red ID stripes

C-L-X® Type MV-105 or MC-HL

5/8 - 35kV Okoguard® Shielded Power Cable-Aluminum Sheath
3 Okopact® (Compact Stranded) Copper Conductors/105°C Rating 100% and 133% Insulation Level
For Cable Tray Use-Sunlight Resistant-For Direct Burial



A Uncoated, Okopact (Compact Stranded) Copper Conductors
B Extruded Semiconducting EPR Strand Screen
C Okoguard Insulation (EPR)
D Extruded Semiconducting EPR Insulation Screen
E Phase Identification Tape
F Copper Grounding Conductor
G Uncoated Copper Shield
H Fillers and Binder Tape
J Impervious, Continuous, Corrugated Aluminum C-L-X Sheath
K Jacket- Low Temperature Okoseal