connecting the flow of global resources

SERVING THE PETROLEUM AND CHEMICAL MARKETS

- instrumentation cables
- power cables
- control cables
- fiber optic cables

BICC BRAND

Brand Rex BRAND

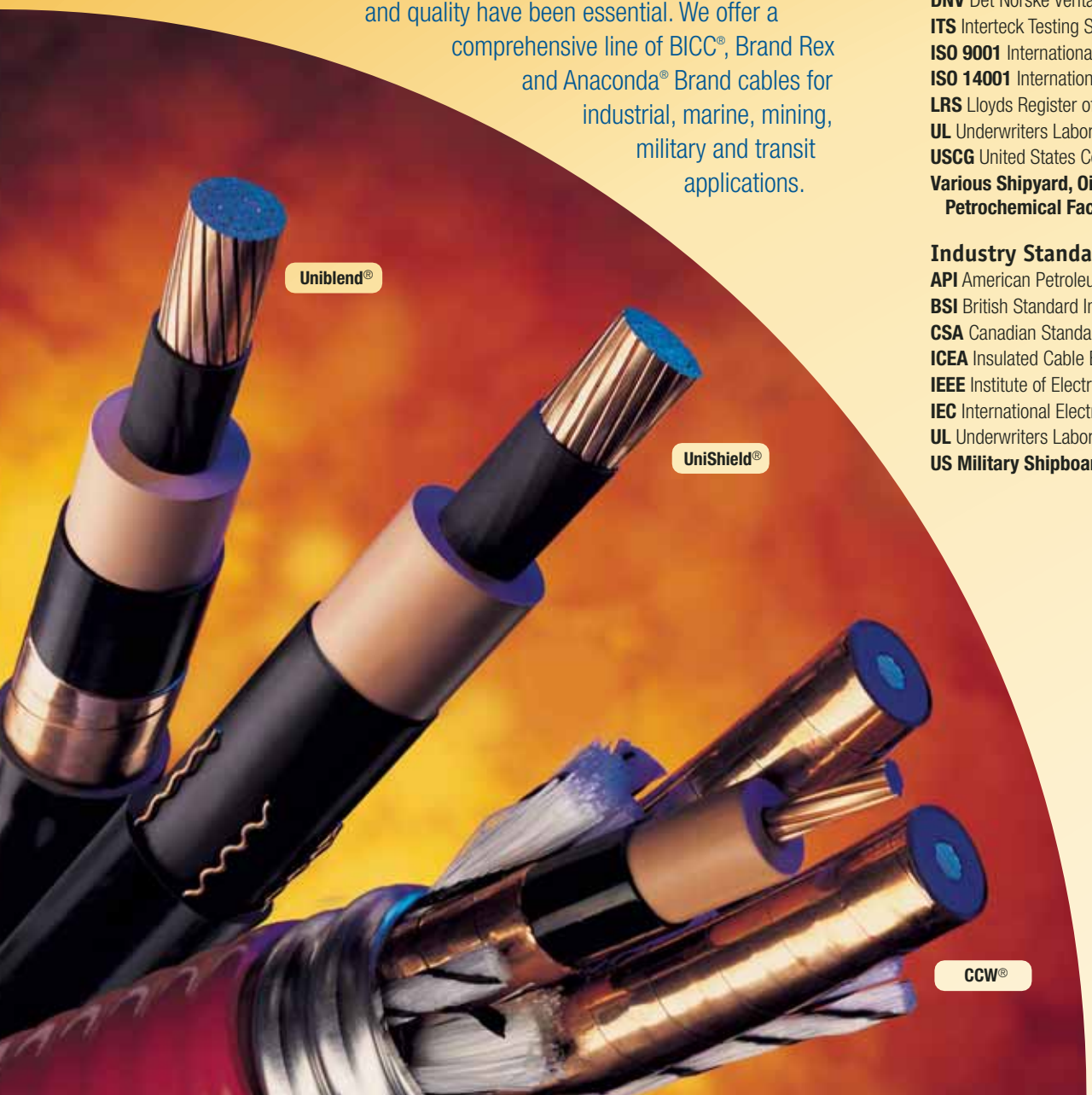
General Cable

connecting the flow of global resources

By virtue of the vast global market, today's Petroleum and Chemical wire and cable must meet a multitude of standards and specifications. Companies can no longer rely on a solid background of domestic standards. Rather, the petroleum and chemical industries depend on global cable manufacturing leaders with knowledgeable engineers familiar with a broad range of international requirements.

General Cable's extensive experience in the Petroleum and Chemical industries translates into a clear understanding of these global issues. Our advanced technology and worldwide resources give us the ability to engineer and manufacture standard and custom cable solutions for long-term reliable performance, regardless of extreme conditions.

General Cable is a $2.0 billion global manufacturer of electrical, communications and energy wire and cable products. For more than a century, General Cable customers have counted on our instrumentation, power and control cables when up-time, reliability, performance and quality have been essential. We offer a comprehensive line of BICC®, Brand Rex and Anaconda® Brand cables for industrial, marine, mining, military and transit applications.



Quality Assurance

General Cable demonstrates its concern for the quality of its products and services on a daily basis. Our industry-leading ISO 9001:2000 quality assurance program underlies the design, manufacture, installation and expected service life of all our products.

General Cable includes among its commitments respect for the environment. International Standard ISO 14001 is the company's ongoing initiative. Our cables also meet EPA 40 CFR, part 261 for leachable lead content.

Quality Approvals

ABS American Bureau of Shipping
CCG Canadian Coast Guard
CSA Canadian Standards Association
DNV Det Norske Veritas
ITS Interteck Testing Service (formerly ETL Labs)
ISO 9001 International Organization for Standards
ISO 14001 International Organization for Standards
LRS Lloyds Register of Shipping
UL Underwriters Laboratories
USCG United States Coast Guard
Various Shipyard, Oil Rig and Petrochemical Facilities

Industry Standards

API American Petroleum Institute
BSI British Standard Institute
CSA Canadian Standards Association
ICEA Insulated Cable Engineers Association
IEEE Institute of Electrical & Electronic Engineers
IEC International Electrotechnical Commission
UL Underwriters Laboratories
US Military Shipboard Cables

serving the petroleum and chemical markets

Offering the industry's widest range of Petroleum and Chemical wire and cable products, General Cable provides global cabling solutions that are in accordance with all relevant domestic and international standards.

Offshore Exploration and Production

From supertankers and semi-submersibles to offshore platforms, General Cable is cognizant of the challenges of environmental and safety regulations relating to the marine environment. Offering a full line of Brand Rex Brand MOR™ Polyrad® XT 125 Marine IEEE 1580 Type P listed cables—General Cable has played a leading role in the development of thermoset jackets with maximum flexibility and mud resistance to stand up to the severe stresses of installation and operation in hostile environments.

General Cable's enhanced mud oil resistant jackets, meeting NEK 606 for ester-based mud oil drilling environments, are engineered into all of our MOR™Polyrad® XT Type P cables. The unarmored constructions have superior crush and impact resistance, suitable for Class 1, Division 2 and Zone 2 environments. Our industrial-grade fiber optic cables have been designed to meet the growing needs of fiber-based systems for control and sensor applications.

When environmental factors require cables to perform with a high degree of flame retardance and resistance to moisture, chemicals and arctic environments, General Cable is your source.

Onshore Production

General Cable provides products that offer broad capabilities to service the onshore Petroleum and Chemical industries. Arduous environmental demands may vary, from resistance to extreme sub-zero temperatures in the coldest regions to continuing performance during fire emergencies at the highest temperatures. Copper and fiber optic communication cables, general service cables and fire survival cables are all part of our extensive product range.

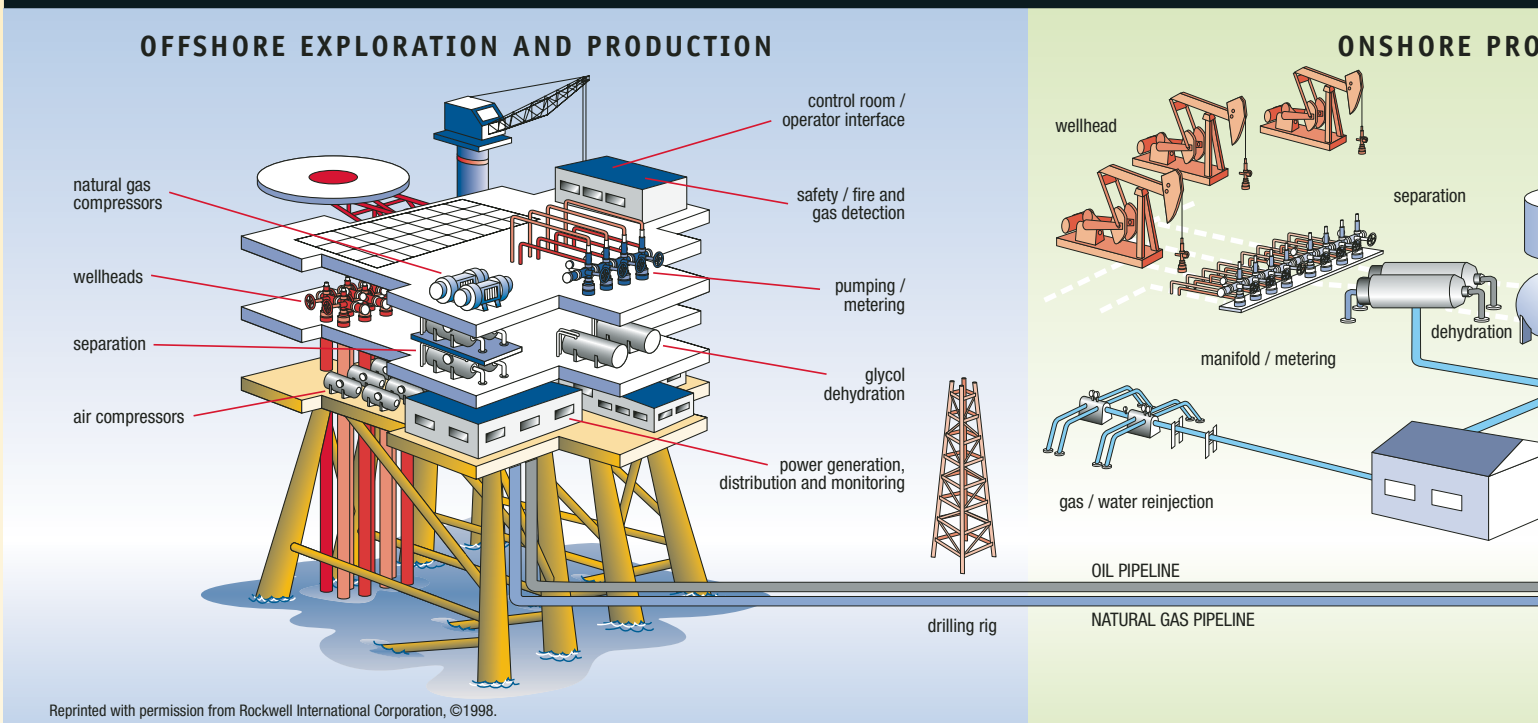
General Cable's comprehensive cable technology provides the working links that tie systems, power and communications together. Offering effective BICC® and Brand Rex Brand cabling solutions, including MOR™ Polyrad® XT 125 marine products, we preserve operational integrity in challenging and hazardous environments.

Refining and Chemical

Performance requirements for cables grow more extreme as industrial technology advances. Systems are becoming more complex, placing size and weight constraints on all suppliers. General Cable offers a broad line of BICC® Brand tested and proven industrial-grade cables for the Petroleum and Chemical marketplace. Our complete product line includes PVC types through cross-linked polyethylene, cross-linked polyolefin, ethylene propylene rubber, Low-Smoke, Zero-Halogen polyolefins, Hypalon®, and specialty materials such as polyurethane and thermoplastic elastomers.

From standard-to-severe industrial conditions, superior chemical and oil resistance, to moisture and gas impervious, General Cable's commitment to continuous research and development provides an ever-growing range of materials and designs to meet these extreme performance requirements.

petroleum and chemical process



special purpose cables

Recent developments in the Petroleum and Chemical industries have established the need for specialty cables for specific applications. General Cable has a wealth of global experience in providing effective cabling solutions for challenging and hazardous environments—cables that not only protect lives but are also designed to preserve the operational integrity of equipment in mission critical situations.

Low-Smoke, Zero-Halogen Cables

General Cable provides technical leadership through research and development of Low-Smoke, Zero-Halogen cabling systems. Fire disasters in marine, offshore and onshore environments have resulted in more stringent specifications for smoke and toxicity emission levels. BICC® Brand LSZH cables have also been developed to have flame and fluid resistance properties, strength and toughness so that they are available for a full range of applications.

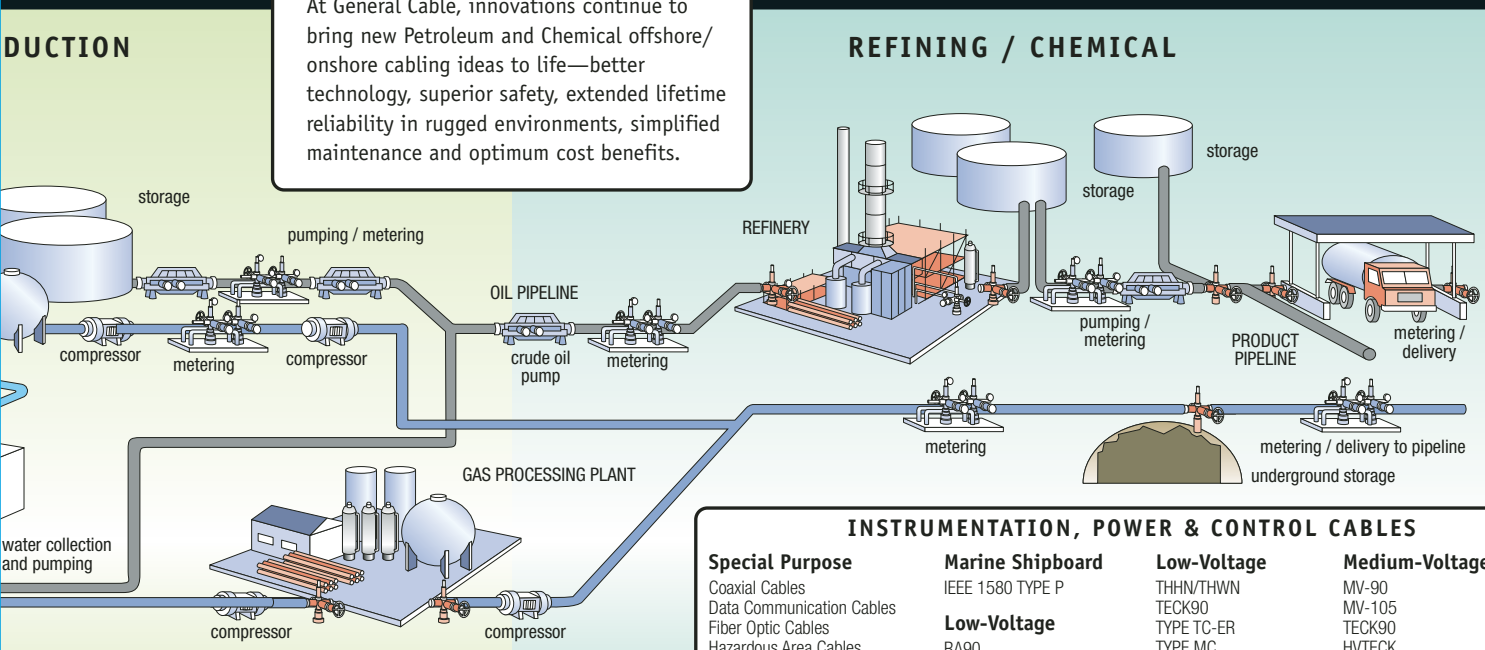
Fiber Optic Cables

Fiber optic cables have gained rapid acceptance in recent years for the Petroleum and Chemical industries because of the escalating demand for security and information integrity. From industrial-grade process control and outside plant fiber optic cables, to commercial-grade marine fiber optic shipboard cables and the Blolite™ blown optical fiber system, General Cable can meet the most stringent demands. Offshore or onshore, our ultra-rugged Low-Smoke, Zero-Halogen (LSZH) and enhanced Mud Oil Resistance (MOR™), thermoplastic and thermoset designs are suitable for data transmission and communication applications. The Low-Smoke, Zero-Halogen cables have received a Certificate of Type Approval by the American Bureau of Shipping (ABS) demonstrating their suitability for the marine offshore environments.

Hybrid Cables

General Cable has extensive engineering expertise in the design and manufacture of hybrid cables. Any power, control, instrumentation, fiber optic and coaxial cables can be combined to meet a special purpose requirement. General Cable is one of only a few companies that can supply multiple industries with custom cabling solutions by combining materials and manufacturing processes.

At General Cable, innovations continue to bring new Petroleum and Chemical offshore/ onshore cabling ideas to life—better technology, superior safety, extended lifetime reliability in rugged environments, simplified maintenance and optimum cost benefits.



INSTRUMENTATION, POWER & CONTROL CABLES

Special Purpose	Marine Shipboard	Low-Voltage	Medium-Voltage
Coaxial Cables	IEEE 1580 TYPE P	THHN/THWN	MV-90
Data Communication Cables	**Low-Voltage**	TECK90	MV-105
Fiber Optic Cables	RA90	TYPE TC-ER	TECK90
Hazardous Area Cables	RHH/RHW-2	TYPE MC	HVTECK
Instrumentation Cables	RHH/RHW-2/ USE-2	TYPE MC-HL	TYPE MC
Thermocouple Extension Cables		XHHW-2	TYPE MC-HL

application and product cross-reference

Products	Product Features	Temperature Range	Installation Conditions	Ratings
Arctic-Flex™ CSA & UL TYPE TC-ER (see footnote 1)	Extreme Cold Temperature Type TC-ER Cable UL Exposed Run "ER" (open wiring) Extreme Cold Temperature Type TC-ER Cable Meets CSA Cold Impact Test at -40°C Meets CSA and ICEA Cold Bend Tests at -65°C	-65°C to +90°C	Per NEC Articles 500-505 Class I, Div. 2 Class II, Div. 2 Per CEC Rules 18-156 & 18-252 Class I, Zone 2 Class II, Div. 2	IEEE-383 IEEE-1202 CSA FT 4 UL 1277 CSA, C22.2 No. 230
CVTC™ UL TYPE TC-ER (see footnote 1)	Standard Type TC-ER Cable UL Exposed Run "ER" (open wiring) Standard Industrial Conditions	-25°C to +90°C	Per NEC Articles 500-505 Class I, Div. 2 Class II, Div. 2	IEEE-383 IEEE-1202 CSA FT 4 UL 1277
Duralox® UL TYPE MC	Interlocked Aluminum or Galvanized Steel Armored Cable Excellent Crush & Impact Properties	600V: -40°C to +90°C 5kV-35kV: -40°C to +105°C	Per NEC Articles 500-505 Class I, Div. 2 Class II, Div. 1 & 2 Class III, Div. 1 & 2	IEEE-383 IEEE-1202 CSA FT 4 UL 1569 UL 1581
DuraSheath® UL RHH/RHW-2/USE-2 (600V) UL RHH/RHW-2 (600V & 2kV) MV-90 (5kV unshielded)	Rugged Single Conductor Power Cable Severe Industrial Conditions	-35°C to +90°C	Per NEC Articles 500-505 Class I, Div. 2 ≥ 1/0 AWG listed and marked "Sunlight Resistant FOR CT USE"	≥ 1/0 AWG IEEE-383 for CT USE IEEE-1202 CSA FT 4 UL 1581 VW-1(600V)
FREP® UL TYPE TC-ER (see footnote 1)	Premium Type TC-ER Cable UL Exposed Run "ER" (open wiring) Superior Chemical & Oil Resistance	-35°C to +90°C	Per NEC Articles 500-505 Class I, Div. 2 Class II, Div. 2	IEEE-383 IEEE-1202 CSA FT 4 UL 1277
CCW® UL TYPE MC or MC-HL CWCMC (see footnotes 2 and 3)	Continuously Welded Corrugated Aluminum Armored Cable Hazardous Locations Excellent Crush & Impact Properties Moisture & Gas Impervious	600V: -50°C to +90°C 5kV-35kV: -50°C to +105°C	Per NEC Articles 500-505 Class I, Div. 1 Class II, Div. 1 Class II, Div. 2 Class III, Div. 1 & 2	IEEE-383 IEEE-1202 CSA FT 4 UL 1072 UL 1569 UL 2225
MOR™ **Polyrad**® **XT 125 Marine** UL/IEC/IEEE/CSA TYPE P Marine Shipboard Cable Onshore/Offshore Oil Exploration Cable	IEEE 1580 Type P Cable for Oil Exploration Applications Superior Flexibility Meets NEK 606 Mud Oil Resistance Requirements when Tested with Ester-Based Muds Smaller & Lighter 110°C Temperature Rated Cable Superior Physical, Chemical & Environmental Properties UL Exposed Run "ER" (open wiring) Premium Type TC-ER Cable CSA Type TC, FT4 Cable	-55°C to +110°C	Per IEEE 1580 Marine Shipboard Cable Onshore/Offshore Oil Exploration Cable For TC Installation per NEC and per CEC	IEEE 1580 IEEE-383 IEEE-1202 CSA FT 4 UL 1309/CSA, C22.2 No. 245 UL 1277 CSA C22.2 No. 38 CSA C22.2 No. 230 IEC 60092-3
TECK90/VERTITECK®* CSA TECK90	Interlocked Aluminum or Galvanized Steel Armored Cable Excellent Moisture, Crush & Impact Properties *Excellent for Vertical Installations	-40°C to +90°C	Per CSA HL Hazardous Location Rating	IEEE-383 IEEE-1202 CSA FT 4 ICEA T-30-520 CSA, C22.2 No. 131 & 174
HVTECK CSA HVTECK	Interlocked Aluminum or Galvanized Steel Armored Cable Excellent Moisture, Crush & Impact Properties	-40°C to +105°C	Per CSA HL Hazardous Location Rating	IEEE-383 IEEE-1202 CSA FT 4 ICEA T-29-520 ICEA T-30-520 CSA, C68.3 & C22.2 No. 174
Uniblend® UL TYPE MV-105	Medium-Voltage Power Cable Suitable for Industrial Conditions in a Wide Variety of Environments and Applications	-35°C to +105°C	Per NEC Articles 500-505 Class I, Div. 2 Class II, Div. 2 ≥ 1/0 AWG listed and marked "Sunlight Resistant FOR CT USE"	≥ 1/0 AWG IEEE-383 FOR CT USE IEEE-1202 CSA FT 4 UL 1072 UL 1581 ICEA T-29-520
UniShield® UL TYPE MV-105	Single Conductor Medium-Voltage Power Cable Smallest, Premium Medium-Voltage Power Cable in the Industry	-55°C to +105°C	Per NEC Articles 500-505 Class I, Div. 2 ≥ 1/0 AWG listed and marked "Sunlight Resistant FOR CT USE"	≥ 1/0 AWG IEEE-383 FOR CT USE IEEE-1202 CSA FT 4 UL 1072 UL 1581 ICEA T-29-520

1. **ARCTIC-FLEX**™ **CVTC**™, **FREP**® and **MOR**™ **POLYRAD**® **XT 125** product lines are manufactured to include the optional "ER" designation in accordance with 2005 NEC Article 336.
2. **UL CWCMC** (Continuously Seam Welded Corrugated Metal Clad)
3. **CCW**® 3 conductor / 3 ground power cable is the preferred product for industrial AC Drive / VFD applications

General Cable serves customers through a global network of 27 manufacturing facilities in nine countries and through sales representatives and distribution centers worldwide.

General Cable

4 Tesseneer Drive
Highland Heights, KY 41076-9753
USA

Telephone (888) 593-3355
Fax (859) 572-8463
International Telephone +1 859 572 8000
International Fax +1 859 572 8058

www.generalcable.com

Form No. INS-0045-R0605