

# Global Oil and Gas

## SOLUTIONS



### SERVING Upstream, Midstream & Downstream

- Instrumentation Cables
- Power Cables
- Control Cables
- Medium-Voltage Cables
- Data & Communications Cables
- Subsea Cables
- Submarine Power Cables
- Harnesses & Assemblies



 **General Cable**

*One Company*  
Connecting the World

With more than 13,000 associates operating in 23 countries and 47 manufacturing facilities, General Cable is a global leader in the supply of products and services to the global oil, gas and petrochemical industry.

## Global Resources

Global demand for oil, gas and petroleum-based byproducts has reached record levels. No longer can the industry take a regional or local approach. Diminishing oil reserves call for exploration and production into global extreme environments—deeper, colder, hotter.

Successful globalization of the oil, gas and petrochemical industry requires global leaders in cable manufacturing who are both knowledgeable and experienced in international product requirements. With a legacy of innovation that spans more than 100 years, General Cable is uniquely positioned to develop solutions for today's upstream, midstream and downstream application challenges.

### Global Investment, Global Supply

General Cable is able to manufacture and deliver cable solutions for long-term reliable performance under the most severe conditions across the globe due to the expansion of our global footprint, investment in advanced technology and diversification of our product offering. Such actions have included:

- Worldwide product and technology resources gained through the acquisition of BICC Energy Cables
- Strengthened offshore market position with NSW (Norddeutsche Seekabelwerke GmbH)
- Expanded exploration through investment in advanced subsea and submarine power cables
- Dedicated global industry teams and distribution network

Effective management of this complex mix of global resources, products and capabilities allows General Cable to continually introduce new designs and solutions while providing value-added assemblies and services for the global oil, gas and petrochemical industry. At the same time, our *One Company* approach focuses on enhancing our customers' performance and success.

## Quality Assurance Guaranteed

Through ongoing quality assurance initiatives, General Cable ensures the quality of product design, manufacture, installation and expected service life, as well as respect for the environment through sustainable products, processes and policies. Continuous research and development combined with process control, quality audits and stringent testing provide an ever-growing range of specialty materials and designs that meet the approvals and standards of the oil, gas and petrochemical industry.

**General Cable is ISO 9001:2000 certified for quality and ISO 14001 certified for environmental responsibility.**



From exploration and extraction to production and processing of natural resources, General Cable's products satisfy virtually every cabling requirement around the globe.

## Upstream Exploration & Production

The arduous environmental challenges of onshore and offshore oil and gas exploration and production have led to effective cable designs created by General Cable's specialized team of expert engineers. Our cabling solutions not only protect lives but also preserve the operational integrity of mission-critical equipment in the most hazardous environments.

### Onshore

Deeper drilling for natural gas and resources in extreme, remote locations from Alaska's North Slope to the deserts of the Middle East imposes demands on land rig cabling. General Cable offers a full platform of high-quality products for these challenging applications.

### Offshore

**Topside** — To meet today's increasing power requirements, offshore rigs, production platforms, FPSOs and ships rely on General Cable's comprehensive range of high-tech, application-specific cables for stabilization and directional drilling.

**Subsea** — ROVs and winches exploring the deeper waters of larger reserves require specialized subsea cables. General Cable's tailor-made solutions service this vital seabed infrastructure while meeting stringent industry requirements.

## Midstream and Downstream LNG & Refining

LNG and refining systems are more complex than ever, and space is at a premium. Yet safety remains the number one priority, followed closely by uptime and productivity. With that in mind, General Cable continues to diversify its product offering by investing in precision-engineered, state-of-the-art equipment to produce a full line of midstream and downstream application products.

General Cable's instrumentation, power and control cables help maintain the operational integrity of LNG facilities, refineries and petrochemical plants to ensure a lifetime of efficiency and throughput. This tested and proven line of industrial-grade cables utilizes an extensive selection of application-specific compounds, including PVC, cross-linked polyethylene, cross-linked polyolefin, ethylene propylene rubber, low-smoke zero-halogen polyolefins, and thermoplastic elastomers.

From resistance to oils, hydrocarbons and chemicals to continuing performance in sub-zero or extreme high temperatures, General Cable's commitment to continuous research and development provides an ever-growing range of materials and designs required by upstream, midstream and downstream oil, gas and petrochemical customers around the globe. General Cable — the *One Company* source for global high-performance quality cable and services.



General Cable's long-term commitment to and investment in the oil, gas and petrochemical industry is exemplified by its innovative technical solutions and industry-leading global product offering.

Upstream Offshore Cable — Topside Solutions		
Product	Application	Location
<b>IEEE 1580 Type P</b> MOR Polyrad® XT	Power, Control and Instrumentation Cables	Drilling Rigs, MODUs & FPSOs
<b>IEEE 1580 Type P</b> MOR Polyrad® XT VFD	AC Variable Frequency Drive Cables	Drilling Rigs, MODUs & FPSOs
<b>IEEE 1580 Type LSX</b> Low-Smoke, Zero-Halogen	Power, Control and Instrumentation Cables	Drilling Rigs, MODUs & FPSOs
<b>IEEE 1580 Type LSX-FS</b> Low-Smoke, Zero-Halogen IEC 60331	Fire-Resistant Control and Instrumentation Cables	Drilling Rigs, MODUs & FPSOs
<b>IEEE 1580 Type E</b> MV-RIG®	Medium-Voltage Power Generation and Distribution Cables	Drilling Rigs, MODUs & FPSOs
<b>UL Type ITC/PLTC, UL Type MC-HL, ABS CWCMC</b> CCW®	Armored Low-Voltage Power, Control, Instrumentation and Thermocouple Extension Cables & Medium-Voltage Power Cables for hazardous locations	Production Platforms, FPSOs
<b>IEEE 1580 Type X</b> RIGTUFF®	Power, Control and Instrumentation Cables	Production Platforms, FPSOs
<b>IEC 60092-350</b> EXZHELLENT® 606 NEK-606 Mud Oil-Resistant	Power, Control and Instrumentation Cables	Drilling Rigs, MODUs & FPSOs
<b>IEC 60092-350</b> EXZHELLENT® – 92-3*	Power, Control and Instrumentation Cables	Drilling Rigs, MODUs & FPSOs
<b>Data Communication Category Cables</b> Commodore® ABS Type Approved/ETL Verified	Category 5e, 6 and 7 Network Application Cables	Offshore Rigs, MODUs, Production Platforms, FPSOs
<b>Coaxial Cables</b> Commodore® ABS Type Approved/ETL Verified	Control and Video Monitoring Application Cables RG-6/U, RG-11/U, RG-58/U, RG-59/U, RG-213/U, RS422 and RS485	Offshore Rigs, MODUs, Production Platforms, FPSOs
<b>Industrial Control Cables</b> Commodore® ABS Type Approved/ETL Verified	Closed and Open Architecture Cables meeting Profibus, Fieldbus and DeviceNet protocols	Offshore Rigs, MODUs, Production Platforms, FPSOs
<b>Fiber Optic Communication Cables</b> Commodore®	Premium Performance Data Transmission and Communication Application Cables where high levels of information integrity and security are prerequisites	Offshore Rigs, MODUs, Production Platforms, FPSOs
<b>Fiber Optic Communication Cables</b> Commodore® Lite	Standards-Compliant, Cost-Effective Data Transmission and Communication Application Cables where high levels of information integrity and security are prerequisites	Offshore Rigs, MODUs, Production Platforms, FPSOs
<b>Application-Specific Cable Assemblies</b>	Power, Control and Instrumentation Cable Assemblies	Top Drive Power and Control Service Loops

\* SectorFlex® conductor on 35mm<sup>2</sup> and larger for reduced weight and overall cable dimensions



Tension Leg Platform

Floating Production, Storage and Offloading Vessel (FPSO)

Subsea Technologies

### Upstream Offshore Cable — Subsea Solutions

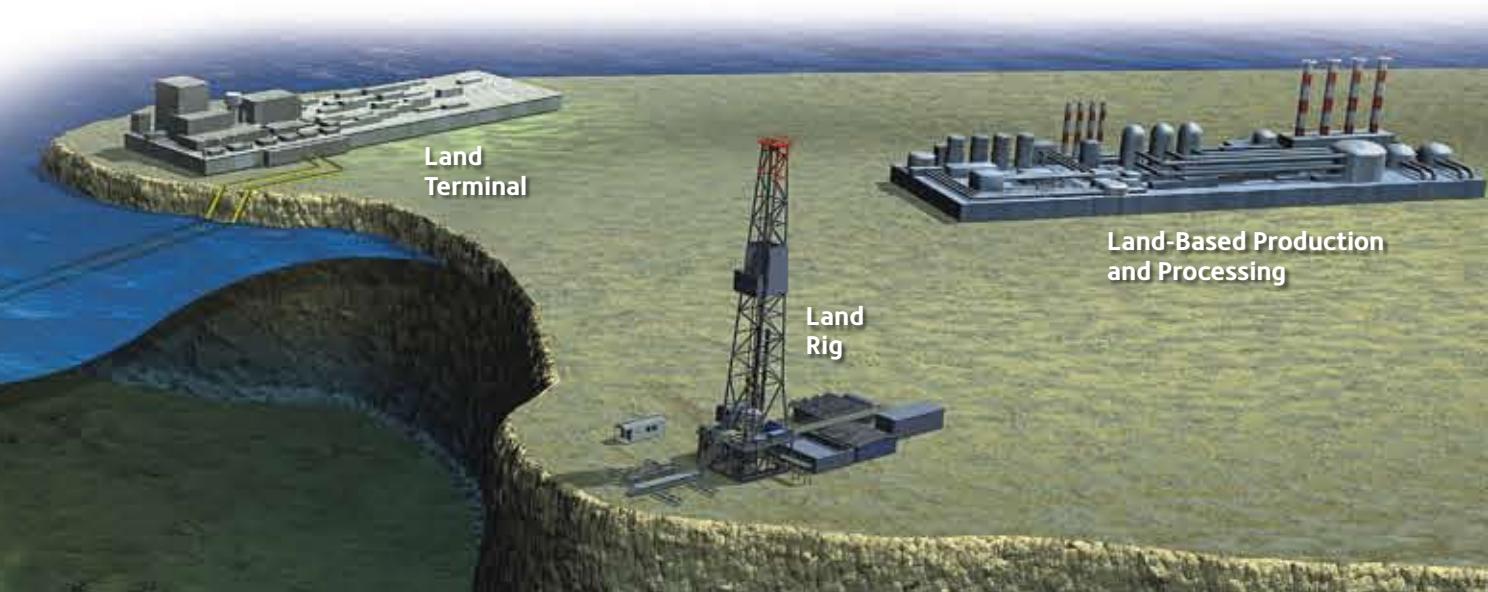
Product	Application	Location
<b>Power Umbilicals</b>	HVAC Power Supply	Subsea Separation and Processing Technology
<b>Components for Umbilicals</b>	Control Cables Fiber Optic Data Cables Energy Cables	ROV Main Lift and Tether Plough and Trencher Air Gun and Electro-Mechanical
<b>Unrepeated Submarine Fiber</b>	Data and Communication Cables	Platform Connection
<b>Repeated Submarine Fiber</b>	Data and Communication Cables	Data Transmission over long-haul distances
<b>IEC 60502 SIPRELEC®</b>	Medium- and High-Voltage Subsea Cables	Subsea Separation and Processing Technology

### Upstream Onshore Cable — Land Rig Solutions

<b>IEEE 1580 Type P MOR Polyrad® XT</b>	Power, Control and Instrumentation Cables	Land Drilling Rigs
<b>IEEE 1580 Type P MOR Polyrad® XT VFD</b>	AC Variable Frequency Drive Cables	Land Drilling Rigs
<b>Electrical Submersible Pump Cables</b>	Electrical Submersible Pump / Artificial Lift Cables	Oil and Gas Wells, Coal Bed Methane
<b>Application-Specific Cable Assemblies</b>	Power, Control and Instrumentation Cable Assemblies	Top Drive Power and Control Service Loops

### Midstream and Downstream Cable — LNG, Refining and Petrochemical Solutions

<b>UL Type ITC/PLTC, UL Type MC- HL, ABS CWCMC CCW®</b>	Armored Low-Voltage Power, Control, Instrumentation and Thermocouple Extension Cables & Medium-Voltage Power Cables for hazardous locations	LNG Facilities, Refineries, Petrochemical Plants
<b>UL Type MC Duralox®</b>	Armored Low-Voltage Power, Control and Instrumentation Cables & Medium-Voltage Power Cables	LNG Facilities, Refineries, Petrochemical Plants
<b>TECK90/HVTECK</b>	Armored Control and Power Cables & Medium-Voltage Power Cables	LNG Facilities, Refineries, Petrochemical Plants
<b>UL Type TC-ER VNTC®</b>	Flame-Retardant Thermoplastic Tray Cables	LNG Facilities, Refineries, Petrochemical Plants
<b>UL Type TC-ER FREP®</b>	Flame-Retardant Thermoset Tray Cables	LNG Facilities, Refineries, Petrochemical Plants
<b>UL Type TC-ER ARCTIC-FLEX®</b>	Flame-Retardant Arctic-Grade Power, Control and Instrumentation Tray Cables	LNG Facilities, Refineries, Petrochemical Plants
<b>UL Type MV-105 Uniblend®</b>	Medium-Voltage Unarmored Power Cables - Copper Tape Shield	LNG Facilities, Refineries, Petrochemical Plants
<b>UL Type MV-105 UniShield®</b>	Medium-Voltage Unarmored Power Cables - Copper Wire Shield	LNG Facilities, Refineries, Petrochemical Plants
<b>IEC 60502 ARMIGRON®</b>	Wire Armored Power and Control Cables	LNG Facilities, Refineries, Petrochemical Plants
<b>IEC 60502 ERVYLEC® Armored RVFV</b>	Armored Power and Control Cables	LNG Facilities, Refineries, Petrochemical Plants
<b>IEC 60502 ERVYLEC® Armored RGPV</b>	Armored and Lead-Sheathed Power and Control Cables	LNG Facilities, Refineries, Petrochemical Plants





## GLOBAL REACH

General Cable serves customers through a global network of 47 manufacturing facilities in 23 countries and sales representatives and distribution centers worldwide. The Company is solely dedicated to the production of high quality energy, industrial, specialty and communications wire and cable products. In addition to its breadth of product line and strong brand recognition, the Company offers competitive strengths in such areas as technology, manufacturing, distribution and logistics, and sales and customer service. This combination enables General Cable to better serve its customers as they expand into new geographic markets.



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